

KANSAS SECTION CAPPER FARM PRESS

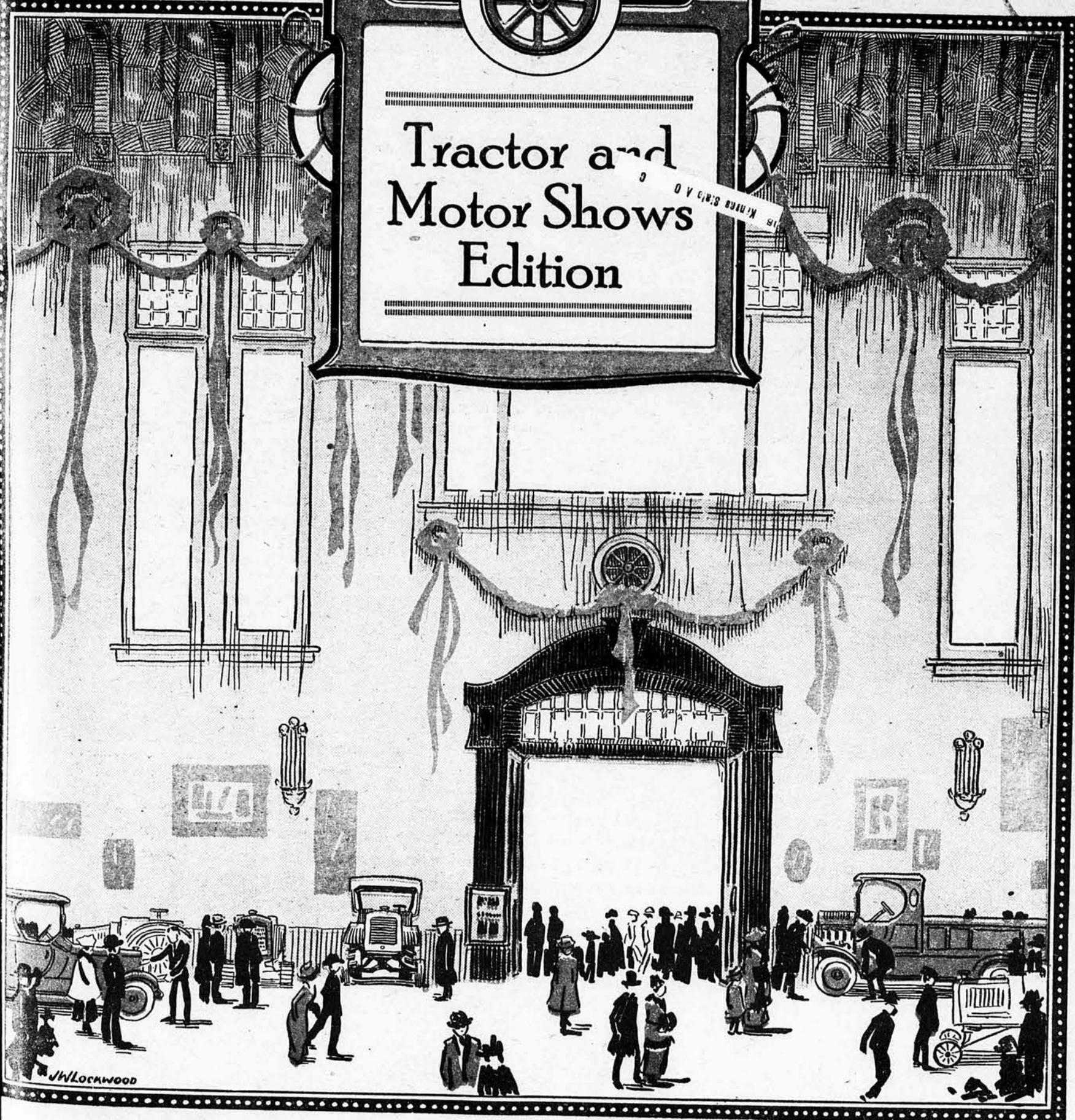
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KANSAS FARMER and MAIL AND BREEZE

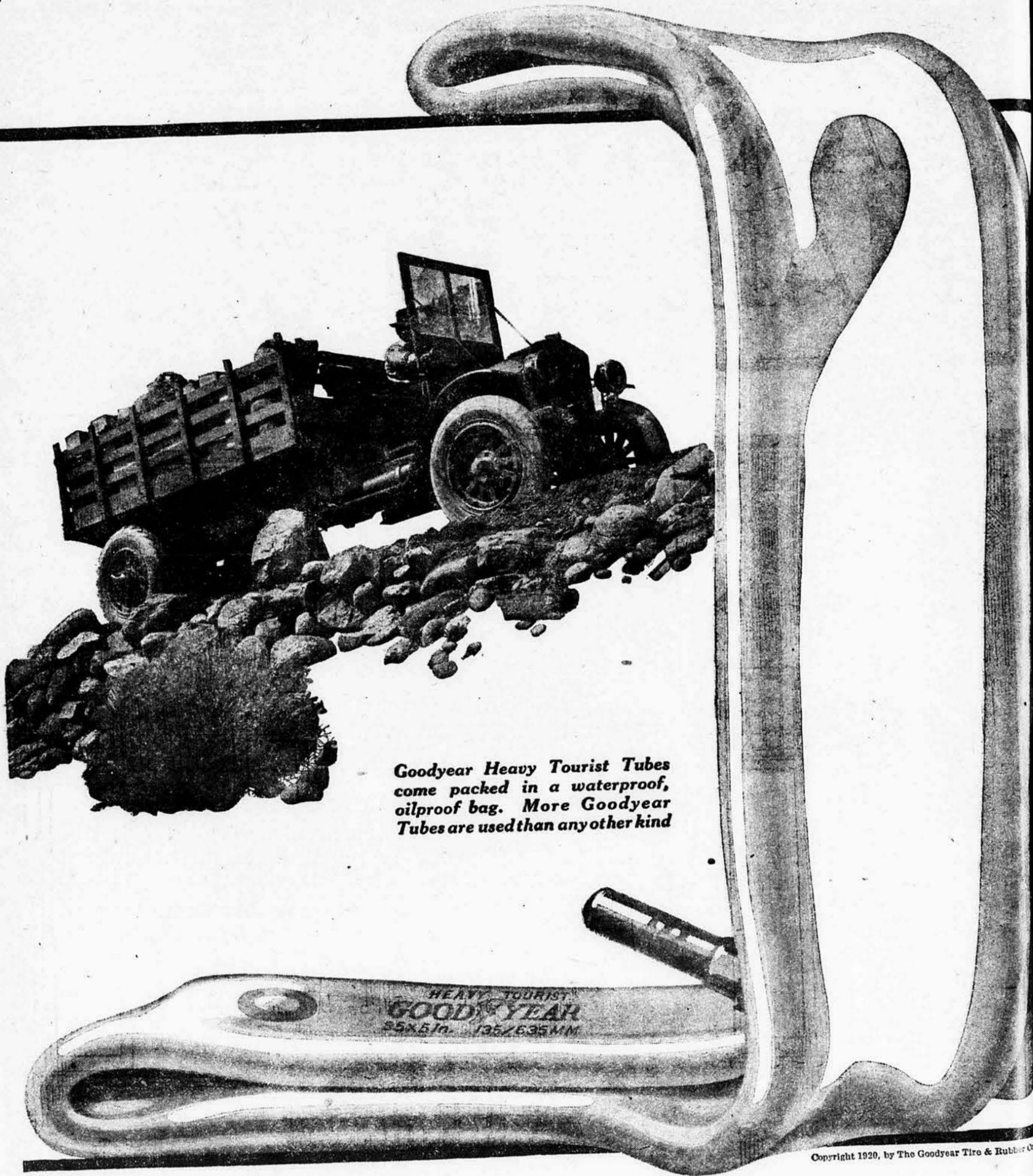
Volume 58. No. 5.

January 31, 1926 8 1926

Tractor and
Motor Shows
Edition



JW Lockwood



Goodyear Heavy Tourist Tubes come packed in a waterproof, oilproof bag. More Goodyear Tubes are used than any other kind

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Three Goodyear tubes traveled on their original air all the way from Boston to San Francisco with the Goodyear Transcontinental Motor Express. What tribute to their reliability and staunchness! Goodyear Heavy Tourist Tubes for passenger cars, like the larger tubes for trucks, are made of pure gum strips, *built up layer-upon-layer*. They cost but little more (an average of sixty cents) than tubes of less merit. Surely it is false economy to risk, for so small a sum, a costly casing.

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February 16-21, 1920

More than 400 Different Exhibits of Tractors, Tractor Accessories and Power Farming Equipment.

The First Appearance of 1920 Tractor Models; Initial Display of New Power Cultivators.

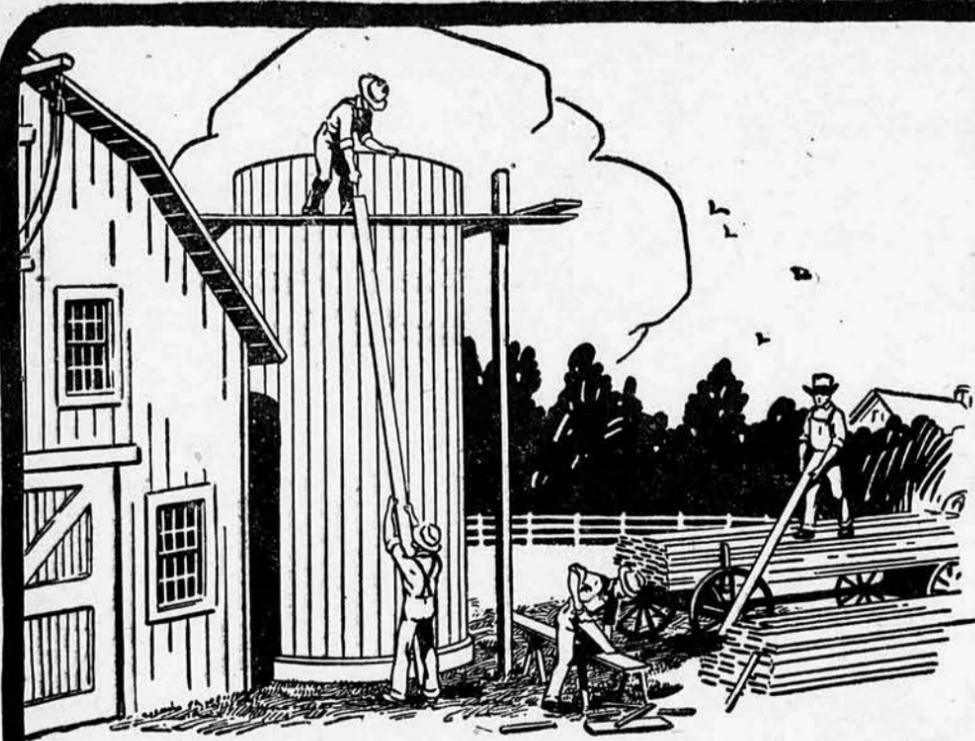
First Showing of Improved Plows, Tools and Equipment. Garden Tractors, Farm Tractors, Commercial Tractors—every type and size, from the smallest up to the largest machines.

FARMERS: Don't Miss This Wonderful Show. See all Tractors side by side; select the one suited to your needs. Plenty of accommodations for visitors—the only Show event in Kansas City at this time.

Endorsed by hundreds of exhibitors, thousands of American and Foreign Dealers and Farmers. Sanctioned as the only official strictly Tractor Show by the National Vehicle & Implement Association and Motor & Accessory Manufacturers Association.

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 in mammoth
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INDIANA SILO

better silage, allows less waste, stays in better condition and lasts longer.

Long experience, large purchasing power, and a business conducted on a large scale enable us to give a bigger value for every dollar than you can get in any other silo. Ask Indiana owners.

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We are the largest manufacturers of silos in the World. Agents wanted in every county.

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INDIANA ALL-ROUND TRACTOR "The World's Tractor"

THIS one-man, single-unit tractor works not 25 or 30 days a year but as many days as you now use your horses for field work. Plows as much as two good horse teams, cultivates, pulls harrows, discs, drills, rollers, mowers, binders, potato diggers and orchard tools.

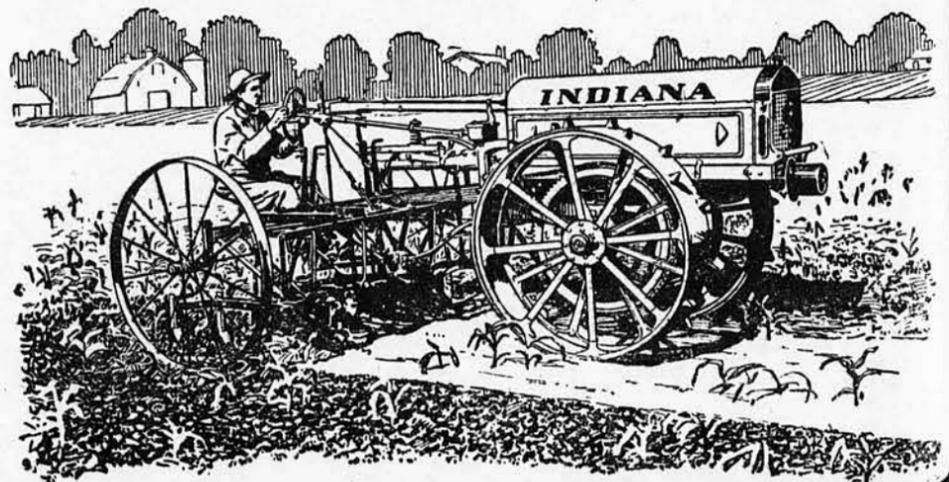
There is no riding implement that it does not hitch to. Numerous users have eliminated horses entirely in farm work. Excepting for the plow it uses the horse tools you already have without expensive hitches. One man does the work, riding on the implement. The Indiana tractor weighs no more than a farm team. There is no excess weight to drag around and no waste of fuel. The Indiana does a year's work of four horses at a gasoline and oil cost, that is less than half the cost of feeding and keeping the teams for a year.

Farmers who have big four-wheeled tractors are now buying the Indiana to work their row crops and prepare the seed bed when the ground is too wet for a heavy tractor to work on it.

Write us now for book of pictures made from photographs showing the Indiana Tractor actually doing all the work that horses and mules do on a farm. Biggest dealer proposition ever offered on a tractor.

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- 30 Indiana Building Des Moines, Iowa
- 30 Silo Building North Kansas City, Mo.
- 30 Live Stock Exchange Building Fort Worth, Texas



KANSAS FARMER and MAIL AND BREEZE

Arthur Capper, Publisher

Vol. 58

January 31, 1920

No. 5

Tractors on Kansas Farms

By J. C. Mohler

Secretary Kansas State Board of Agriculture

THAT Kansas has been able to maintain her enviable record as a foodstuff producer despite a serious shortage of farm labor, is largely attributed to the more extensive use of modern labor-and-time-saving machinery, chief of which is the tractor. When the Great War broke out in 1914, it was quite clear that the demands of Europe upon the United States for food would be increased very greatly. Before that time even, the American farmer had been handicapped because of lack of labor, and how to produce more, with less help, was a problem with which he was confronted and had to solve.

Seeking a solution the tractor was requisitioned, and the manner in which the Kansas farmers availed themselves of this new power is indicated by the statistics gathered annually by the state board of agriculture. In 1915, for example, 2,493 tractors were reported in use on the Kansas farms, and in 1916 their number had increased to 3,932. At this juncture the farmers' situation was complicated still more when our own country entered the war, as the draft further curtailed the already short labor supply, but the need for increased production was greater than ever, and so additional tractors were purchased, the 1917 census showing 4,504. In 1918 the number increased to 5,415 and the census of last year revealed 8,689 tractors on the Kansas farms, a gain of 60 per cent in 12 months. The remarkable possibilities of the state's farm power as represented in a complete mobilization of its tractors is suggested by the illustration that if all the tractors of Kansas were to work 24 hours a day, plowing 20 acres each a day, they would turn in 100 days an area greater than the land surface of the states of Maryland, Massachusetts and Vermont combined.

How Production was Increased

Unquestionably, the great crop record of Kansas during the war was due in no small part to the tractor. The exact extent the tractor contributed to the state's productions in that period, is, of course, impossible to say, but the undisputed fact is that the farmers of the Sunflower state devoted nearly 1 1/4 million acres more to crops in 1918, the last year of the war, than they did in 1914, the first year of the war. Hence it seems entirely plausible to attribute wholly this increased planting to the tractor for the reason that the farmers had considerably less help in the last year of the war than they did in the first year of the war.

To be sure, the farmers worked harder and for longer hours to meet the demands of the world for food, but that would have been necessary even to maintain operations, with labor getting scarcer each day as the war continued,



Kansas Last Year Had Many Stacks of Wheat Like These That Were Turned into Stacks of Gold. Good Tractors Made This Possible.

so it seems that it is not giving too much credit, if indeed, enough, to the tractor for the increased areas planted. In 1914 the acreage in crops in Kansas amounted to 20,000,296 acres; in 1918, 21,234,559 acres.

Kansas is a larger user of tractors, perhaps, than any other state of the Union. There are two outstanding reasons for Kansas' leadership in the utilization of this power. One is the adaptability of conditions for its employment, owing to wide stretches of comparatively level prairies with neither stumps nor stones to impede its work, and the other is the scarcity of labor and high wages, making imperative a reduction of labor costs, if the margin of profit in farming was not to be wiped out entirely.

War Demands Were Heavy

Demands of the war for food, however, were doubtless chiefly responsible for the very rapid gain in the use of the tractor, for it was found a most valued acquisition in the great wheat growing portions of the state particularly. The tractor attains its greatest efficiency in extensive operations. It is peculiarly adapted to conditions and methods of farming in the so-called wheat belt where time is the essence of operations, and where speed is essential in the preparation of the land, in seeding and in harvesting. To properly conserve the moisture, disking and plowing must be done at the earliest moment conditions are right, and scarcely a year passes that favorable conditions are not seasonable for this important work. The great need is to be prepared to do it quickly and well at the time it should be done. The tractor meets the needs of the situation as does no other power, and its increasing use made possible the phenomenal record of Kansas in wheat production during the past few years.

Always a chief consideration in the world's foodstuff supply, in times of war the consequence of wheat is emphasized because of its peculiar importance from a military point of view. During the war-period (1914-'18) the total production of wheat in Kansas amounted

to 529,169,000 bushels, worth \$716,839,000, as against 429,897,000 bushels, worth \$591,446,000, of the state ranking second. The average annual production of Kansas in that time amounted to more than 105 million bushels. The real bigness of this achievement is the better appreciated when it is brought to attention that in only one year previous to the war did the state ever produce so much as 100 million bushels. In one of the war-years Kansas raised about one-fifth of the entire wheat crop of the United States, and in another, approximately one-sixth. Comparing the war period, 1914-1918, with the pre-war period of 1909-1913, Kansas

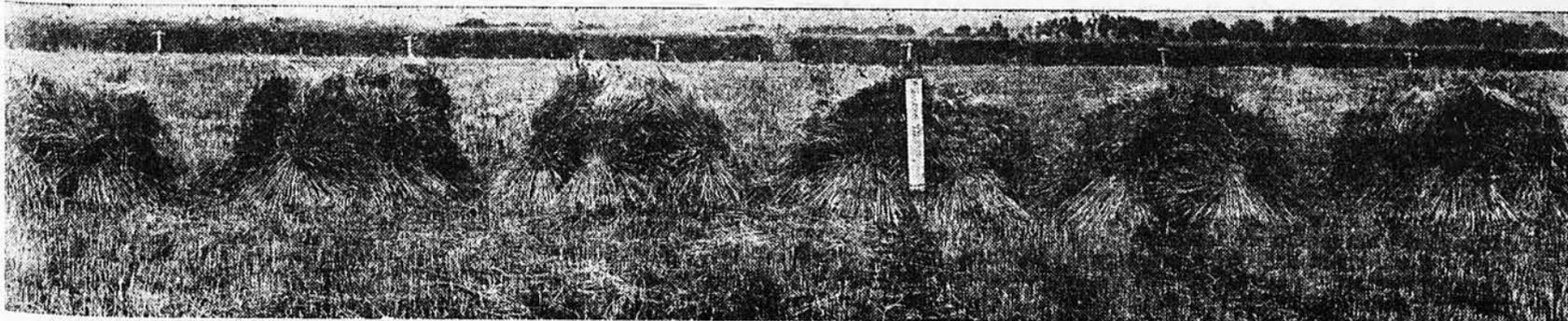
increased the average annual seeding to wheat 34.54 per cent, and increased average annual production 43 per cent, as against gains for the rest of the United States of 23.81 per cent in acreage and 24.16 per cent in production. In these achievements no one will deny that the tractors were prominent factors.

Power Machinery Brought Success

Without this power the Kansas farmer could by no means have prepared the land for the 11,641,000 acres that were sown to wheat in the fall of 1918, the largest acreage ever devoted to this crop by any state, and perhaps, the largest area ever planted to a single crop in any state in one season.

The work of preparing the seed bed of 11,641,000 acres is a herculean task. If this acreage were apportioned among the farmers of the state it would mean an average of about 65 acres of wheat to the farm. With a gang plow of two 14-inch bottoms, pulled with horses, it would take one man, say 13 days to plow the 60 acres, and likely more if the plowing was done when it should be done. With the 10-20 tractor, the plowing would be finished in, say, six days, and no argument is needed to convince anyone that it would be done at decidedly less expense and as well done if not better. Another vastly important phase is that it has been demonstrated beyond all question that early preparation of the ground for wheat means bigger yields in the following year. This has been proved by experiments and the experience of practical farmers.

Plowing and disking done in July and August ordinarily bring decidedly increased yields over plowing done in, say, September. Early and deep plowing for wheat is the progressive farmer's slogan in Kansas. But plowing deep in July is the hardest kind of work, because of the heat and the usual dry condition of the ground. It is killing work on horses and on large acreages horse power is scarcely equal to the task. Moreover a kind-hearted farmer who loves his horses is loath to force them to the job in the heat of (Continued on Page 31.)



Wheat Yield from One-Tenth Acre at the Kansas Experiment Station on Ground Plowed 6 to 7 Inches Deep Early in July. Early Plowing and Careful Preparation of the Seedbed Greatly Increase the Production. Tractors Make This Deep Plowing a Simple and Easy Task.

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Passing Comment—By T. A. McNeal

ONE WOULD suppose if not informed as to the facts that there is no law in this country to punish persons who undertake to incite rebellion, or to interfere with the execution of laws. The people all over the country are being wrought up by the propaganda in favor of the passage of the most stringent sedition law ever placed on our statute books.

As a matter of fact we already have on our statute books a law covering offenses of this kind that is sufficiently comprehensive and drastic. It was passed during the Civil War and had remained on the statute books without amendment, I think, during all these years. Here it is:

Sec. 5334. Every person who incites, sets on foot, assists, or engages in any rebellion or insurrection against the authority of the United States or the laws thereof, or gives aid or comfort thereto, shall be punished by imprisonment not more than 10 years, or by a fine of not more than \$10,000, or by both of such punishments; and shall, moreover, be incapable of holding any office under the United States.

Sec. 5336. If two or more persons in any state or territory conspire to overthrow, put down, or to destroy by force the government of the United States, or to levy war against them, or to oppose by force the authority thereof, or by force to prevent, hinder, or delay the execution of any law of the United States, or by force to seize, take, or possess any property of the United States contrary to the authority thereof, each of them shall be punished by a fine of not less than \$500 and not more than \$5,000, or by imprisonment, with or without hard labor, for a period not less than six months nor more than six years, or by both such fine and imprisonment.

It is now proposed to add the death penalty and to impose drastic regulations concerning publication and speech. The passage of such as proposed is certain to react disastrously.

The Tractor in Kansas

I HAVE been asked to write on the subject "What Has the Tractor Done for Kansas?" It is too early to answer that question, because the tractor is just getting fairly started on the job. According to the latest figures obtainable there are at the present time 8,689 tractors in Kansas. Sumner county leads with 289; McPherson county is a close second with 281; Reno is next with 268 and Dickinson next with 265.

However, even in those counties there is considerably less than one tractor to three sections of land. In other words, in those great farming counties not one quarter section in 12 on the average is supplied with a tractor. It is evident, therefore, that it is too soon to say what the tractor has done for Kansas, which question seems to imply a finished work. A more proper question is: "What is the tractor doing for Kansas and what is it going to do?"

Not long ago I attended a farmers' meeting where there was a tractor demonstration and discovered that the minds of those farmers were not united yet on the tractor business. Some of them expressed dissatisfaction over the result. Others were rather enthusiastic but on the whole I reached the conclusion that the concerns selling tractors will have to show the farmers what the tractor will do. It is quite possible that too much was expected and what is even more probable is that a good many men who buy tractors do not know how to handle them. If I for example were to buy a tractor and start blithely out to the field with the idea of tearing up the earth at the rate of 10 or 12 acres a day the chances are that I never would be able to get the tractor into the field at all and if I did, the chances are considerably more than even that I couldn't make the blamed thing work after I got it in. Now that would not necessarily or even probably be the fault of the tractor, because I confess with much regret, that nature did not dower me with any mechanical ability. I do not know anything about machinery and do not seem to have brains enough to learn. The strange thing about it is that I am absolutely fascinated with machinery. I can stand and watch a beautiful and smoothly working machine by the hour, but after I get thru watching it I know no more about running it than at the beginning.

I take it that there are others with no more mechanical ability than myself who are trying to run tractors, and are making a mess of it.

It is also undoubtedly true that the tractor is being improved all the time and that the early models have difficulties the newer ones are able to overcome. I am therefore more interested in what the tractor is going to do for Kansas than in what it has already done.

What I think the tractor will accomplish in Kansas for one thing is the bringing about of greater and more effective co-operation in farming. As I have pointed out there are some men who can handle a tractor effectively and get a great deal of service out of it, while there are other men who cannot.

It is also true that a man with a small farm, say of 40 to 80 acres, perhaps, cannot use a tractor profitably. I do not make any positive declaration to that effect, but assuming that such is the case it does not follow that this small farmer should not have the use of the tractor. Under an efficient system of co-operation a number of farmers can join in the purchase of a tractor or if more than one tractor is needed, in the purchase of so many tractors as are needed. Then the operation of the machines should be in the hands of the men who have demonstrated their ability to run them successfully, that is, get all the work possible out of each at the smallest cost. I am entirely satisfied that an efficient tractor operator would get at least 50 per cent more service out of the machine than the indifferent operator and at no greater cost. That is to say, for example, the efficient operator would plow 3 acres of ground at no greater cost and, perhaps, at less cost than the indifferent operator would plow 2 acres.

The tractor never will in all probability entirely displace the horse, but under such a system of co-operation as I have suggested I think it safe to estimate that 75 per cent of the work now done by horses would be done by tractors and would be done more efficiently and at less expense. But I come back to the original thought that whether a tractor will pay or not depends very largely on the man who operates it. I expect to see the tractor business expand wonderfully in Kansas. Five years from now I expect to see 25,000 tractors in use in the state instead of between 8,000 to 9,000, but in order to bring about that result the Kansas farmer must be shown by actual demonstration that the tractor pays.

Good Time to Quit

NEVER in the history of the world has there been so much vile tobacco smoked as at the present time. A few years ago it was possible to buy a fairly good cigar for a moderate price. That is true no longer. The man who used to get a reasonably satisfactory smoke for a nickel has to pay 10 cents now for a cigar which makes the odor of a pig sty seem by comparison like a gentle breeze laden with the fragrance of orange blossoms.

When a crowd of men get together and fill the room with cigar smoke at the present time, it is sufficient to justify a dog in returning to his vomit and the sow to her wallow. It is the best time that ever was to quit. Smoking is a fool habit at best. I know, because I smoked for many years. There is no man who does not know that he would at least be as well off in health if he never had smoked or used tobacco in any form, and certainly he would have been considerably ahead financially if he had saved the money he used up in smoke or squirted about in the form of tobacco laden saliva. There were more than 8 billion cigars and more than 20 billion cigarettes smoked last year in the United States.

If the odors of the entire output could be combined in one grand smoke it would make all the skunks within smelling distance lie down and die as the result of envy and mortification. I think it is a conservative estimate to say that the smokers and chewers of the United States burned up and chewed up last year more than a billion dollars worth of tobacco.

I am not trying to raise a moral issue. I was as moral a man when I smoked as I am now. Many of the best people I know either smoke or chew and some of them do both. On the other hand some of the meanest people I

ever have known never used tobacco in any form. All I have to say is that smoking is a fool habit and chewing is worse, and just now 90 per cent of the cigars sold are so bad that it is really a disgrace to smoke one of them as well as a menace to the public peace.

It is the best evidence of the good nature and long suffering patience of the American people, that when a man walks into a crowd smoking an ordinary cigar there is not at once a general riot and violence committed upon the smoker. There is an impression that tobacco is a wonderful solace. This impression is largely bunk. If the average smoker were shut up in a dark room with a cigar he could not tell whether he was smoking if he could not see the lighted end of his cigar. Blind men as a rule do not smoke because they get no satisfaction out of it.

As I remarked in the beginning this is a good time to quit. Give your breath a chance. Also do not afflict your fellow citizens when it is unnecessary. But if you feel that you must smoke, you really ought to seek solitude for the exercise, so that you can have a monopoly of the odor.

The Text Book Commission

I AM IN receipt of the following letter from Mrs. Ida Collister, of Minneapolis, Kan., formerly county superintendent of Ottawa county and a teacher of long experience. I give it space for the reason that there has been quite a persistent effort made to create the impression that the Kansas teachers are practically unanimous in demanding that the text book commission shall be made up entirely of teachers.

The Kansas Teacher for December has, on its cover, Art. 2 of the resolutions placed before the Kansas state teachers' association for adoption by the members during its last session in November. It is headed "The Plank of the Politicians Rejected." If the best meaning of the term politician is intended probably those voting against the article would not object to the application because it would be a person well qualified to promote the general welfare of state or nation" but the ordinary acceptance of the term is something entirely different. It is rather difficult to understand why a vote either for or against the resolution should classify a teacher as a politician. It is here given for consideration.

"The 15,000 teachers of Kansas are unanimous in the conviction that the tools or implements used in education, just as in any other line of human activity can be selected most wisely by the persons who are engaged in the constant use of these tools. In the work of education the tools that are in most constant use are books, including text books and supplementary books. From the great variety of these, both in quality and number the ones to be used should be selected by the persons who are most familiar with their use and peculiar requirements. Therefore we insist and demand for and in behalf of the educational interests of the boys and girls of Kansas that the school text book law be so amended that all appointive members of the state school book commission must be persons actively engaged in public school work in Kansas, and that this law be further amended so that it will be impossible for any representative of any publishing house or firm of any kind whatsoever, other than the state printer, to be a member of the state school book commission in any capacity whatsoever. In order to assist in bringing about these reforms we pledge our votes for the candidate for governor in the next election who will publicly pledge himself to appoint only persons actively engaged in public school work as members of the state school book commission."—Article 11 of Resolutions of the Kansas State Teachers' Association.

The wording in the first sentence makes the article impossible because it says "The 15,000 teachers of Kansas are unanimous in the conviction." While the resolution was carried by a majority of the teachers attending all the meetings it was rejected by those attending in Topeka. Any one watching the work during a session of the teachers' association knows that feeling must be very strong against a measure that will keep a crowd of young teachers from voting with the leaders on the stage because they believe these older teachers with years of experience are well qualified to decide all such matters for them and pay little attention to the reading of resolutions.

I was among those that rejected the resolution and did it because I thought it showed a spirit too narrow for the work that faces us in the immediate future. The state school book commission consists of seven members. The law provides for five of these and two are appointed by the governor. If a majority of the members are people "actively engaged in public school work in Kansas" it seems only fair and best for the boys and girls preparing

for lifework and useful citizenship to give one or two places to persons outside the teaching profession.

The December number of the Kansas Teacher also contains an article showing the amount of useless work we have done in the schoolroom. While I do not agree with the writer when he says the farmers' children do not need the same broad education given to others, I know we have wasted considerable time with useless material in textbooks and have failed to give the attention to fundamentals necessary for business application after school days are over. I have been in the profession long enough to see children that were particularly dull along some line of study considered absolutely necessary for their education become intelligent, prosperous citizens. It is here that the man or woman well educated, experienced in business or professional affairs and alive to present day conditions can be very useful on the School Book Commission.

Comparatively, a few years ago when we spoke of education we meant only the ordinary text book knowledge; now the meaning is broadening because we are realizing the necessity. Elementary education must deal largely with morals, proper consideration for the rights of others, political economy and conditions necessary for health as well as the usual subjects considered because habits of life and character are formed mainly during these early years before a profession, business or trade is chosen.

The work then is more or less centralized and further knowledge along these lines so necessary for good citizenship must come from choice of reading material. Habits of reading are formed during these school years also and a useful citizen must take a continuous interest in public affairs. He must have a good general education and be capable, so far as natural ability will permit, of forming a judgment after reading articles, hearing speeches or when facing conditions that require intelligent consideration.

The affairs of our government are in critical condition and will require all the best efforts of its citizens for adjustment. Good men and women are working for harmony and there is plenty of work for the educator whether teacher, preacher or editor. Teachers should certainly take the lead in shutting out dissension and should drop the matter of politics wherever possible. Of course, wherever we have an organization with elected officers and control by the majority we will have politics in the usual meaning and those that undertake the control will be called politicians. If they work for the general welfare of those affected the better meaning of the term may be applied but if the motive is selfish they should have no place in the affairs of our schools or government.

The article probably will have little effect on the election of the governor this year because, as one man said when the resolution was discussed, he would vote as he pleased for governor even if the resolution was adopted but it places many teachers in a false position to say they are "unanimous in the conviction."

What Readers are Thinking

ONE HEARS and reads a great deal about the farmer producing more," writes William Lysaght of Olathe, Kan. "Does any one who has any common sense imagine that the farmer, whose government betrayed him after the efforts he made during the past two years in the face of scarce and high priced labor, will produce for unremunerative prices commodities which will enable the packers and grain trusts to reap big profits, or turn his products over to middlemen and merchants who sell them at big profits to some of his friends, the organized laborites? The farmer knows that he is best able to fight the high cost of living, because he produces most of his own necessities. I would advise every farmer to join his county farm bureau and that the county farm bureaus affiliate with the state farm bureaus, and caution him against joining any merchants' associations." Speaking further along of the sheep business Mr. Lysaght says: "There are thousands of farmers who would own small flocks of sheep, helping to improve the quality of the wool and keeping at home the money paid foreign countries for wool, if it were not that they had to quit keeping sheep because of the loss from uncontrolled and unlicensed dogs.

"Last week a farmer just north of Olathe had 10 sheep killed in his sheep house. A sheep is the greatest combination weed cutter and manure spreader to be had and furnishes a fair margin of profit besides. Now that Kansas has two such men as Senator Capper and Governor Allen, let us hope they will have a law enacted making it imperative for every owner of a dog to keep it under perfect control, especially at night."

C. H. Mitchell, of Thayer, Kan., writes that he is still looking to me for spiritual and political guidance. If I thought he really meant that, I would give him a solemn warning, but a little later on in his letter he proceeds to demonstrate that he is doing his own thinking by telling what in his judgment ails the farmer. He says: "The packers and grain men spend

thousands of dollars spreading propaganda urging the farmers to produce more stock and the farm papers fall for it and help spread it, when the truth is that with the exception of a year or two during the war, the greatest drawback the farmers have had during the past 30 years has been over-production. In all other productive industries the producers limit their output until the purchaser has to go to them and pay their price. Until the farmers learn to limit their output to what they can find a market for at cost of production they will not have any say concerning the price of their product. There are some of the agricultural leaders, who, while they have been a great help to Kansas farmers in some ways, do not exactly understand farm conditions. For instance, W. M. Jardine, who we will all admit has been a great help to Kansas, had an article in the Kansas Farmer and Mail and Breeze of January 10, telling why farmers should handle more livestock. One reason he gave was that it would give them plenty of work all winter and they would be much happier than if they had nothing to do. Now the farmer and his family enjoy a rest as well as anybody and when a state leader comes out with a statement practically to the effect that the farmer and family do not have sense enough to rest, it goes against the grain.

"Not long since a number of farmers drove to Fredonia to attend a farmers' meeting. It was addressed by two or three young men from the college. After the meeting was over my friend, Bunk Clegg, a farmer who has made good and is called the sage of the Neodesha oil field, remarked that it was pretty tough to drive a car 20 miles thru the snow to learn something and then have the speakers talk as if they were teaching the A B C class in an asylum for idiots. And it was sure a good description. I hope you will straighten this out."

The farmers never have suffered from over-production but they have suffered from a lack of proper distribution. There never has been a time when the world did not need all the food the farmers produced and more, but very frequently the food produced did not get to the people who needed it.

Without organization and intelligent co-operation all talk about limiting production is idle. How is the farmer acting independently to determine what to limit. This season he may be losing money on hogs. He makes up his mind that he will go out of the hog business. Next year the price of hogs in all probability will be high and the farmer who happens to have hogs will make money. Raising cattle may be unprofitable this year but next year it may be profitable.

John F. Myers of Hiawatha is decidedly hostile to the Nonpartisan League. He says in part, "You undoubtedly know that the American Legion has denounced the Nonpartisan League at several of its meetings. I have done everything in my power to be a 100 per cent American. I was for the grand and noble American boys while they were gone and I am just as strong for them now. You may call some of the treatment administered to advocates of the Nonpartisan League, mob violence, but don't you think that any person who will say 'Some may think their methods of government may look like Bolshevism or pro-German and that they don't care' deserves the 'treat'em rough' policy? Didn't Germany set the example in the very beginning of the war and keep it in force until the end? You possibly think I'm just a little sore and don't know what it is about, but such is not the case. I'm only hurt to think that a publication with the chance the Kansas Farmer and Mail and Breeze has and which is headed by a man whom all Kansas banks on, will let such articles get by and if continued will certainly get the chance to drop me from the mailing list."

The article referred to included the extracts from the letter of Jesse Johnson manager of the Nonpartisan League for Nebraska to the governor of that state, which appeared in the Kansas Farmer and Mail and Breeze a few weeks ago. I am also in receipt of letters from ardent advocates of the Nonpartisan League rather severely denouncing me because I have advised the farmers of Kansas to sit tight and watch the operation of the League in North Dakota before going into it. Now the fact is that neither the criticism of Mr. Myers on the one side, who seems to think mobbing the members of the Nonpartisan League is justified, nor the criticisms of the members of the League because I do not advocate it, trouble me in the least.

In my judgment the greatest excellence of our form of government is that under it the people can try out almost any experiments they may wish. A majority of the people of North Dakota have decided to try out the Nonpartisan League. They have a right to try it out. They also have a right to assemble in other states in a lawful manner and promulgate their theories so long as there is nothing in those theories that conflicts with our form of govern-

ment; and that they do not is quite clearly set forth in the opinion rendered by Judge Amadon of the Federal court. I am doubtful about the benefits of their program and for that reason advise Kansas farmers to wait and see how it works where it is being tried, but I most emphatically denounce any mobbing of the members of the Nonpartisan League. If that is the policy of the American Legion it is a most mistaken policy. The greatest purpose of the American League made up of soldiers in the late war, should be to preserve law and order, to see that every man, woman and child, however humble and of whatever complexion shall be protected in their rights under the law.

Let War Grafters Contribute

THE NEW year was ushered in by banks and business houses with more liberal bonus-giving to employes and workers than we have ever known in these liberal United States.

I have wondered a little what ex-service men who didn't share in it must have thought about it, the boys who gave up their jobs in 1917 for \$1 a day and the finest chance to get killed the world ever saw, and left the fellows at home with every opportunity to prosper and make progress, while their own world either stood still or abruptly ended in a crash and darkness. What must these men, who are just getting back in harness, have thought of this wonderful exhibition of prosperity when the checks were being passed round?

In April, 1917, this country entered into an agreement whereby certain of us were to stay safely at home and do what little we could, while others were to leave home and country and plans and opportunities for a perilous voyage overseas to offer their lives in our behalf.

On the success of their daring all our lives and prosperity depended. If they hadn't succeeded an American dollar would now be worth little more than a German mark. And in that case our present situation can better be imagined than realized.

Many of these boys never came back. Others will be human wrecks the rest of their lives. Still others will go thru life handicapped by serious and restricting disabilities. Thousands lost their chance at an education or a chosen career. All have had some sort of setback. Not one has been a gainer, all things considered.

Those who did come back whole have given from eight months to two years out of the most vitally important period of their lives to us, to accept board and expenses and a gun with which to kill or be killed.

While these men with the guns drew their dollar a day and came home poorer than they went, to find their government grant of \$60 too small to buy them a one-piece outfit of civilian clothes—those who stayed behind enjoyed a business prosperity which has had no parallel.

The question now is, have we, the stay-at-homes, really fulfilled our part of the contract? Are we bound to do nothing more for the fellows who have all lost something they can never regain, to risk life-and-all for us?

It is a burning question, or ought to be.

Kings, possibly, can afford to be ungrateful, or let us say unappreciative, but republics should not. Least of all the greatest of republics, the one in which we live and of which we are a part.

I am not sure this is not a national matter rather than a question for states to consider. Congress wishes to be generous. A \$30 a month service bonus would aggregate more than 1 billion dollars. It ought not to be beyond us to fry this much fat, or more, out of war contract frauds, and there would be a poetic justice in making such use of the money, but it is probable that the better plan, and one more likely to be of permanent benefit, would be for the government to lend a sufficient sum on easy terms to the ex-service man with which he could buy a farm or a home, similar to the plan proposed in the Morgan bill, and so help him to get a real start.

I favor a plan that will benefit every ex-soldier instead of a limited number, which is the chief objection to the Mondell and Lane measures.

We cannot repay the men who did so much for us. That is a debt which cannot be settled with any amount of money. But we should go the limit in doing everything that may be done for the benefit of the men who pledged to us their all, realizing even then that as a nation and a people we shall always be their debtors.

Arthur Capper
Washington, D. C.

How To Remove the Carbon

The Cylinders of a Gas Engine Must be Kept Clean if the Maximum Power is to be Developed at the Lowest Possible Cost

By R. E. Ruggles

WHEN A MAN'S internal workings got so gummed up in olden times that he was hitting on only about one-half his cylinders, he called in a learned doctor and found to his horror that he was full of devils. Then began the more or less painful process of casting the devils out. When the owner of a modern kerosene tractor begins to hear the occasional cough and splutter which seems to indicate that his machine is losing some of its brazen cocksureness, when his nerves begin to get frayed on the edges by shotgun explosions in the carburetor and his pride is stung by the fact that the 15 horsepower at the draw-bar of which he boasted has shrunk to about 1½ horsepower, then it is that a man, unless he is very, very careful of his language, is likely to say something to the general effect that the thing is full of unmentionable devils. Thus do the habits of speech of the dark ages abide with us.

Don't criticise your tractor friend too severely. His speech, unlady-like as it may have sounded, perhaps contained more truth than profanity. Devils in tractor engine cylinders? Surely brother, surely! Most any gas engine is likely to be afflicted at times with little black imps with the smell of brimstone on them. Their family name is carbon, and the purpose of this story is to point out how they get into engines and how best to cast them out.

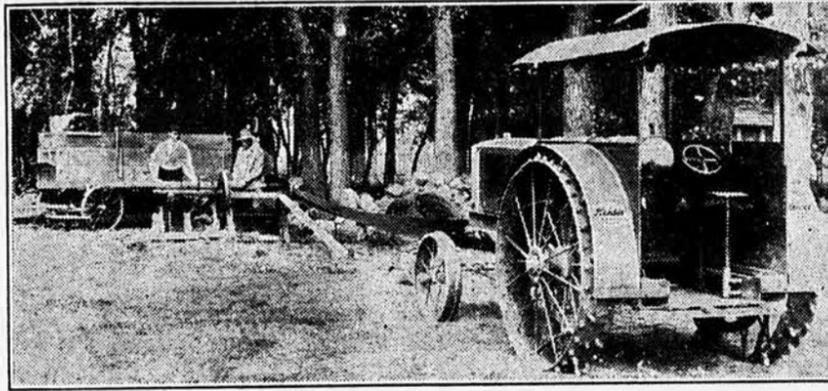
Poor Oils are Dangerous

Three possible causes usually are given for carbon being present in a gas engine cylinder. One of these causes is too much lubricating oil. Another is a poor grade of lubricating oil, and the third is too rich a fuel mixture. Carbon may be caused by any one of these reasons or by a combination of two or more. To a certain extent, carbon will be formed in the cylinders of any gas engine, and every tractor operator must expect to remove the carbon from his engine once in a while. The engine cylinders always should be thoroughly cleaned before starting the season, and if the tractor goes thru a season's work without it being necessary to repeat the cleaning, the operator can feel satisfied with the results.

If you see smoke coming from the exhaust of a tractor you know the motor is not operating exactly as it should, and you know that carbon is being formed in the cylinder. You should be able to tell with a fair degree of accuracy from the appearance of the smoke what is causing it. A black smoke is due to a fuel mixture that is too rich. This black smoke usually is quite foul smelling. An immediate adjustment should be made until the smoke is eliminated. If the smoke is whitish or bluish the indications are that lubricating oil is causing the trouble. Either the cylinder is getting too much lubricating oil or the lubricating oil is of poor quality. In case of a kerosene engine it is possible that some kerosene has worked past the piston rings and got into the crankcase, thinning the lubricating oil and thus making it of poor quality. It will also thin it down to such a light body that it works past the piston rings more easily and therefore gets into the combustion chamber in larger quantities, there to be burned and deposit carbon in the cylinder, and send smoke out thru the exhaust. If the smoke emitted at the exhaust is grey, one knows that both lubricating oil and fuel are responsible.

Pitting Troubles

There are several reasons why carbon is a serious detriment when present in considerable quantities in a gas engine cylinder. It causes loss of compression, knocking and pre-ignition, loss of power and heating. When a deposit of carbon gets on the valves and causes pitting, it soon gets the valves in a condition so they do not hold compression well. As the compression is cut down there is a considerable loss of power in the engine and a loss of fuel efficiency that will increase the cost.



To Get Absolutely Good Work from the Engine It Will be Necessary to Keep All Carbon and Dirt Removed from the Engine Cylinder.

When the spark plugs are fouled with a deposit of carbon, the ignition is likely to be poor. This makes the engine hard to start and is likely to cause more or less missing and uneven running while the engine is in operation. It is easy to clean the carbon from the spark plugs and every operator should attend to this at as frequent intervals as seems to be necessary.

Carbon is also deposited on the piston head and cylinder head. Small projections of carbon are likely to become incandescent in the heat of the cylinder during the power stroke and retain this heat in sufficient quantities until fuel is taken into the cylinder so as to ignite the fuel mixture before the proper time for the explosion to occur. This pre-ignition cuts down greatly on the efficiency of the engine and is likely to cause considerable pounding in the engine. The pre-ignition sometimes occurs early enough so the explosion occurs before the inlet valve is closed, when the engine backfires into the carburetor.

When a motor begins to develop some of these carbon symptoms the proper thing is to remove the carbon at the first opportunity. Many tractor motors are so constructed that it is a simple operation to remove the cylinder heads. With the heads removed one can scrape the carbon from the cylinder head and the piston head without any great trouble and without having had any particular instruction along this line. The carbon is spread out there before you, ready to be scraped loose and removed. This method of carbon removal is perhaps the best for the average tractor operator to use. The grinding of the valves to remove any ill effects of carbon that may be present in the valve seat is not an extremely technical operation.

Grinding Valves

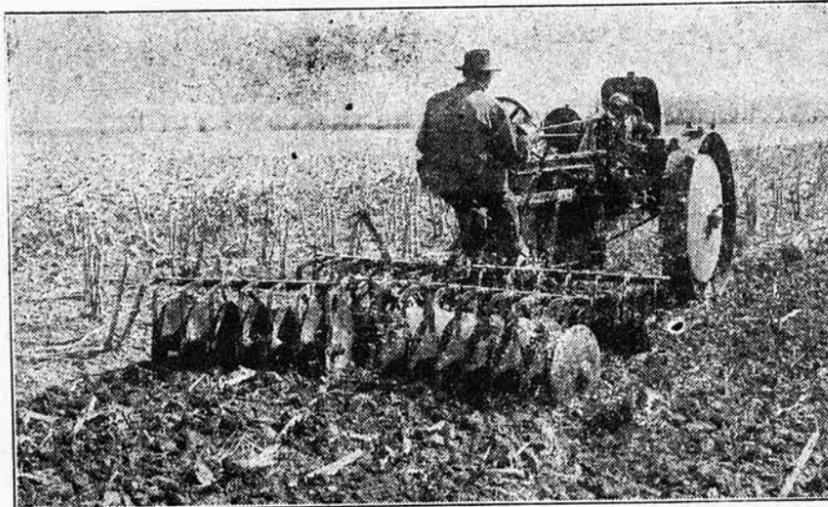
In grinding valves, first remove the valve spring and the valve cap and take the valve entirely out. With the valve out it is easy to inspect the valve seat

and determine how much grinding is required. If the valve seat is badly pitted it may take considerable grinding to put it in good condition, but if the metal is not burned, a very little grinding is all that will be required. A light coil spring should be placed on the valve stem in such a way that it has a tendency to hold the valve away from its seat. A small amount of valve grinding compound should now be applied to the valve seat. For turning the valve in grinding you may use a valve grinding tool or perhaps a screwdriver or a carpenter's brace holding a screwdriver bit.

Only a moderate amount of pressure should be applied to the valve and the valves should not be turned around and around. The valve may be revolved back and forth a few times; then release most of the pressure and allow the light spring to lift the valve from its seat. Turn the valve part way around while it is up and then apply pressure again and turn the valve back and forth a few times. Take only a few cutting strokes in one place. Then allow the valve to lift and turn it part way around before taking some more cutting strokes.

A Few Suggestions

In most cases only a small amount of grinding is required to seat the valve perfectly, and one should be careful not to use too much pressure nor to grind too long at a time in one place. If the valve is turned around and around there is danger that grooves will be cut in the valve and valve seat which will prevent the valve from seating perfectly. Another method of applying the cutting stroke in valve grinding is to turn the valve one-quarter of a revolution, lift the valve from the seat, replace it and revolve another quarter of a revolution in the same direction. Then lift the valve and turn half a revolution in the same direction without the valve touching. Then reverse the direction with the valve touching the seat a quarter of a revolu-



When Your Tractor Begins to Cough and Splutter It is Time to Begin Investigating the Possible Sources of These Disturbances.

tion at a time. After grinding the valve for a short time it should be removed to see whether enough work has been done on it. If it is ground properly there will be a bright line of contact all the way around on the valve and on the valve seat. When the grinding has progressed this far there is nothing to be gained by grinding away more metal. Now comes an important part of the procedure. Remove the valve and clean carefully from it and from the valve seat every particle of the grinding compound. If some of this grit is allowed to remain on the metal it will continue to cut while the engine is running and soon will ruin the compression.

At many repair shops the mechanics burn the carbon out of gas engine cylinders with oxygen, and this is an efficient means of removing the carbon. The average operator, however, cannot use this method himself, because he does not have the equipment with which to do it. In burning out the carbon, a piece of paper or waste is set on fire and dropped into the combustion chamber. As soon as a stream of oxygen is played on the carbon which comes in contact with the burning waste, the carbon is burned away rapidly from the chamber. By following the burning carbon around and around the combustion chamber with the stream of oxygen it is possible to burn the carbon out cleanly and in a very short time. This method of removing carbon takes a certain amount of skill, and unless the tractor is in a repair shop it is not likely that the necessary apparatus will be available.

Cleaning Liquids

Various liquids are introduced into gas engine cylinders by operators in the belief that they may remove the carbon. Many of these doubtless give excellent results, if the operator does not wait until the engine is too heavily loaded with carbon before he uses them. There are various carbon removing liquids advertised that may be used according to direction and that have given excellent satisfaction. Aside from these patent compounds, some operators use kerosene and some even use water with satisfactory results to prevent the accumulation of carbon in large quantities in the cylinder.

Some operators make a practice of introducing a small amount of kerosene into the tractor cylinders while the machine is hot at the end of a run, and after turning the engine over a few times by hand to get the kerosene well distributed they allow the motor to stand until the next morning. The claim is made that the kerosene softens the small amount of carbon that may be in the cylinder that the carbon is blown out with the exhaust when the motor is started the next morning. Sometimes when a tractor motor is hot an operator will introduce a pint of kerosene at the air intake of the carburetor as rapidly as the motor will take it without being choked down. It would seem that considerable carbon is removed by this process.

The Use of Kerosene

Some operators use water instead of kerosene, and there is but little difference in the amount of carbon removed whether kerosene or water is used. If this stunt is attempted one should be careful not to introduce the kerosene or the water too rapidly because it is not difficult to put it into the cylinders rapidly enough to stop the engine, and if this is done there is a nice lot of work ahead in getting the cylinders cleared out and the engine started again.

Probably for the average operator the best plan is to remove the cylinder head and scrape the inside of the combustion chamber when it is necessary to remove carbon. This is a good, workman-like and not at all difficult method of removing carbon.

It pays to keep all machinery absolutely clean and in thoro working order if the best results are to be expected. It will save both time and money for the operator besides much annoyance.

Rural Motor Express Routes

Transporting Farm Crops and Livestock to Market Promptly and in Good Order Always Insures Better Prices and Bigger Profits

By John W. Wilkinson

MOTOR trucks are becoming more and more popular every day and the demand for them during the past year has been so great that manufacturers could scarcely fill their orders. The remarkable development of this traffic in recent years is shown by the fact that there were registered in the United States during the year of 1919 about 6,146,617 motor vehicles not including 240,564 motorcycles and 107,000 motor cars and motor trucks owned by the United States. Of the motor vehicles in use it is estimated that there are more than half a million motor trucks. During the present year this number no doubt will be increased to a very large extent.

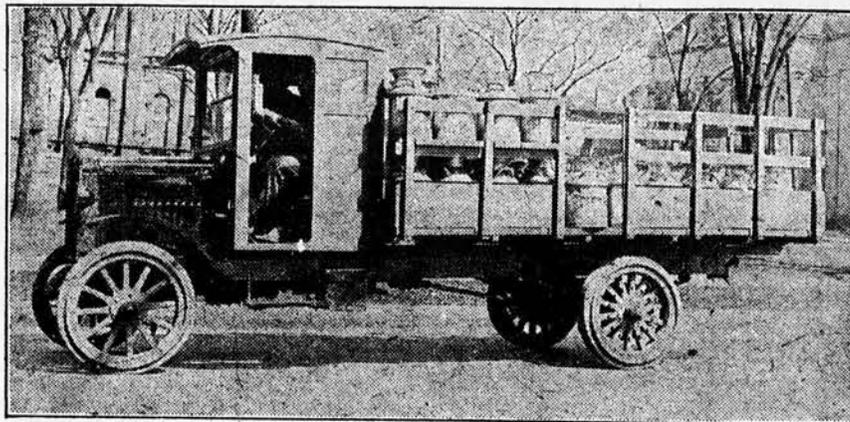
These motor vehicles had about 2,300,000 miles of roads over which to travel, according to the statistics given out to the public, but there were in reality probably less than 300,000 miles of these roads fit for any sort of all year motor vehicle travel. Of all of our roads about 10 per cent are improved roads and 2 per cent are really good, lasting and permanent highways of concrete, brick, bituminous surfacing material, macadam or similar material of durable character. The lack of permanent good roads has interfered largely with a more extended use of motor trucks and other kinds of motor vehicles. During the past 10 years we have spent more than 2 billion dollars for good roads but we have very little to show for this investment.

Graft in Contracts

While there has been some graft in some of the road contracts, the explanation for our failure to obtain more improvements for the money invested is due to other causes. In a recent issue of Collier's Weekly, C. H. Cloudy says, "In the 48 states of the Union there are 3,016 counties and a much larger number of townships. In every state there is some sort of a highway commission, board or commissioner, and in most every state and county some variety of money-spending machine. With 48 ideas as to state roads, 3,016 ideas as to county roads, some 15,000 county commissioners and more than 100,000 salaried clerks, officials, and political appointees, all engaged in the disbursing of money appropriated for roads from public funds or money raised for county roads thru the sale of county bonds, or money obtained for township roads and streets thru either bond sales or special taxation, it is obvious that there is a wealth of opportunity for the leak of money and for that lost motion which absorbs the efficiency of the engineer's plans and produces roads which are not worth what they cost. Nor is the general public without blame in the matter. It all too frequently demands the greatest possible length of smooth, hard road for its bonds or tax money expended, without reference to grade, width, lasting quality, out-of-sight drainage, or location."

However, the time is not far distant when all these mistakes will be corrected and a system of state and national roads will be developed that will make the United States the peer of any nation in the world. When this has been accomplished the motor truck as a means of transportation between the city and the country will be regarded as an absolute necessity. It is said that the United States is paying a penalty of more than 504 million dollars a year in excess cost for transportation alone of agricultural products from farm to market on account of our failure to provide and maintain good highways.

Farmers are beginning to realize that good roads and motor trucks are necessary to insure the marketing of farm products to advantage. "Many farmers who live within 10 to 25 miles of consuming centers," says H. S. Yohe of the United States Bureau of Markets, "raise berries, fruits, and truck crops, and most of them deliver their



Milk and Cream Can be Hauled Daily from the Farms to the City and be Delivered to the Purchasers with But Little Loss of Time.

produce directly to the city markets. During the busy season this requires several trips each week. To make the trip by team means a long, hard day for both men and horses. To make their horses available for more work on the farm and to do away with these tiresome trips, many of these farmers have purchased trucks. Rural merchants have also purchased trucks to bring their wares and merchandise from the city in a reasonable time and to make deliveries to their rural patrons. Farmers and merchants in these cases have had only their own needs in mind.

"When the tonnage of these farmers and merchants does not make full capacity loads, they occasionally haul some produce and merchandise for their neighbors and fellow merchants at a nominal price. Because of the limited business of individual farmers and rural merchants, their trucks are idle the greater part of the time. Bearing in mind the initial cost of a truck and the limited time it is actually in use, this method of transportation is somewhat expensive, and, moreover, as the trucks are usually operated only when the owners wish to haul for themselves, the service extended to others is too limited and irregular to meet their needs."

There are, however, many successful private motor truck express companies and lines operating in the United States. The Patriot Motor Express lines recently announced that it would have in operation 289 routes by March 1, 1920, in Missouri, Kansas and Oklahoma. The following routes have been selected definitely: Radiating out of Kansas City, 22; St. Joseph, eight; Atchison, six; Topeka, six; Emporia, four; Ottawa, three; Fort Scott, four; Pittsburg, four; Joplin, nine; Independence, five; Oklahoma City, ten; Tulsa, six; Bartlesville, three; Enid, four; Wichita, eight; Hutchinson, eight; Salina, six; Dodge City, three; Great Bend, three; Colby, three; Chillicothe, Mo., six; Springfield, Mo.,

four; Sedalia, Mo., four lines at first. Many of these motor express routes are now in successful operation in Northern and Eastern states. Minneapolis has a central ship-by-truck terminal, in the heart of the wholesale district. Ten companies operate from it in a 100-mile radius. Vast quantities of cream, butter, eggs and potatoes are brought in. Furniture, farm machinery, groceries and other necessities are taken out.

Much that is brought in would otherwise be wasted on the farms. Much that goes out would remain but for the motor express. The new idea, worked either way, is good for both ends; and when worked both ways, is much better yet. The terminal also is the central distributing point for many parts of Minneapolis itself.

A Successful Experiment

Truck makers and operators and farm experts thruout the Northwest are watching the 'experiment' with great interest and new operators are entering the business of hauling every week. It is expected that next summer will see a network of motor truck routes connecting the Twin Cities with practically all larger places in Minnesota. Wholesalers and other large shippers are giving the idea hearty support, delivering their individual loads at the central platforms, where they are sorted and distributed.

The company operating the central terminal is incorporated for \$100,000. It is at present charging a flat rate of 5 cents a 100 pounds for its service, which includes obtaining new business for truck operators, making collections and taking care of bookkeeping. Drivers are directed to take orders from rural merchants for anything needed from wholesalers. These are transmitted thru the terminal company. A surprisingly large number of orders are thus turned in.

The terminal company's small charge is found to be a large saving to all concerned, in actual expenditure as

well as in time. The wholesalers find it much more economical than sending their own motor trucks into the country, or thru the city for pick-ups. The prevailing rates for truck shipment are little more than by rail. Boxing or crating is eliminated and from two to seven days' time is saved. Damage in transit is minimized.

Estimates show that hundreds of motor express lines will soon be in operation. Use of the motor truck in this field and the missionary work accomplished in this manner create a steadily increasing market. Building of good roads and consequent quick transportation assist the people of the country districts, while city merchants are enabled to increase the radius of their deliveries and so add materially to their business. So steadily has the freight delivery by motor truck grown in America that railroads are feeling the pressure, altho during the war the truck was welcomed as a relief in times of congestion. In many sections of America even now more freight is hauled by motor truck than by train, and this business is growing amazingly.

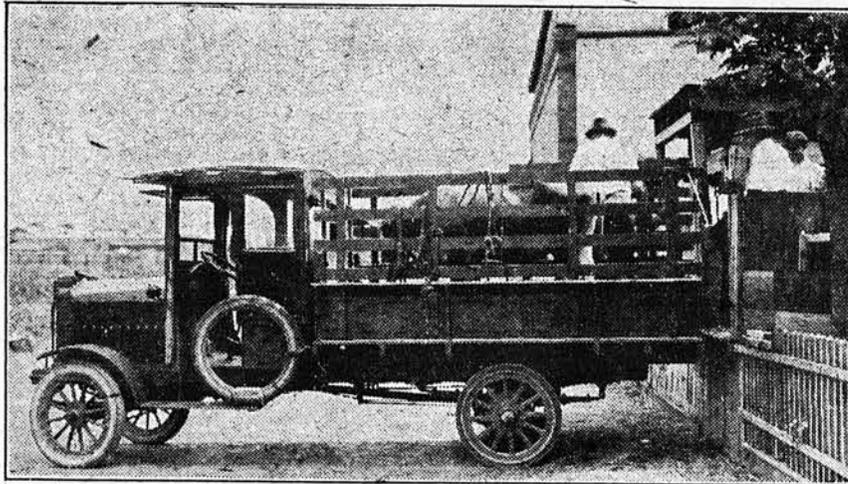
Freight by Motor Truck

The dairy freight hauled by motor trucks in America is estimated at 50 million tons. It seems unbelievable, but very probably it is true. No wonder railway men are not putting up a prolonged fight against granting of permits to motor truck transportation lines, but are getting into the business themselves.

In a recent article in McClure's, Waldemar Kaempffert makes mention of a department store in Baltimore which studied the motor truck as a transportation system before it made its investment. It decided that it must have demountable bodies to cut down expensive loading time. It spent \$15,000 for 30 demountable bodies, \$7,000 for 14 hoists, and \$2,000 to adapt its store and warehouse to the motor trucks—\$5,000 in all, just to make it as easy as possible to load and unload. The 30 demountable bodies were carried by 18 5-ton electric trucks. It took one and one-half hours to load a truck without a demountable body and only 10 minutes with a demountable body and an overhead hoist. A loaded body was always ready for a truck when it returned empty. The adoption of the demountable bodies and the overhead hoists has resulted in a saving of \$22,000 a year, because the trucks could make twice as many trips as they did before the demountable body system was installed. A strong argument for the establishment of rural motor express routes from an economical point of view is found in the experience of the United States Postoffice Department in establishing rural parcel post routes. According to James I. Blaklee, Fourth Assistant Postmaster General, the net profit from eight routes from January 1 to May 31 of last year was more than \$125,000. The total amount of business was \$152,237.74 and the operating expenses \$27,130.98. The routes showing this financial success are Philadelphia to Atlantic City, Baltimore to Solomons, Md., Washington to Leonardtown, Md.; Washington to Baltimore; Baltimore to Lancaster, Pa.; Philadelphia to Washington; Savannah to Statesboro, Ga., and Columbus to Zanesville, O. Some of these have been in operation only a few months.

That the rural districts and the public who have access to the new routes are patronizing the service is convincingly shown from the receipts from June 1 to 15, being \$49,654 for the two weeks, as contrasted against the five months' receipts to June 1 of \$152,237.

Mr. Blaklee gives due credit for this creditable performance to the motor truck. The vehicles used by the department undergo a severe test, for the success of rural parcel post service, virtually an express carrier in many respects, depends upon the continued endurance of the modern motor truck.



Thru the Use of Motor Trucks Poultry, Livestock, Fruit and Farm Produce Can be Marketed Where the Best Prices are Offered.

Winners in the Tractor Contest

Hundreds of Farmers Compete for Prizes Offered for Best Letters on Power Farming. Skilled Operation and Steady Use Insure Success

By George C. Wheeler

HUNDREDS of letters have been received from farmers telling how they have made their tractors pay, how they have kept them busy, and what they consider the tractor's most valuable function. These points were outlined in announcing the prize tractor letter contest in which a \$10 prize was offered for the best letter and \$5 for the second best letter. The tractor editor has been fairly swamped with tractor correspondence and has called upon the other members of the editorial staff for help. It has been my privilege to read many of these letters. Being a livestock man I naturally have been slow to accept the tractor unreservedly as a source of farm power.

Reading these hundreds of letters, coming from farmers who have had experience and who tell exactly what they have done with the tractor in economizing hand labor, saving time and in performing the plowing and other heavy field work at the right season to bring maximum results in production, has convinced me that well-built tractors, properly handled by men who know how to keep them in running order, are profitable investments. These letters confirm me in my belief that a tractor to be profitable must be kept busy and used thruout the year for as many operations as possible, including belt work. A tractor makes no money for a man while it is standing idle. The profit comes from keeping it busy at productive work. The necessity for being skilled in operating and caring for tractors and keeping them busy runs thru practically all the letters received.

It is impossible to print all of the tractor letters in this issue. It has not been an easy matter to select from the many good ones the letters to receive the special prizes offered. After the most careful consideration the article submitted by Alva E. Mahannah, Route 1, Sedgwick, Kan., telling of his tractor experiences in harvesting and in putting out a 700-acre wheat crop, has been awarded the first prize. The second prize goes to Ralph P. Campbell, of Attica, Kan., who writes of the many things done with the tractor in handling alfalfa and the crops grown in a diversified farming proposition.

The first and second prize letters are reproduced on this page for the benefit of our readers.

My Tractor Experience

[First Prize Letter]

Since the advent of the tractor I have been an interested observer of the different kinds of machines and have noted carefully the general results obtained by my neighbors. Briefly stated, my observations showed that the men who had tractors were not getting good returns on their investments; some because their machines were soon junked, and others because they did not use them enough to do their work better, or to enable them to get along with fewer horses. Hence, I clung to horse and mule power exclusively, notwithstanding the fact that I was farming more extensively than any one else in my neighborhood.

However, last summer in wheat harvest I met my Waterloo with my dependable animal power. In this section of the state as in many others, we had an excessive growth of straw, which lodged just about the time we began to cut wheat. I found after five or six days' cutting that it would be impossible to bind all of it with horses. The teams could not get up sufficient momentum to carry them thru the worst tangled places, and it was too hot to rush the horses.

I had been solicited to buy a tractor by different dealers in my vicinity, and while I had not given any of them any encouragement in regard to purchasing, I had made quite a thoro study of their respective machines. And so, in my hour of need, I turned to them and found them not wanting. One of them was willing to demonstrate in my own fields that his machine would pull two

binders satisfactorily, so I bade him come and show me what he could do.

With this 4-cylinder, 15-30 machine we were able to pull two 7-foot binders from daylight till dark. It took 10 days to cut the remaining 380 acres, or an average of 38 acres a day, 19 to the binder. The average day's work for a horse-drawn binder working under more favorable conditions was a little less than 6 acres.

Lists 23 Acres a Day

Naturally, I felt quite enthusiastic over my tractor, which had demonstrated its ability to perform under very adverse conditions. As soon as we had the wheat cleared of the ground in one field, while the horses were nearly all on the threshing job, I put the tractor to work on a double-row lister in getting the ground ready for the fall sowing. All together I listed 391 acres with the tractor, working 17 days, or an average of 23 acres a day.

I then went to plowing, using a three-bottom 14-inch plow. In a total of 22 days I plowed 209 acres, an average of 9½ acres a day. During this time I had two or three 6-horse teams at work splitting ridges and harrowing.



In Putting Up Hay We were Able to Pull a Side Delivery Rake with the Tractor in "High," Traveling 6 to 10 Miles an Hour with Ease.

However, finishing the breaking ahead of them, I had 60 acres of ridges yet to work down which I put the tractor to, pulling an Ellinwood disk. I found that the tractor did well in this work, since I could give it the correct hitch by running the drivers on the ridges, a feature which was possible by keeping the front wheel in the furrow, my tractor being a three-wheeler. Incidentally, this feature which I feared would be a weakness proved to be entirely satisfactory, not only because it enabled me to use the tractor for splitting ridges, but also because it permitted a shorter turning radius, a valuable asset in handling a lister or any other tool in the use of which it is necessary to turn back on the row each time. By splitting the ridges on the 60 acres in 3½ days I averaged approximately 17 acres a day, which was considerably better than any of my 6-horse teams did on the same machine.

The Tandem Disk Harrow

I obtained very satisfactory results in pulling a tandem disk harrow with my tractor in getting the turning rows and other rough places in my fields in condition. I put in four or five days at this work, but could not get at the acreage covered because it was in strips and patches.

By the time I had this work all done, the teams had practically all the ground ready for the drills except 100 acres of plowed ground. I rigged up six 6-foot harrow sections abreast and prepared this seed bed with the tractor. I believe I did not gain much by so doing. The tractor could handle the draft of the harrow well enough, but the hitch was unwieldy and caused

considerable annoyance by allowing the sections to pile up and drag on top of each other. Also it was a difficult matter to make the turns at the ends.

Having no hitch for my grain drills, I did all the seeding with horses. However, the tractor has not had a grand holiday since I finished sowing my 700-acre wheat crop. I have done considerable belt work with it, both sawing and grinding. It handles a 30-inch saw in satisfactory order in the hardest of woods. Another feature of its work was its pulling a No. 8 Bowsher mill in grinding rye. I have also ground considerable corn and wheat with it.

While the work which I have done this year has not been as great in amount as one frequently reads about getting done with tractors, yet when one considers the condition the ground was in all fall, and makes due allowance for the fact that the tractor was strange to me, the results are gratifying. I had some trouble, most of which was my own fault, and which probably will not crop up again. But even with the record as it is, and a carefully kept account of expense, the work the tractor did cost me less than an equivalent amount done with horses. Also there

actors in my neighborhood pleased with their results in power farming, yet I have seen quite a number of purchasers whose returns on their tractors this year were small indeed. In general the latter are men who did not use their tractors to full advantage; that is, did work with horses which could have been done better with their tractors. Some in the class of non-productive tractor users used their tractors to do their work, but all the time kept sufficient horses to have done the same work.

The result of my experience and observation has been to convince me that the tractor on the farm on which the minimum number of horses needed at any one time can do all the work at any other time is as detrimental in an economic way as it is beneficial on the farm having sufficient size that it can supplement during the heavy work seasons the minimum number of horses which are needed to the work, such as threshing and hauling, which cannot be done except with horses.

Jobs Our Tractor Did

[Second Prize Letter]

Our tractor is of the small, compact type, having a 4-cylinder automobile type motor. Our first use of it came in seeding oats and barley. The season was already well advanced before there was opportunity to get into the field, and even then we were frequently delayed by rain. First we attached a disk harrow, followed by a disk drill. The excessive trash clogged the drill so we had to reverse the order, drilling the seed, and disking afterward. The oats yielded 35 bushels and the barley 25 bushels an acre. One man did all the work, running both machines, and in one operation completing the job, probably in one-half the time that would have been required by two men with two 4-horse teams to do half the work.

Seeds 100 Acres of Alfalfa

The tractor had an important part in preparing and seeding 100 acres of alfalfa. In addition to the ordinary uses of plowing, harrowing and disking, we used it to draw a subsurface packer. Then as we pulled the packer, we pushed a wheelbarrow seeder ahead. This was easily done by placing 2-inch planks over the front axle and under the frame farther back, so that there was extension enough out in front to accommodate a man sitting and holding the seeder. Those who have followed a wheelbarrow seeder over any considerable area will appreciate what this meant as a labor-saving method. Then, too, the packer acted as a marker and we had no missed places.

We baled considerable alfalfa directly out of the windrow, the machine being a combination of an ordinary hay loader with a baler mounted on wheels and having a feeding device which took the hay directly from the loader and baled it. The entire machine moved as a unit across the field, being drawn by the same little tractor. One limiting factor in output was the speed of the bale tyers. With two men tying and one driving the machinery, we were able to bale at the rate of 4 tons an hour, a very marked saving over ordinary methods.

There is a great necessity for stirring wheat land quickly when an opportune rain comes. We put electric lights on the tractor, using halves of tin tomato cans for reflectors and wiring directly from the magneto to supply our "juice" for lighting. Then, by arranging the man schedule so that the day was divided into four shifts of 6 hours each, we operated the tractor continuously without working a hardship on anyone; and at the same time we stirred about three times as much land as would ordinarily be stirred with a team in the same time. Wheat farmers know the advantage gained by early preparation of the seed bed, and that the same work done in July will often result in a yield twice as great as if done in September.

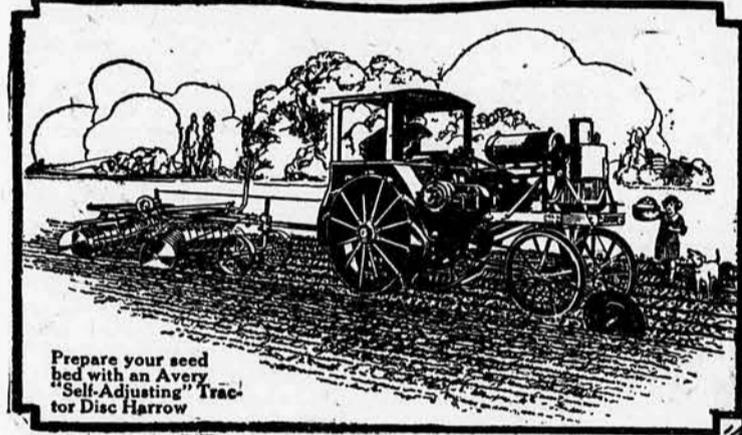
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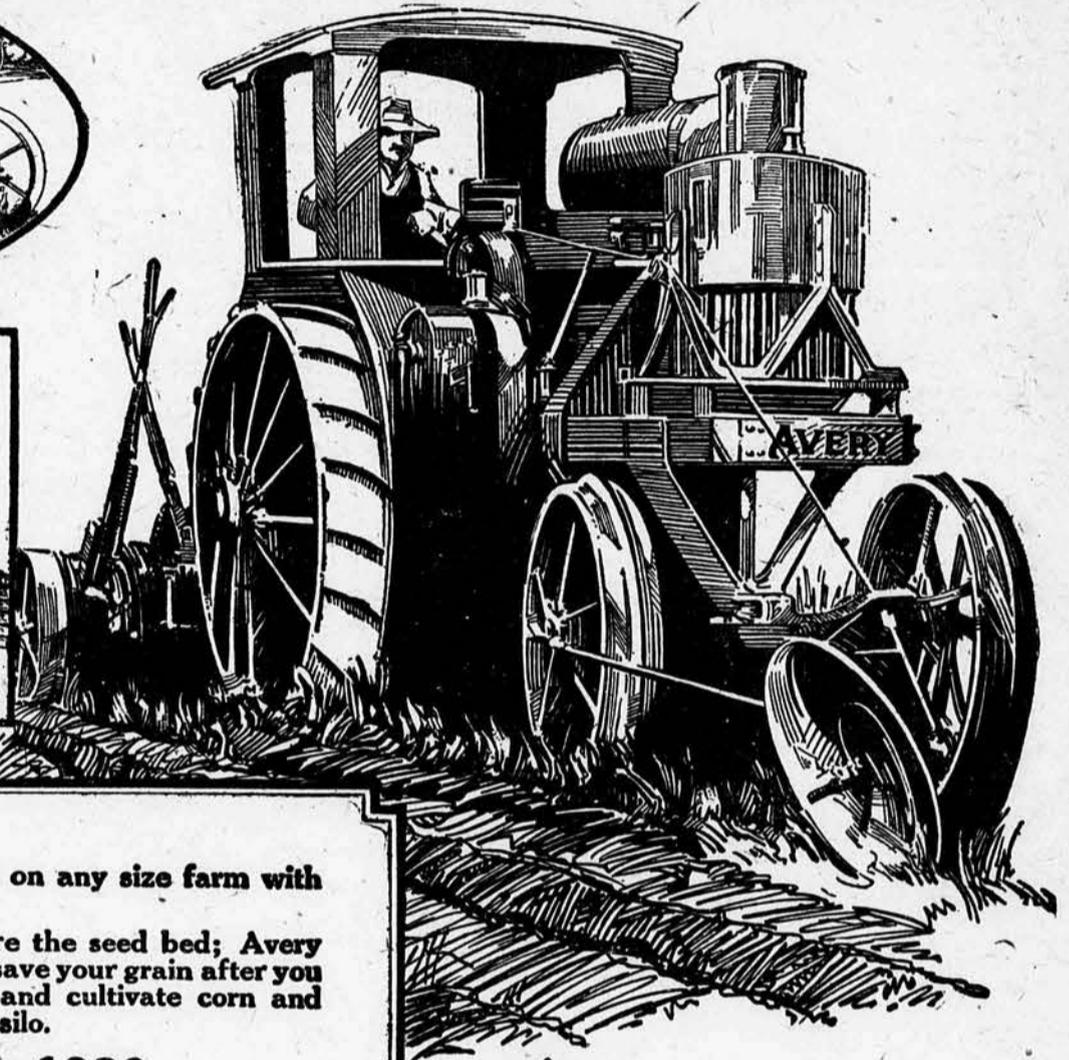


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includes a four-cylinder 14-28 H. P. tractor in addition to the previous 8-16, 12-25, 18-36, 25-50 and 40-80 H. P. sizes.

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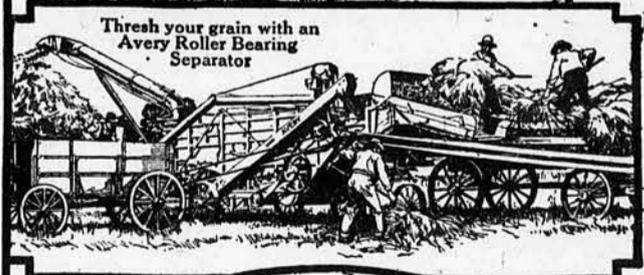
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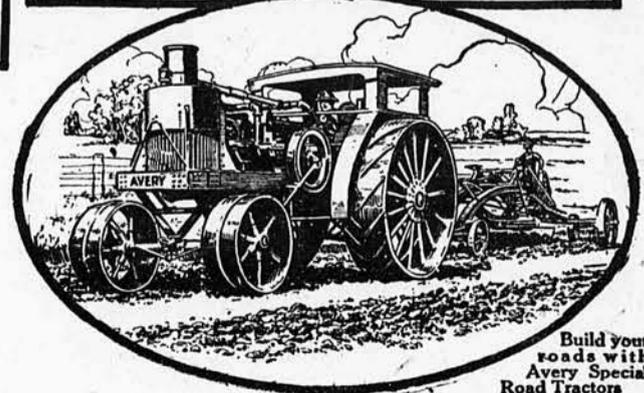
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Power Farming Brings Profits

The Tractor and the Gas Engine Lighten Farm Work of All Kinds and Make Larger Acreages and Increased Production Possible

By A. C. Hartenbower

THE TWO outstanding problems before the farmers of Kansas, Nebraska and Oklahoma are to reduce the operating costs on each acre of land that they farm and to increase the income to the largest possible extent from each of those acres. These problems are large and difficult of solution. No farmer can solve them to his complete satisfaction; neither can any farmer afford not to consider carefully every method which will bring him more profits from operating his land. In this connection, it is our purpose in this story to place before interested farmers some of the reasons why the increase in the use of power, particularly of internal combustion engines, either tractors or stationary, will help them to increase profits by decreasing production costs and increasing yields in crop production.

Proper Management Essential

There can be no doubt but that the tractor has come to stay. Further, it is inevitable that the number of tractors upon Kansas, Nebraska and Oklahoma farms will be increased each year. Farmers, especially those who are interested in growing the small grains, cannot continue to overlook the value that such machines have for their farms.

It is only too true that some of the farmers who have purchased tractors have not obtained entirely satisfactory results with them. But, were most of these disappointments due to the tractors or to the operators? In other words, would such results have come if the machines had been given the proper care and had intelligence been used in their management? I have taken occasion during the past few years to look into the causes of several cases of tractor troubles and in most instances I have been able to trace the failure to obtain satisfactory results to the operators. In some instances I have found that novices have, without any experience and often even without proper instructions, undertaken the use of tractors of the best makes and almost completely ruined their machines. In other instances tractors have failed to give good results because they have been purchased by some of those careless farmers who cannot successfully operate the simplest farm machines and much less the tractor, one of the most complicated machines offered for the use of farmers.

Many Poor Operators

There are some farmers who should never purchase tractors. I have in mind, for purposes of illustration, a man who purchased a reliable make of tractor and tried to operate it—please note that I said "tried to operate it." He failed to operate it! In one month he had done as much harm to the machine as many tractor owners would have done to the machine in, perhaps, five years. I investigated this case in detail. I found out that this farmer couldn't even operate a mowing machine successfully. He had carelessly ruined a mower in a month by running it without sufficient oil and without giving proper care to keep the bolts tight! Is it any wonder that his tractor was a most expensive investment?

The worst part of the matter is that many men who could profitably use tractors on their farms note such failures and fail to distinguish between the types of operators. Poor operation is

to my mind the only outstanding reason why tractors are held in bad repute in some communities. Before any farmer should condemn a tractor because of a poor example, he should study the man who has failed with it, even before looking into the good and the bad points of the tractor itself. I only wish that farmers generally would give condemned machines a chance to be vindicated. How many of the unused tractors that you find today are put aside because of poor operators? There are, of course, occasionally to be found poor machines, but a good per cent of the time a condemned machine means really a poor operator.

So, then, before any farmer should purchase a tractor, or a small gasoline or kerosene engine, for that matter, he should carefully consider his own ability to operate machinery. If he has been entirely successful with the other more intricate machines used on his farm, then he probably will, if he obtains the necessary instructions and follows these instructions, obtain good results from a tractor if his local conditions warrant such a purchase.

For illustration, we will consider that you are making wheat production your principal source of income and that you wish to increase the profits from your labor. How will a tractor probably help you to do that?

Experimental investigations in the Southwest have shown that the largest profits in wheat growing come: first, when land for wheat is plowed as near July 15 as possible, and, second, when the fields are prepared to a reasonable depth, say, about 7 inches. Late plowing generally results in a poorly prepared seed and shallow plowing does not give the crop sufficient plant food and moisture, even in good seasons, to make the largest yields.

Too Much Shallow Plowing

In normal seasons, a large per cent of the fields plowed with horses are plowed too late and too shallow. Finishing before September 15 is uncommon in many communities, and certainly over much of the wheat belt plowing as deep as 6 inches is the exception. Yet, it is extremely difficult to overcome those two causes for decreased yields when using horse power. Midsummer is a hard time to work horses. I personally hate to have to work them then and especially at plowing. But, the tractor works then better than at any other time and it will work for as many hours as there are hours in each day. Instead of plowing 3 acres a day which is a good day's work for the ordinary horse plow outfit, double or treble that can be plowed with a relatively small tractor outfit. Every advantage can be taken of proper moisture conditions. In fact, this may be largely the determining factor between success and failure in growing a wheat crop.

Even in a season such as this past summer, tractors enabled their owners to take advantage of the first moisture that came and to get the job of plowing over before neighbors who prepared fields with horse power for a similar acreage got a good start. Again, I saw many early tractor-plowed fields that were so hard, horse power could not have been used. If we have a normal season next spring, what will be the difference in yield between such early

plowed land and that plowed extremely late with horses? The comparison will be worth noting.

Still, the earliness of plowing, as above referred to, cannot entirely determine the yield of wheat or other crops. The depth of plowing, within reasonable limits, of course, has a decided effect upon the crop produced, particularly in the central and eastern parts of the section under consideration. It is hard work and slow work to plow to a depth of 7 inches with horses and not many farmers practice it for that reason. But, even if it is necessary to pull but two plows with a three plow tractor, it does not seem to be nearly so hard when a tractor is providing the power.

Combines Farm Work

Another important point in favor of the tractor, especially in growing the small grains, is that a harrow can be pulled immediately behind the plows. There are some farmers using horse power who make it a practice to harrow immediately after plowing but these are the exception. The moisture lost from plowed fields because of leaving them unharrowed and the open seed beds resulting would, in many seasons, grow thousands of bushels of wheat if it were conserved. In this connection, I know several tractor owners who maintain they obtain good increases in their yields by giving their fields a light disking and harrowing at the same time a short time before seeding their wheat. This they probably would not do if they were using horse power. Even on many tractor-farmed wheat farms, the light disking, harrowing and seeding is done at one time. They have the power!

In growing the small grains, furthermore, the tractor becomes most useful in harvesting the crops in normal seasons. I know several tractor owners who maintain that they would own tractors even if harvesting were the only job that the machines would do. When a farmer has harvested his crops with a tractor, it is difficult to come back to the horse-operated machines. I know that from experience. It is far more important than many farmers realize to harvest wheat, in particular, at the proper stage of maturity. That result cannot be obtained without an exorbitant investment in horses and machinery on farms lacking tractor power where there is any large acreage of wheat.

Solves Labor Problems

Again, farmers cannot overlook the difference between tractor power and horse power in the matter of cost of maintenance. Of course, this is governed to no small extent by the tractor operator. In the hands of a careful, painstaking mechanically inclined farmer there is little or no doubt about the greater cheapness of farming an acre of land with a tractor than with horses. Idle horses which cost at least one-half as much to keep as horses doing work, are a source of great expense on many farms. At least the tractor is not eating its head off when it is standing in the shed!

We cannot overlook the effect of the tractor upon the solution of the labor problem. The concentration of such power under the control of one man reduces the amount of help required to

operate a farm. This phase of tractor ownership should be carefully looked into by farmers who are complaining about the amount and the kind of help which they are able to obtain.

Lastly, there is the matter of the comparative cost of housing and of the investment in operating capital between tractor power and horse power. Figure these out for yourself. There is no doubt about what your decision will be if you stick to the facts.

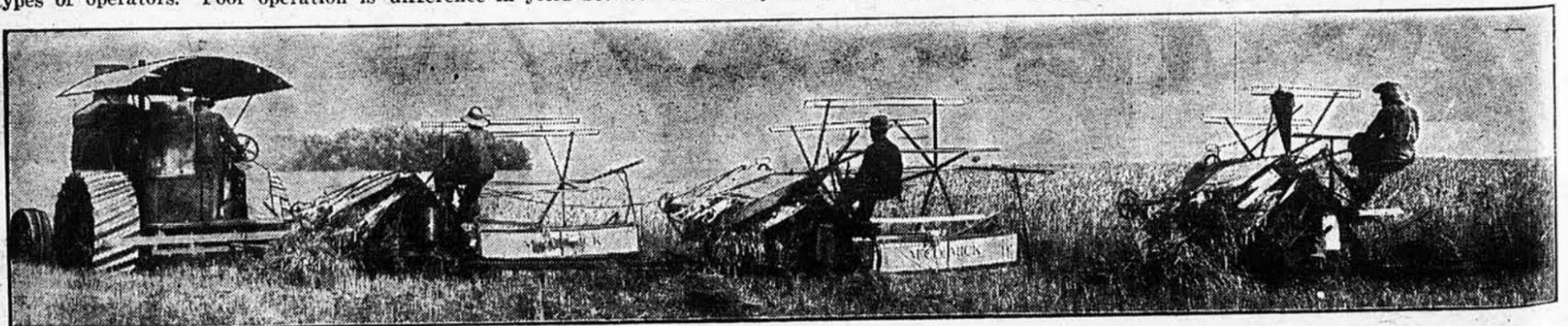
I look to see gradually increased attention given to tractor power by the farmer who farms but 160 acres. On many farms with properly laid out fields where general farm crops are grown, tractors could be profitably employed. There are few jobs that they will not do when intelligently operated.

Of course, we have most assuredly not passed the horse age. A team of horses on a farm is a necessity. Few if any tractor owners would deny that. I am not certain that the purchase of a tractor generally results in the retiring of as many horses as the horse power of the tractor would apparently justify, not by a long ways, because of the general tendency of farmers to increase the scope of their operations immediately after they become tractor owners. Still here, we are concerned with getting the work done. Further, observation leads me to the belief that the purchase of a tractor generally leads to the keeping of a better class of horses on the farm. Perhaps, this comes from the closer selection which the tractor permits. If tractor purchases would result in retiring a large per cent of the small, unprofitable horses on farms, would not its purchase be made profitable in many cases?

Oil and Gas Engines

In considering power farming, we cannot overlook the great value which stationary gas and oil engines have. If the value of these machines were fully realized, especially from the labor-saving standpoint, few farms would be without at least one such engine. There are so many jobs that the engines of smaller size can do. For example, the saving which I am able to make from the use of my 1½ h. p. engine in pumping water on days when the wind doesn't blow, and in grinding sickles makes it a mighty good investment. And they are but two of the uses for which it is adapted! While I have a 6 h. p. gas engine, yet I know that the little fellow is the one which really comes in handy. I even use it on cold days to start up the big engine in a hurry. An engine larger than a 1½ h. p. becomes a machine adapted to running wood saws, operating balers, and such heavy jobs—in fact, jobs where cost of operation and of upkeep are not so carefully scrutinized as in operating a small engine. So, I am long on the small engine for the farm. Why not look into the matter of buying one for your farm if you are not already the proud possessor of one?

But, intelligence is needed in operating the small engine as well as in operating the larger ones. To feel that any kind of management will give good results is to labor under a serious delusion. The operation is supreme in gas engine use. Without care here, failure is almost inevitable! The best results always will be obtained if the instructions sent with the engine are followed faithfully in every particular.





The World's Largest Farm Power Machinery Show

The 19th annual Mid-West Tractor-Thresher show will eclipse all others. The big feature of this year's show will, as usual, be the practicability of the exhibits. Nothing but stock machinery will be displayed—no machinery especially built for show purposes—all exactly as they reach the farmer. That is why this show is called the real worth-while show—it does not mislead anyone.

Four Acres of Machinery

Over 200,000 feet of floor space totaling nearly four acres will be covered with the greatest display of tractors, threshers and accessories ever shown in the world. All the latest machinery that has been tried out and is ready for successful use in the field, will be found here.

In a Real Show Building

Nowhere in the country is a building more ideal for a tractor show than the combination of the Wichita Forum, its annex and exposition building. Being of brick with wide doors and alleys, cement floor, and high ceilings, it is ideal for such a show. Adequate heating and lighting arrangements have been made for this year's exhibit. All of this makes it possible for the visitor to quietly walk through the entire show and inspect, without crowding or being made uncomfortable, the entire number of exhibits.

Near Tractor Row and Hotels

Much time will be saved exhibitors in Wichita when attending this show, by its exceedingly favorable location. It is only two blocks from the center of town and practically all the hotels are in a radius of five blocks. It is within one-half block of "tractor row"—Wichita Street on which are located warehouses and offices of practically all the power farm machinery houses.

**WICHITA,
KANSAS
FEBRUARY
9 to 14**

*The first, the oldest, the
largest in the world*



**Grand Street Parade
Lincoln's Birthday
Thursday, February 12**

History of the Show

The Mid-West Tractor-Thresher show was established 18 years ago, as a threshermen's exhibit. While the threshermen have never lost interest in the show, because all the latest thresher machinery is shown each year, yet during recent years the bulk of attendance have grown to be farmers. The farmer is the largest buyer of threshers as well as tractors; hence this has grown to be a great farmers show where thousands come every year to see the latest in farm power machinery.

Attracts Practical Visitors

The character of the crowd which attends this show does not encourage fussy, dressed-up, flashily painted, over ornamented exhibits. The visitors have a keen eye for the best in the machinery line, but do not want unnecessary trimmings. This is why no exhibitor comes to Wichita the second time with "show stuff."

No Curiosity Seekers

The Wichita show does not appeal to the curious, or the catalog collecting visitor. But it is continuously growing in favor for the real power farmers as well as the dealers and threshermen of the Southwest. More sales are made at this show than any other tractor show in the world, which is the final proof of the fact that it is a real worth-while show.

Held Under the Auspices of

THE WICHITA THRESHER AND TRACTOR CLUB, Inc.

The Tractor—Today and Tomorrow

Machinery Never Will Supplant the Horse on the Farm But It Will Lighten His Burden and Make Him More Useful for Other Work

By Frank G. Odell

MY FIRST real experience with a gas engine was about 16 years ago on the state fairgrounds at Lincoln, Neb. It was my job at this particular time to see that everything was in readiness for the big annual state fair, and at a critical time just before the opening day, the city water supply was cut off by a broken main. Something had to be done quickly.

If you know anything about a state fair, just before opening day you will get the idea. Something like 3,000 or 4,000 persons were on the grounds. Thousands of cattle, horses, hogs, sheep and poultry were to be watered.

It so happened that at this particular time one of the pioneer companies in the manufacture of gas engines had an exhibit in process of installation. We had a good well in the center of the fairgrounds, fed by a never-failing supply of pure water. The manager of the gas engine exhibit was appealed to. He telephoned his branch house at Omaha, had an 8 horse power gas engine on the train in an hour, in Lincoln in three hours and within five hours this engine, rigged with a pump jack, was sending all the water needed into the fairground pipes. It sturdily pumped, night and day for five days until the fair closed and the city water supply was not missed.

Incidentally, that particular gas engine got the biggest and best advertisement in the whole history of its company. My recollection is that we had some primitive types of steam tractors about that time, but it would have been a hardy prophet who would have predicted the wonderful adaptation of the gas engine to power farming which has come to pass since. So swiftly does the world move under the impetus of inventive genius and the spur of necessity.

Saves Hard Labor

Right here let a word be said for the horse. I have no community of interest with those gasoline intoxicated enthusiasts who proclaim the near extinction of man's best friend and most faithful servant. There will always be plenty of jobs for the horse on the farm. In my opinion the future of horse breeding is full of promise for profit. But it is bad economics and a poor reward for the service of the horse to burn up his energy and shorten his life of usefulness under blistering July and August heat. The unfeeling tractor with its nerves of steel will do the big job with more speed and profit.

I like to think of the future labors of the horse on the farm as something like that of the modern housewife who has electricity hooked up to various devices to make her life easier and leave her time for more important things than drudgery. It will be a good day for farming when it shall have become possible for every owner of a quarter-section of corn and wheat land to have his tractor for the hard, grinding jobs and let the horse do the things best fitted to his strength and endurance. When that time comes we may breed better horses—possibly more of them—with some qualities of brain, alertness and general utility for lighter and more economical work than we do now.

So I believe that while the tractor will not displace the horse and pos-

A Word About Mr. Odell

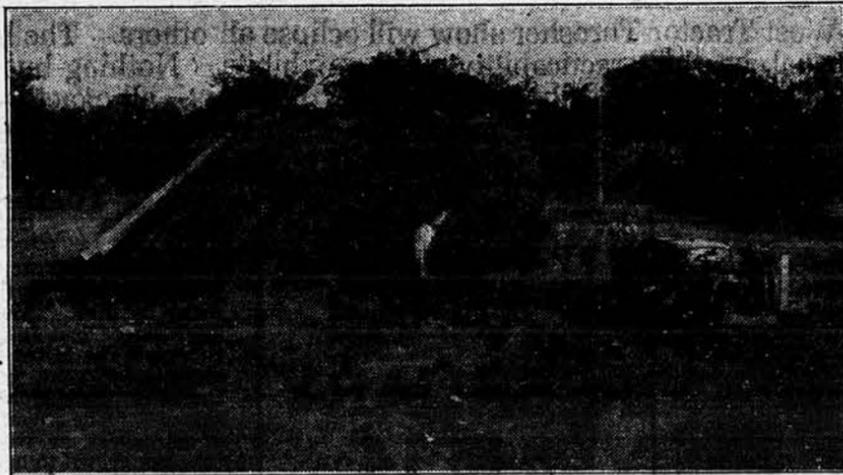
FROM his long practical experience in agricultural affairs Mr. Odell is peculiarly fitted to write this article. He is a farmer who graduated into success in that field from the world of active business and as he was long connected with farm papers as special writer and editor, he knows farm needs from both sides. More recently he was connected with one of the great government land banks and as an officer and director, he has added to his knowledge of the farmer's needs. He is now in charge of research work for the Capper Farm Press, and brings to this organization the ripened fruit of years of experience and knowledge in critical study of the great farm market for such things as make for better and more profitable farming. This article "is different." You will read it with profit and interest.

sibly not materially lessen his numbers the future scheme of profitable farming will find room for both. There is already much evidence to support this opinion. And, while the automobile has its charm and convenience as an annihilator of distance, can you by the wildest stretch of the imagination conjure up a picture of comfortable and successful courting in a car "built for two," hitting the road at 40 miles an hour? I can't. If my youth were to be renewed with its cherished memories, give me the old fashioned horse and buggy.

It is said sometimes that the farmer is unduly conservative; that he is too

riculture in the early spring of 1917 there were reported only 34,371 in use in the entire United States. A recent survey made by the bureau of research of The Capper Farm Press shows now 110,594, and this without accurate reports from nearly one-half the states. It should be remembered also that during this period the farmer has felt the pressure of war necessity quite as much as others and has bought only those things which he felt to be very necessary.

This remarkable increase in the use of tractors on farms indicates two things: first, that the farmer has become pretty well convinced of the



Tractors Have Proved Their Usefulness in Harvesting Hay and the Grain, Running the Ensilage Cutter, and Other Farm Machinery.

slow to accept modern ideas which will be helpful to him in his business. But I do not know of any other business which, in the past 10 years, has so completely overturned the methods of yesterday as the farmer has in his adoption and use of the tractor. Ask any farmer who owns—or even rents—enough land to make profitable use of the steel horse. You will find that in most cases he needs no argument to convince him of the value of the tractor. All he desires is enough spare cash to justify investing in one that is suited to his needs.

This is evidenced by the somewhat remarkable growth of numbers of tractors in use. At the time the first government census of tractors on farms was taken by the Department of Ag-

value of the tractor as his principal power unit for heavy plowing, harvesting, threshing, silo filling and other odd jobs which profitably utilize a plentiful, mobile and quickly adaptable form of power; and, second, that future sales of tractors are quite certain to increase in their rapid adaptation to farm uses.

The usefulness of the tractor and its sale to the farmer will increase also in direct proportion to the simplification and "fool-proofness" of the machine and the ease with which it may be adapted to a variety of farm work. Much progress has already been made in this direction. More rapid progress will continue as "hitches" for various implements are devised and the moderate sized tractor made into an efficient

power machine for cultivation and lighter jobs. The writer professes to no engineering qualifications in the field of motive power, but even the layman can visit a tractor show and note that the professionals are putting in their best licks on the general utility phase of the problem.

When the tractor census of 1917 was taken Kansas had 2,287 of them on her farms. The 1919 report of the state board of agriculture lists 8,689. This is quite a healthy growth in two years. But Kansas is destined to have a fleet of tractors within the next decade which will make the world sit up and take notice—provided that Kansas maintains her supremacy in the empire of winter wheat.

Assuming that a farm of 100 acres or more, owned by the operator, is a sales possibility for a tractor of medium size, Kansas will probably have over 40,000 on her farms before the peak of sales is reached. In this estimate no tenant-operated farms are considered, tho many renters have found the tractor a profitable investment.

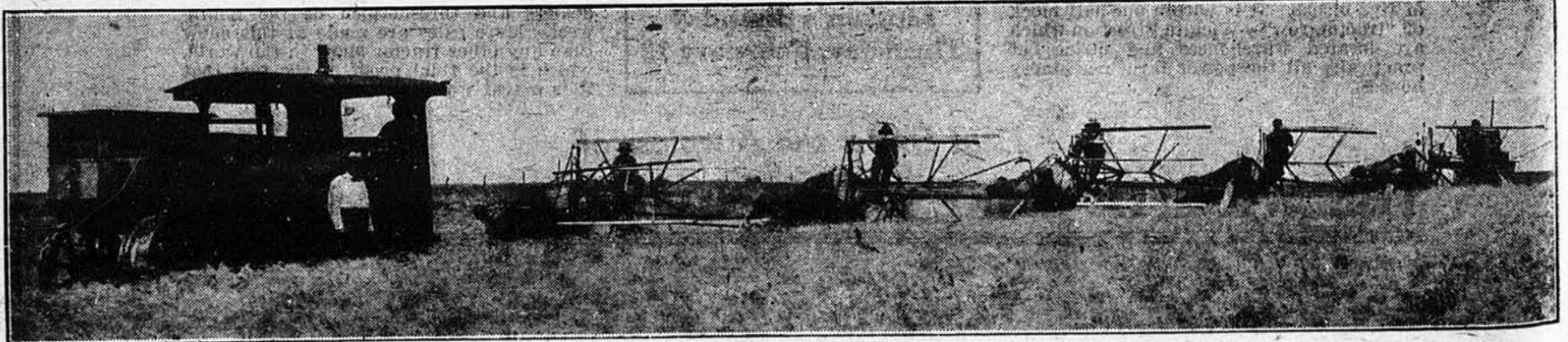
There is yet to be continued in the field of sales possibilities the vast undeveloped field of Western Kansas farming. Here thousands of acres will be brought under more profitable cultivation as the peculiar value of the tractor for rapid cultivation and moisture conservation becomes thoroly known. What has been said of this new field for power farming in Kansas is equally true of the whole Southwest. Wherever 12 to 16 inches of rainfall is available during the planting and growing season the tractor, hitched to proper implements, makes grain farming safe and approximately certain.

Therefore, we may feel fairly certain that the tractor has not only come but has come to stay and that its numbers will increase in rapidly growing ratio and that civilization will be better for its coming now and for all time to come.

A Farmer's Experience

BY E. D. STILLMAN

In the spring of 1917, I purchased an 8-16 tractor. I had been in Morton county several years proving up on a quarter of land two miles from the present site of Elkhart. My son began plowing and we put in more than 200 acres of crop that year. The following fall we put out 60 acres of wheat that made good. We plowed the ground and drilled it in with the little tractor, drawing two 4-horse drills. The summer of 1918 we fitted and put in 475 acres to wheat, mostly with the tractor. This crop was threshed and marketed in the summer of 1919, amounting to about 6,000 bushels of No. 1 red wheat which sold here for \$2 a bushel. Did we make it pay? I think so. We have plowed, listed, disked, split ridges and drilled in the wheat with the tractor. I think all of this can be done easier and more economically with the tractor than with horses. We made one quarter of land pay a rental of \$1,300 that never had been made to pay the taxes before. We have in at present more than 400 acres of wheat. This same tractor is still on the job and we expect to put in 100 acres of Macaroni spring wheat and 100 acres of oats in the spring.

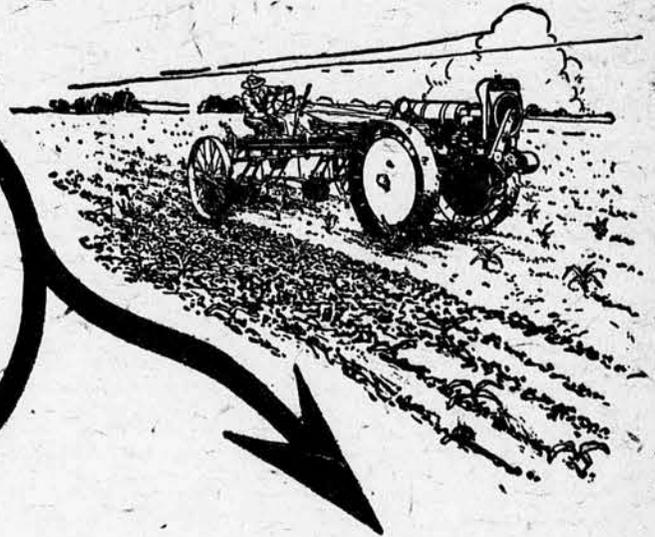
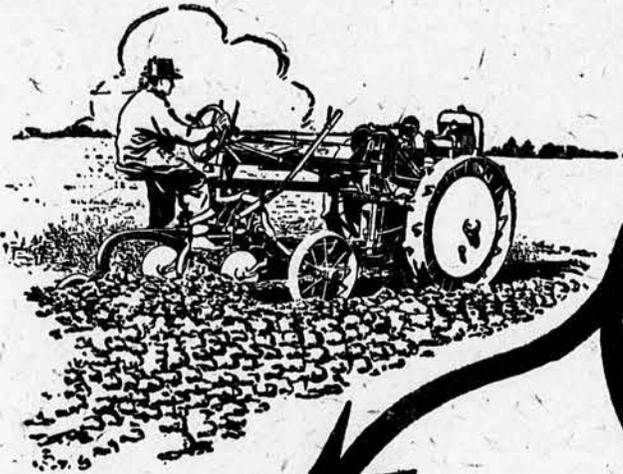


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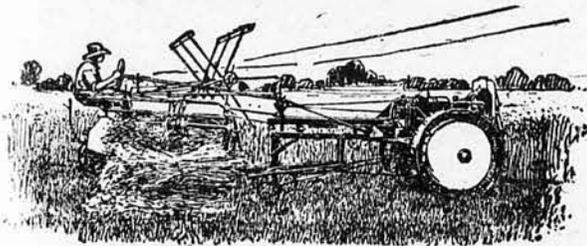
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4. A single unit of operation—the tractor and implements form but one unit
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6. Tractive power in front of the work with operator behind the work

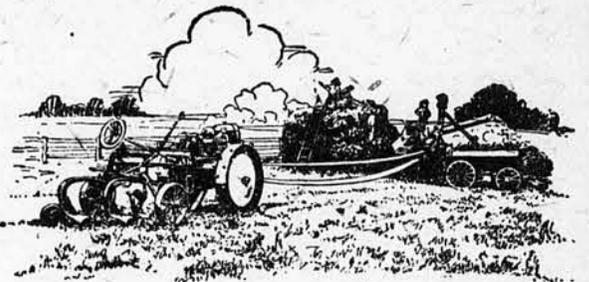
- Means* No duplication by horses
- Means* A large saving in labor
- Means* Great ease of operation
- Means* Can back and turn short
- Means* Better and faster work
- Means* Power like horses are used

UTILITY IS NOT SACRIFICED FOR PRICE



The Power of a Correct Principle

The principle of doing all field operations with one man sitting where he can watch his work is correct, or farming has always been done backward, and the operator would always have ridden or led his horses instead of driving them.



The Moline Universal Tractor places the power of nine big horses where the horses stood—is driven just like horses are driven, from the seat of the implement, and hitched up to the implements just like horses are hitched.

NOTE—If desired you can use the "drag behind" or horse drawn implements you now have with the Moline Universal the same as with other types of tractors.

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Good Lubrication is Essential

Many Operators Often Have Completely Ruined Very Excellent Machines by Using Poor Grades of Oils Just Because They were Cheap

By Mack M. Jones

WITH the possible exception of a good careful driver, nothing is more essential to efficient tractor operation than proper lubrication. Many a tractor has had its period of usefulness shortened by the lack of proper lubrication. It is quite gratifying to note that farmers as a whole are giving more thought and attention to this phase of tractor operation than they did a year or so ago, but even yet many do not seem to realize the importance of lubrication. Nothing ever is saved in the long run by the use of a cheap or inferior grade of oil. The use of poor oil is poor economy. Nothing is truer than the old saying that oil is cheaper than machinery, especially when applied to the tractor. The tractor is usually the most expensive piece of machinery the farmer has, and if oil is cheaper than machinery such as used in the old plow or mower, it is a great deal cheaper than the machinery of a tractor.

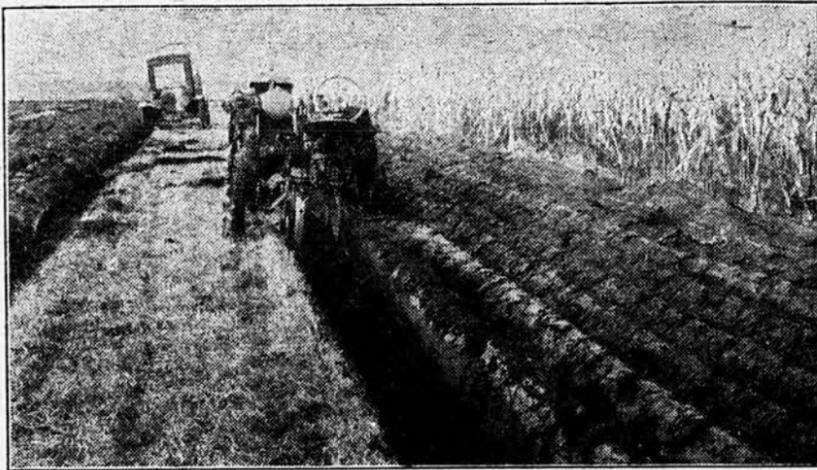
Many farmers have been accustomed to greasing their plows or other cheaper machines whenever it was convenient for them to do so, and frequently the old plow went for a long time without being lubricated. Yet it did fairly creditable work. This may account for the fact that so many tractor operators do not give regular attention to the lubrication of the tractor. A tractor will not continue to work and work without being oiled as the old plow would. It must be oiled properly and regularly if it is to give satisfactory service. In the mechanisms of the tractor there are many very close fits, and highly polished wearing surfaces such as are not found in the cheaper machines. The bearings of the tractor also carry very much heavier loads than the bearings in a plow or a mower. And in the cylinders of the engine we have very, very high temperatures which are not found elsewhere in farm machinery. These are a few of the reasons why it is necessary to have proper and thorough lubrication in the tractor while it was not absolutely necessary—tho it was highly desirable—in the more common farm machines.

Must Reduce Friction

One of the main purposes of lubrication is to reduce the friction of moving parts. Oil of the proper grade will prevent two wearing surfaces from touching each other. The oil will form a film composed of very minute globules or balls, not visible to the naked eye, between a shaft and its bearing. These small globules or balls act in a manner very similar to ball bearings; they change sliding friction to rolling friction. We all know that rolling friction is much less than sliding friction. After a certain amount of service, however, these small globules wear out or break down, and the oil is no longer suitable as a lubricant, and should be replaced with good, fresh, clean oil.

A question often asked by the farmer and the tractor user is "Which is the best oil?" The answer is simply this: "There is no best oil." In a certain locality the dealer or the garage man will tell you that a certain brand of oil is the only kind that will work well in a certain make of tractor, and that if you use anything else it will bring you to grief and sorrow. And yet in another section of the country another dealer or expert mechanic will tell you the same thing about another brand of oil. The best policy is to follow the instruction of the manufacturer in regard to the kind of oil to use, or to use one of the makes that has been on the market and thoroughly advertised for a number of years. If you will notice, there are very few makers of tractors who specify only one kind or brand of oil for use in their machines. They say use a certain grade of oil made by a certain company, or a corresponding grade made by any other reliable company, and possibly naming a few other reliable oil companies.

It is better to use a lighter grade of oil in winter than in summer. If the oil is too thick and heavy, it will not



In Breaking Ground With Tractors We Can Plow Much Deeper Than With Horses. For Such Heavy Work Proper Lubricants are Essential.

get to all the bearing surfaces in sufficient quantities, especially when the engine is warming up. This may cause a bearing to burn out before the oil can get to it. It will make an engine very much harder to start if you have heavy thick oil in it. And possibly the oil pump will not work. Just the other day a man started his tractor and noticed that the oil pressure gauge did not indicate a pressure when it should have indicated 35 pounds. He couldn't imagine what the trouble was, so he called an expert to help him out. The man knew that he dare not run his engine without the oil pump working, but did not know what to do to make it work. The trouble was that he was using such a heavy oil that it could not be pumped. In fact the crank case of the motor had to be heated with a blow torch in order to drain the oil out. So remember to use an oil of the proper grade, and that it should be lighter in winter than in summer.

Within the cylinders of the engine there are explosions following each other in rapid succession. The temperature of these explosions is very high and on an average is about 2,500 degrees Fahrenheit. Altho the cylinder walls and pistons do not reach this high temperature, they are very hot. This makes it necessary to use a very high heat resistant oil to lubricate the cylinders properly. Nothing but a gas engine oil should be used in the crank case of a tractor. Ordinary oil would simply catch fire and burn, leaving a carbon deposit and gumming up the machine, besides letting the parts wear unduly from a metal to metal contact with each other. Last summer a farmer was in need of some oil for the engine of his tractor, and, being very busy himself, sent to town by a neighbor for some. He forgot to specify the kind of oil, however, and the neighbor, knowing very little about tractors, brought back 5 gallons of heavy steam

cylinder oil such as is used in steam engines. The farmer knew that this was not the right kind of oil, but he said he did not have time to go to town and exchange it, so he put some of this heavy oil into his machine. As a result, he practically ruined his engine. At the end of a half day the tractor would scarcely develop power enough to pull itself.

A cheaper grade of oil has more residue in it and will form carbon in the engine much more rapidly than a good grade will. A little oil is bound to get past the piston rings and burn in the combustion chamber, and any residue which happens to be in the oil will quickly carbonize. Carbon is one of the worst enemies of good engine operation. And there is just one sure way of getting it out, once it is formed, and that is to take the engine down and scrape it out.

It is very important to change the oil in the crank case often, especially if you are using kerosene as a fuel. Even when an engine is in the best of adjustment and running condition, there is bound to be a little kerosene condensed in the cylinders and leak down past the piston rings into the oil sump or oil reservoir. This kerosene will dilute the oil and, sooner or later, ruin its lubricating properties. Change the oil as often as recommended by the manufacturer. If he has given no specific instructions, it is best to change it at least once in 30 or 35 hours of operation, or about twice a week under average working conditions. Ordinarily the oil will last about twice this long if you are using gasoline. Always keep the oil at the proper level in the crank case. If it becomes too low, you will have insufficient lubrication, and if it becomes too high, you are likely to have a smoky engine and excessive formation of carbon in the cylinders. Check up on the float oil gauge occasionally to be sure that it is

always working properly in every way.

When you take your engine down to overhaul it, or to make any adjustment or repairs on it, inspect the oil passages and make sure that they are not clogged or partially clogged. All oil that is poured into the crank case should be clean, but a little dirt may get in despite all precautions to keep it out. If you have trouble with a certain bearing and the others seem to be all right, the chances are that the oil is not getting to that bearing. Make it a practice to clean the oil passages when you work on your engine. Always keep your oil in a clean, closed can. Never leave it in an open bucket or vessel, and always strain it before you put it into the engine.

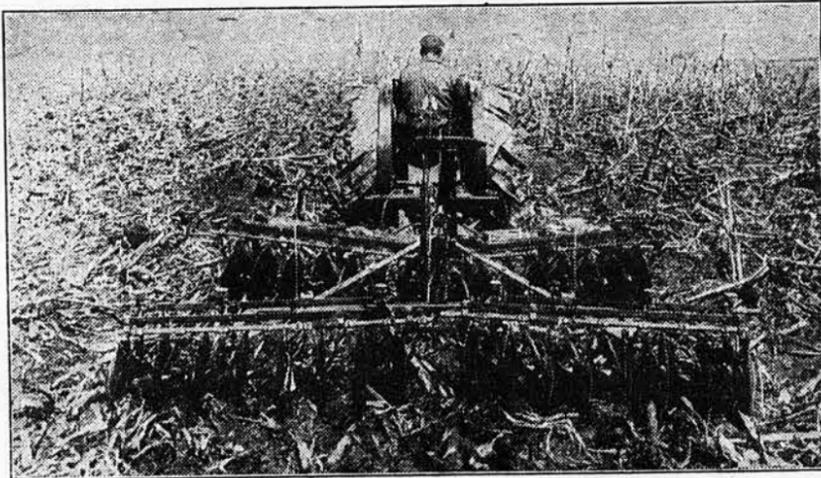
Another important part of the tractor and one that should be lubricated properly and regularly is the transmission. This does not need attention as frequently as many other parts of the machine and for this reason, it is sometimes neglected. The kind of oil or grease recommended by the different tractor makers for their transmissions is somewhat different, but in general when the gears are enclosed in oil-tight and dust-proof housings, a thick, heavy oil, such as heavy steam cylinder oil, is best. Hard oil is not best for the transmission because the gears will work the grease out toward the gear housing, and it will not get on the teeth of the gears as well as it should. A heavy oil, but one light enough to flow, should be used. It should never be allowed to get too low in the transmission case, but should always be kept high enough for the gears to dip in it. At least once a season the oil should be drained and the gear compartment cleaned with kerosene. It would be better to do it more often.

Watch the Oil Cups

The hard oil cups should be filled and screwed down regularly in accordance with the oiling chart supplied with your machine. Get the habit of being regular about turning down the grease cups. Always be sure that the grease passages are not clogged. If the cup screws down too hard, remove the whole cup and run a wire thru the passage. Running a wire down a passage when the cup is on the bearing is liable to scratch the bearing surface. Use a good grade of cup grease or hard oil.

The magneto is one part of the tractor that can be oiled too much. Too much oil here is about as bad as none, for it will soak up the insulation on the electrical windings and eventually will cause short circuits, and will also collect dirt and grime in the breaker box or on the collector brushes. But even if a magneto does not need much oil, it should be oiled regularly and carefully. Two or three drops of light oil in each of the oil holes about once a week or every 10 days is sufficient for most magnetos. Do not think you can take an oil can and put in just two or three drops. You may be able to do it once, but the next time you may get a whole teaspoon of it. Use a toothpick or small, clean wire. There are generally three oil holes on a magneto—one at each end of the armature shaft and one on the distributor shaft. Always use a good grade of light oil, such as sewing machine or gun oil, that will not gum up the bearings.

Regularity and system in lubricating a tractor are very important. The owner of a new tractor will do well to study the oiling chart carefully and diligently until he has it worked into his system of running the machine and taking care of it. System will help in doing nearly everything. A hit and miss method indicates carelessness and is not the mark of a good tractor operator. If you do not have system in oiling your machine and of taking care of it, you are likely to forget some little part and the machine will wear out for lack of lubrication. After an operator once gets this system, he follows it out unconsciously and it is less trouble to him in the long run.



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The Aultman & Taylor Machinery Co.
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Number of acres
Principal crop
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Flat or hilly land
Have you a tractor now
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City

Have you a thresher.....
What help do you employ.....
Have you a gas engine.....
Have you an ensilage cutter.....
What other farm power machinery.....

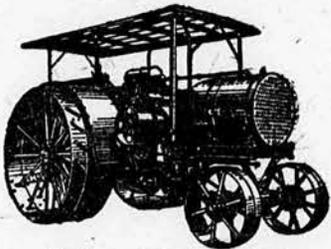
BYOND all doubt you can use a tractor profitably, providing it is the right type for your needs. *But how will you determine this?* Will you trust to chance, unmindful of the exact requirements of your farm? Are you doubtful as to the power you need? Have the many tractor types and claims confused you? What is the real buying basis other than horse-power and price?

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Aultman-Taylor 22-45



Aultman-Taylor 30-60

Aultman-Taylor

15-30

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The Aultman-Taylor 15-30 is no freak design, no untried model. A big, powerful 4-cylinder motor gives you a world of smooth-running power at belt as well as draw-bar.

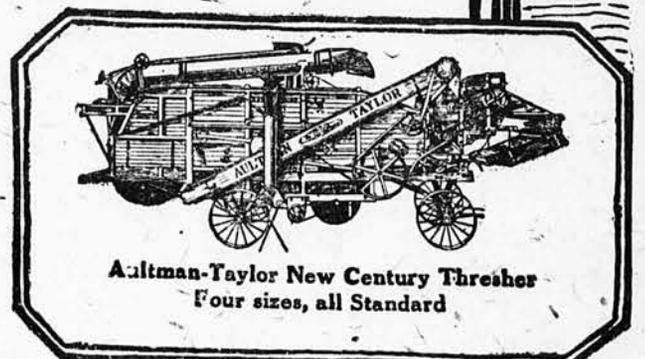
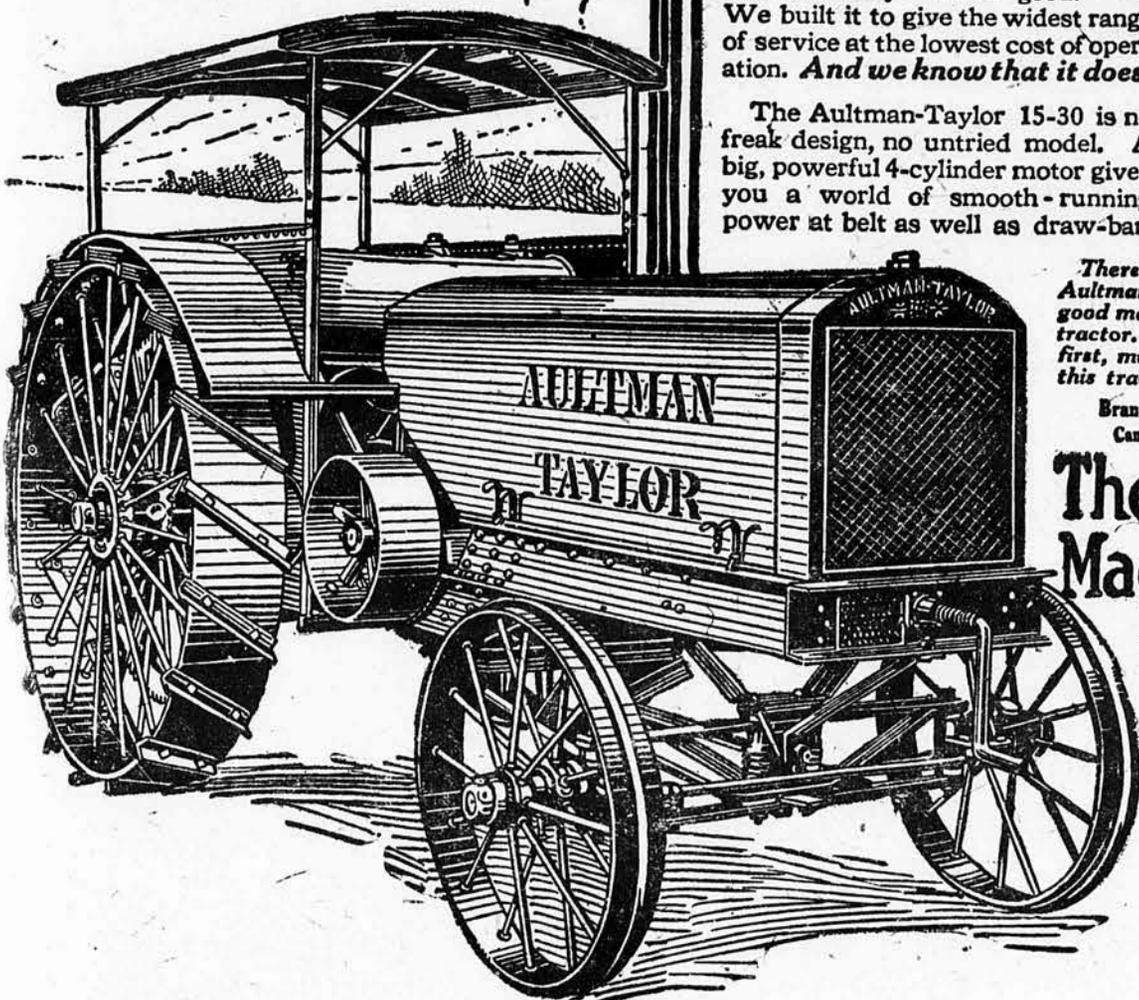
It handles four 14-inch plows under all reasonable conditions. It operates a 27x42 New Century Thresher fully equipped.

There is *real back bone of strength and power* in this tractor. All parts are simple and easily accessible. The frame is of seven inch steel channels. High, wide drivers give easy traction and prevent soil packing. The belt pulley is of the right size and in the right place to insure abundant power.

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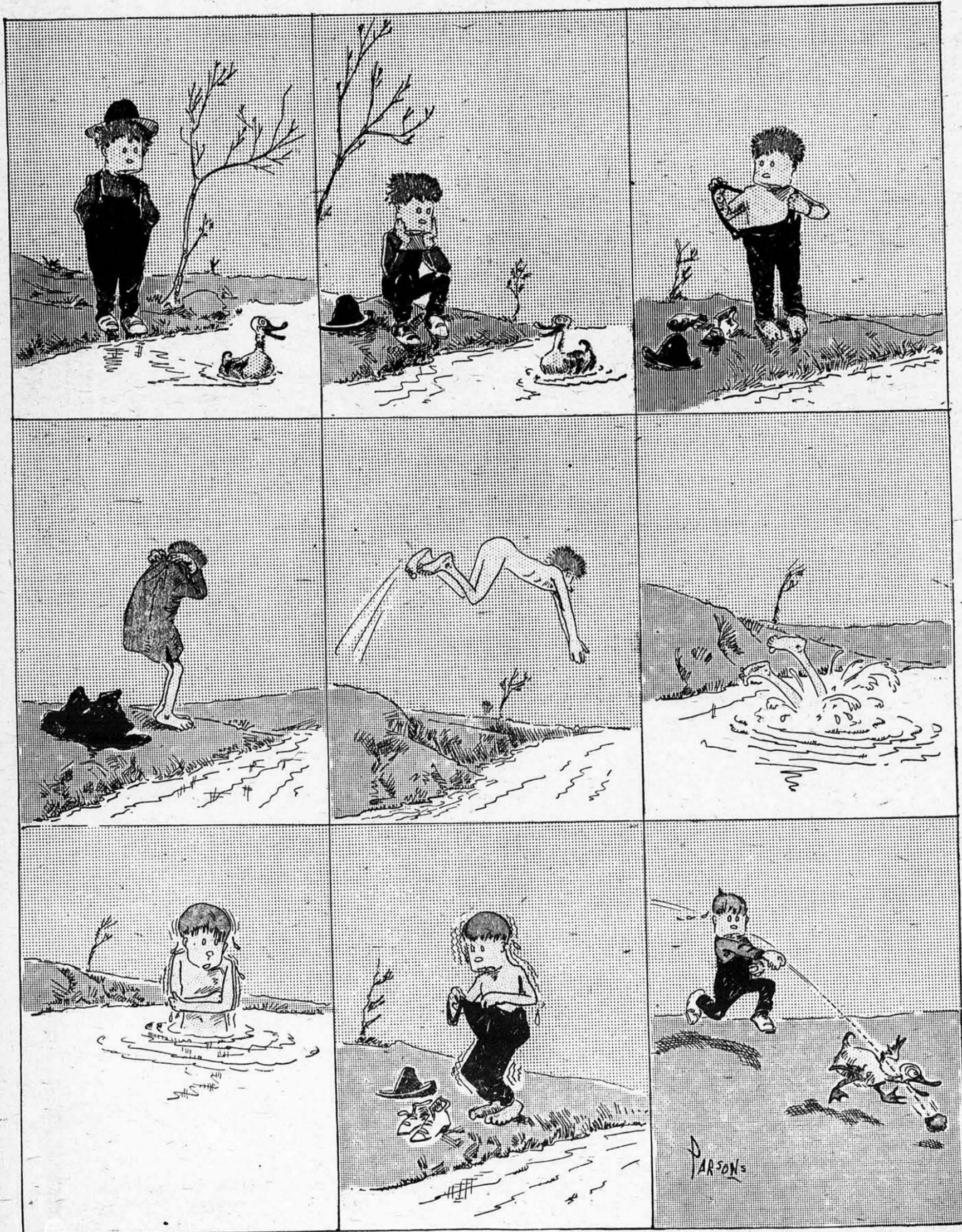
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Aultman-Taylor New Century Thresher
Four sizes, all Standard

The Adventures of the Hoovers

Swimming in January Isn't As Fine As It Looks. Hereafter Buddy Says He Wouldn't Believe a Duck on Oath---A Story Without Words or Music



Senator Capper's Washington Comment

A NEW bill for the control of the meat packing industry has been prepared jointly by Senators Kenyon and Kendrick, authors of bills on this same subject bearing their names, and will soon come before the Senate with the approval of the Senate Committee on Agriculture. This new bill differs from the original Kenyon Bill in three important respects:

First. Instead of vesting the power to supervise the meat packing and allied industries, stock yards, etc., in a commissioner of foodstuffs, in the Department of Agriculture, it is vested in a Federal Livestock Commission, to be composed of three commissioners appointed by the President, by and with the advice and consent of the Senate. The commission is to "have all the powers and duties heretofore exercised or performed by the Bureau of Markets, relating to the acquisition and dissemination of information regarding the production, distribution and consumption of livestock or livestock products, including operations in and the ownership of stockyards.

Powers of Livestock Commission

Second. It is not mandatory, as in the Kenyon Bill, for packers and stock yard livestock commission men to obtain a license from the commission, but the commission is given power to prescribe rules, regulations and orders to regulate and control the relations, whether direct or indirect, of packers or operators "to the purchase, manufacture, storage, or sale in commerce of foodstuffs and commodities, other than those handled in the business of a packer or operator, respectively," and the Commission is given the power also to require any packer or operator "to refrain from direct or indirect participation, or interest in such other business, either by ownership, control, community of stockholding, or otherwise." These rules and regulations of the Federal Livestock Commission are to be enforced thru the Commission, which is given the power to order the packers or operators to desist from violating any provisions of the bill, or of any rule, regulation or order issued thereunder. This order is to be conclusive and final, unless the packer or operator appeals within 30 days after service thereof to the Circuit Court of Appeals. The Circuit Court may order further evidence to be taken, but unless the decree of the commission is modified by the Circuit Court, it operates as an injunction to prevent the packer or operator and their officials, agents and employes from further violating the provisions of the order. Packers and stock yards men may apply for and obtain certificates to engage in packing or storing livestock products, and must comply with the regulations of the commission granting such license.

Third. There is no receivership provided in the joint bill, as in the original Kenyon Bill. Another feature is the exclusion of the dairy interests from its provisions.

Requirements Not So Drastic

The proposed measure is not so drastic in its terms as the original Kenyon Bill, but it is the opinion of both Senator Kenyon and Senator Kendrick that this is as complete legislation as may be obtained at this time from Congress. Even if the bill is not as strong in its terms as some of us might wish, it does require the packers to dispose of ownership or control of or interest in the stockyards, within two years unless the time be extended by the commission. It also compels the railroads to supply refrigerator cars. Certainly the bill is far preferable to the loose arrangement the Attorney General is presumed to have made with the packers to do some of the things required by the present bill. If the packers agree, as they appear to have done by the arrangement effected by the Attorney General, they should cease their attempted monopoly of food products, then certainly there can be no objection to requiring them by law so to do. In my judgment the enactment of this bill would be a distinct advance over the present system, and it

can, of course, be strengthened subsequently if found to be inadequate to meet the aggressions of the food monopolists. I think there is good reason to hope for the passage of this bill within a few weeks.

It is doubtful whether the story of extravagance on the part of the present Administration ever will be completely told. Everyone is willing to concede some errors in connection with the business of running the war, but even the most fairly disposed will not approve the purchase by the war department of 945,000 saddles and 1 million sets of harness for an army that had only 391,000 horses and mules. Perhaps the most striking example of utter waste and inefficiency, however, is revealed by the testimony of Major Foulois, former chief of the United States Air Service, before the House Military Affairs Aviation Subcommittee, to the effect that in the event of war with Mexico, the United States would have to begin its aviation program anew. And that in face of the fact that the huge sum of 1 1/2 billion dollars has been spent on this service since 1917.

Opposes War With Mexico

The very fact that after the expenditure of this staggering sum of money we are still unprepared with a fighting air service should be a sufficient deterrent from war with Mexico, if there were not plenty of other reasons for non-intervention. One doesn't have to endorse the acts of Mexican bandits or even of the Carranza government in order to oppose war with Mexico. The fact is the country as a whole is thoroughly opposed to armed intervention in that country. It is chiefly the great oil interests that are stirring the Mexican pot and calling on America's young manhood to sacrifice their lives in protection of the alleged rights of these same companies. Members of the Senate and House recently received a letter signed by the heads of 21 oil companies pleading for intervention. The letter admitted that the companies had violated the laws of Mexico by refusing to take out licenses to drill wells and that their tools had been seized and sealed by the Mexican government and the companies were thus forcibly restrained from using such tools. Of course, the plea is made that the United States needs this oil for its navy and the ships belonging to the United States Shipping Board, and by the Railroad Administration, and an effort is made to convince Congress that, on this account, our government is warranted in backing up American oil companies in the violation of Mexican law by our army and navy. I am convinced there will have to be far greater provocation than there has yet been before the people of the country will be willing to start war with Mexico.

Appropriations Need Trimming

At last we are beginning to make progress in the economy and retrenchment program. It is certain that this Congress will effect a great saving in the Rivers and Harbors Bill, which, with the Public Buildings Bill, has always been one of the big "pork" measures of former Congresses. Already the House has made a great slash in the appropriations for rivers and harbors and the Senate may be depended on to act along the same line. Just what amount will be carried in the bill is not yet known, but in recent Congresses the amount has varied from 24 million dollars to 40 million dollars. It is believed the Bill this year will in no case go above 15 million dollars and may be as low as 12 million dollars. Everything will be cut out except the most necessary improvements of rivers and harbors and waterways. I am anxious to see appropriations trimmed all along the line. This government is costing too much.

Bring Back American Troops

The Administration at last has yielded to the insistent demand of the people and has begun to move our troops out of Siberia. No later than last summer Secretary Baker ordered fresh troops to replace soldiers in that

country. But finally public pressure became too strong and Japan has been notified that all of our troops are to leave as soon as it can be arranged. Some of them are already on their way to the Philippines from Vladivostok. None of our troops anywhere in the war saw harder service than these soldiers in Vladivostok. I have a letter from a Kansas friend saying he has a son with the United States army somewhere in Siberia, from whom he had not heard since last June. This father very properly urged the immediate return of these soldiers to this country, and I am sure he is right in his assertion that "everybody is in favor of recalling all our troops from foreign lands." It is to be hoped that the War Department will proceed now to recall the troops recently sent to Silesia for police duty during the plebiscite that is to be held there. The United States has no further business in Europe. Let's get-out and stay out. The less we have to do with European quarrels the better off we will be.

Powers of Congress Limited

Many persons have the mistaken notion that Congress can recall the troops. Congress has the power to declare war, but after war is declared the President is all powerful in determining where troops shall be sent. So until the Secretary of War, acting under orders from the President, recalls the troops they must remain where sent. An aroused public opinion is the most effective means of obtaining the necessary order from the executive.

Arthur Capper
Washington, D. C.

His Excuse

On Johnny's first day at school he was given a registration card on which his mother was to write his birth record. The following day he arrived late and without the registration card. "Johnny," said the teacher, "you must bring an excuse for being late, and don't forget the slip about when you were born." All out of breath next day Johnny rushed in holding a note from his mother. "Teacher," he gasped. "I brought the one about being late, but I forgot my excuse about being born." —Kansas City Journal.

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Blades are made of high carbon steel. Adjustable scrapers, hard maple bearings, hard rollers and transport trucks if you want them. We also make complete line of Tractor Discs. Free trial for 30 days. Return it at our expense if not satisfied and we will pay freight both ways. Send postal card for full details on farm tools and supplies. Get my big Free Book and low money-saving prices now. Ask the Plow Man with Monmouth Plow Factory 221 S. Main Street Monmouth, Ill.

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The Oliver Oil Gas Burner makes 2 gals. oil equal 97 lbs. coal

Sleep Is Sweet

— so if coffee plays tricks with your nerves and breaks your rest

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This economical beverage has a rich coffee-like flavor that truly satisfies.

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Making Money With Tractors

The Use of Labor Saving Machinery Helps to Diversify Farming and Brings Larger Profits and Far More Satisfactory Results

Editorials By Real Farmers

OUR TRACTOR contest proved to be of unusual interest and hundreds of letters were received from farmers in Kansas and many other states in which the owners told of the many uses to which these labor-saving machines were put. The saving in time and labor effected in some instances has been great enough in one season to pay the entire cost of the machine. The economic side of tractor operation is such an interesting matter that we reproduce on this page a number of letters that touch upon this interesting point.

One Season Pays for Machine

After considerable pondering and careful examination of tractors I finally decided on a small two-plow tractor. It was my idea to make it pay me some returns outside my own work. Here is the result in figures from May 12, 1919, the date of purchase, to the present time: Work for others, 30 acres sod, alfalfa and prairie, plowed at \$4 an acre, \$120; 123 acres stubble ground plowed at \$3 an acre, \$369; 90 acres harvested at \$2 an acre, \$180; and 40 acres double disked at \$1 an acre, \$40. This makes a total of \$709 for work for others.

Counting my own work at custom prices, we have the following: 130 acres plowed at \$3 an acre, \$390; 130 acres double disked at \$1 an acre, \$130; 65 acres harvested at \$2 an acre, \$130; and 130 acres harrowed with drag harrow at 75 cents an acre, \$97.50. The total, then, for work for myself is \$847.50.

Harrowing at 75 cents an acre may seem a little high, but when you consider that I used but a two-section harrow and that it was weighted down until it made a full load for the tractor, you will understand that I was combining two or three times over into one time over the field. I did not count anything for innumerable small jobs for myself, such as moving the hay press, outbuildings and hog sheds, etc. Adding \$709 to \$847.50 you have \$1,556.50, the total amount of work done.

I had intended to keep my fuel and oil bills, but during the rush of the summer work, I mislaid some of them. However I have kept account of several different small jobs and can give a fairly accurate estimate of the cost an acre for these. Plowing will not exceed 50 cents an acre for both fuel and engine oil, 25 cents an acre pulling the binder, 30 cents an acre double disk and harrowing. On this basis we have a total fuel and oil bill of \$269.25. Add to this for repairs \$35.45 and the total expense is \$304.70. In other words my tractor in one season has done work equal to its own first cost above expenses.

The speed with which a tractor does its work is the great advantage over horses. For instance, last summer I wanted to finish plowing before it got too dry. I hired another man to help me and we worked three hours on and three hours off, day and night. We plowed 35 acres in two consecutive days and nights with our two bottom outfit.

My tractor's most valuable function right now is its inability to eat any \$20 hay or \$1.50 corn. And when you consider that it would take six or eight horses to accomplish as much work as the tractor, it is not so funny either.

W. G. Carlile.

R. 1, Topeka, Kan.

Spreads the Straw

I bought a 16-30 Oil Pull tractor in 1918 and also a Stevens Rumely separator. I threshed my grain and in 1919 threshed for my neighbors also. In 1918 I plowed more than 200 acres. The cost of fuel, depending upon the depth of plowing was from 30 to 45 cents an acre. I used 15 gallons of coal oil and 1 gallon of lubricating oil to thresh 625 bushels of wheat. I have threshed 1,500 bushels of oats and have moved 2½ miles with 23 gallons

of distillate and 1¼ gallons of lubricating oil. I am using my tractor for grinding grain, oats, corn, pulling trees or stumps and hauling sand. I spread my straw, putting a big rope around the straw stacks. I find it very profitable. I can spread four big stacks in one day. I have also used it on the clipper for shearing my sheep. We have used the tractor successfully on the binder. We cut 80 acres in 1¼ days with two binders.

Jacob J. Hilbert.

R. 2, Hillsboro, Kan.

A Young Farmer's Experience

I began running a tractor when I was 16 years old. It was a 12-25 Avery and had been out two years when father bought it. I plowed 250 acres with it. After the fall work was done, I overhauled it. It was wasting oil around the main bearing and I had to pull the motor to get to it. After I got it together again it worked very satisfactorily. Father traded the 12-25 for a 14-28 just before the harvest of 1919. We pull a 12-foot push binder, averaging about 35 acres a day. We cut 230 acres of our own wheat and then cut about 80 acres for my uncles. I plowed and dragged 160 acres, harrowed about 80 acres for ourselves and 80 for my uncles. I can plow on a fuel and oil expense of 50 cents an acre, sometimes running a little more.



Farmers Find the Tractor Useful for Breaking Ground, Disking, Harrowing, Seeding, Filling the Silo, and Many Other Kinds of Field Work.

We are going to do some grading as soon as possible. I plowed 250 acres besides our own for \$2.50 an acre and expenses. I am not an engineer, but I have had no trouble worth mentioning.

Emery Pearl.

Harper, Kan.

Grades the Roads

I bought my tractor second hand for \$800 three years ago, rebuilt it myself and have kept it busy most of the time since. It is a 15-30 Rumely Oil Pull. I grade roads in the spring until harvest when I pull two binders. Then I thresh, plow and prepare the seedbed for wheat in the fall. I also move drilling rigs and houses at odd times. I saw wood and pull hedge or stumps in the winter, so it is never idle much of the time. It costs from \$5 to \$7 a day for kerosene and oil. I have found that a large tractor is more profitable than a small one because it is better to pull a light load with a large tractor than to overload a small one. I have found it most serviceable for plowing and threshing.

R. 4, Iola, Kan. B. H. Collison.

A Twin Cylinder Type

I purchased a kerosene burning tractor of the twin cylinder type the fall of 1916. I have plowed 800 acres, double disked and harrowed 300 acres, harvested 65 acres of wheat with a binder and have filled 10 silos. I have

threshed thousands of bushels of grain and have shredded hundreds of acres of corn fodder. Since the date of purchase I have paid out about \$60 for repairs.

I think the most valuable work a tractor can be put to is plowing and preparing the seedbed for grain crops. In the spring I plow the ground that I could not plow the fall before. Then I go over the ground with an 8-foot tandem disk, with a pulverizer or harrow attached. This puts the ground into the best condition for seeding or planting corn. The only time the tractor is idle is between corn planting and grain harvest. I drive it into the shed where I work on it during rainy days, putting it in good running order for the harvest and threshing. All bearings must be kept properly adjusted.

After the oats, wheat and flax are harvested I hitch my tractor to a small thresher and thresh my own grain and that of my neighbors who have helped me thresh. When this is done I begin to plow my wheat ground in July or early August. I also fall plow that land to be seeded the next spring to corn and oats. At this time of the year I also fill my silos. During October the tractor is idle while we top kafir and husk corn. Then it is used for about three months threshing kafir, milo and cane and running the corn

from 5 to 6 inches deep on high gear. There were times that my father went out and plowed after supper until 11 or 12 o'clock, as we have a Presto light and tank to connect to the tractor.

Then came the season for drilling wheat. We hooked three 12-hole drills to the tractor and drilled 220 acres in 5½ days. I am safe in saying that we can average 50 acres a day after we are rigged up. We have put out 275 acres of wheat for the last two years. Last fall in threshing and silo filling our tractor made us \$762.77. At the most the expense a day on it is not over \$5. I am 15 years old and am capable of running the tractor anywhere on the farm and all over it.

Theodore Schank.

R. 4, White City, Kan.

Plows Hard Ground Easily

After attending the tractor show at Wichita, Kan., last summer, I decided to get a tractor for plowing wheat ground which was almost too dry and hard to be plowed with horses. On August 21, I bought a Twin City 12-20 and a three bottom 14-inch Emerson Brantingham plow. I found I could plow an acre an hour at a cost of 32½ cents an acre. At sowing time I pulled two 14-disk disk harrows with a tooth harrow behind, covering 33 acres a day on an average. In haying I mowed during the noon hour, pulling two mowers. I also ran a large belt and hay press.

I plowed 45 acres in the fall, including 6 acres of bottom land that had not been plowed for years after a neighbor had given up plowing it with horses. I also do road dragging, using two drags well weighted, doing about the same work which a light grader would do. In running a silage cutter I found I could fill the largest silo in this part of the country in a day. In clearing a piece of timber land, I found the tractor a wonderful help in running the buzz saw and in dragging the logs to the mill. I am thinking of getting a small separator for threshing next summer.

I would like to hear from some one in regard to a hitch for pulling two 7-foot binders.

J. W. Roberts.

Chanute, Kan.

Performed Many Tasks

Last spring I bought a Case 15-27 tractor of the four-cylinder type. I double disked 100 acres of ground for spring crops, pulling two single cutters with 14 disks on each cutter, making 28 disks in all, weighed down with rock. The tractor went along on high and made about 30 acres a day on an average. It travels at 3½ miles an hour on high, using about 20 gallons of coal oil at 12 cents, and ½ gallon of cylinder oil at 55 cents, in a day of 10 hours.

The tractor was then shedded until I was ready to plow. As the ground was so very dry, I was able to plow only about 35 acres, but later it rained and I plowed about 50 acres. We usually plow about 300 acres, but on account of the dry season, we had to disk most of our ground. I disked about 70 acres with the tractor and harrowed 35 acres, pulling a four-section harrow. I could have pulled more sections but did not have them.

The next job was running a 15-inch silage cutter, filling my silo of 90 tons in one week. This was done with the help of my two boys and what time the women folks could give us. During the fall I filled 9 silos, some full and some part full, but altogether I cut 1,100 tons of silage for which I received \$750. This just about half pays for my tractor. For repairs I was out about \$10. I had one breakdown which delayed me but two hours. I cut 75 tons of silage a day. At this time, I have one 500-ton silo to fill with corn fodder for a neighbor.

O. M. Lewis.

R. 1, Hoisington, Kan.

Made \$1,000 a Year

We bought a 14-28 Rumely Oil Pull tractor for \$2,415. We are farming one whole section of land of which 398 acres are in cultivation, working every foot of this ground with our tractor and have been for two years and will continue for the third year. The first year in the threshing season our tractor made us \$1,000.

The fall of 1918 we hooked a 4 by 14-inch bottom plow and one section of harrow to the tractor and plowed

Heider

12 Years Actual Field Work

AMERICA'S leading power farmers know the work of the Heider. For twelve years this tractor has been at work on the farms. It has plowed every kind of soil, hauled big loads and furnished the power for all kinds of farm machinery, in every state in the Union and in a score or more foreign countries. Its success is merited by twelve years of performance. You do not have to take a "demonstration" of one or two days as your guarantee of the Heider.

No Gears to Strip

In the Heider Friction Drive a strong fiber rim is mounted on the motor flywheel. The power is taken directly from the flywheel by two big metal discs—one to go ahead, the other to reverse. The fiber does the driving and the discs pass the power to the drive wheels or belt pulley.

There is no gear stripping—for there are no transmission gears to strip. The tractor is always "in mesh." It is a resistless pull without jerking or vibration. Seven speeds forward and reverse are provided, all with one motor speed and one lever, for traction or belt work.

15 to 20% Fewer Parts

The Heider Friction Drive does away with clutch, transmission gears and bevel gears. In all, it means 15 to 20% less parts. With fewer parts to run it puts more power into the pull. A steady flow of flexible power—just as much or as little as you want. It saves repair expense. It adds years to the life of the tractor. And it is so easy to run that boys and girls are operating Heiders!

Write for Catalog of Heider Tractors and Rock Island Tractor Tools—the famous Rock Island Tractor Plows, 2, 3 or 4 CTX Bottoms—and the Rock Island No. 38 One-Man Tractor Disc

Rock Island Plow Company
233 Second Avenue Rock Island, Illinois
Established 1855

Send for the Rock Island Farm Tool Book

It illustrates and describes Rock Island Gangs, Sulkies, Discs, Planters, Seeders, Cultivators, Listers, Hay Rakes, Hay Loaders, Cream Separators, Manure Spreaders, Gasoline Engines, Stalk Cutters, etc. Backed by 68 years' manufacturing experience.

Rock Island One-Man Outfits
Heider Model D 9-16 is shown here with No. 9 Rock Island CTX Two-Bottom Power Lift Plow directly attached to the tractor platform. Below, Heider Model C 12-20 is at work with Rock Island No. 19 CTX Three-Bottom Power Lift Plow similarly attached. Either outfit is a one-man unit of plow and tractor. Your hands guide the tractor. With foot controls the plow. You can plow right up to the fence lines or back into the field. Both tractors are sold with or without the plows.

Model D 9-16

Rock Island No. 38 One-Man Tractor Disc

Operated from the tractor cab. Close-up levers. One man easily operates both tractor and disc. Extra heavy construction. Close coupled. Note the high clearance. Light draft. Two sizes, 8 and 10 feet cut.

Rock Island No. 12 Tractor Plow
Known to all tractor farmers for its success behind any tractor. Front furrow wheel lift, equipped with two, three or four bottoms—the famous Rock Island CTX Bottoms which turn to cut off the moisture, leaving no air spaces pulverizers made. Under favor- able conditions they save one harrowing.

Quick Detachable Shares
One lever forces share off—no hammer or tools needed—really quick detachable.

With CTX Bottoms

Burns Kerosene

Model C 12-20
With No. 19 Rock Island Power Lift Plow attached

See our exhibits at the Wichita Tractor Show, Feb. 9 to Feb. 14 inclusive, and the Kansas City National Tractor Show, Feb. 16 to Feb. 21 inclusive.

The Farmer's Place in Business

The Prosperity of the Country Depends Upon Its Agricultural Resources and If These are Not Protected the Nation Will be Imperiled

BUSINESS men are beginning to realize more fully now than at any previous period of our history the need of protecting and fostering the farming industry of the nation. It is the one occupation upon which the success of every other occupation depends. If the country is to be made prosperous, its agriculture must be placed upon a permanent and profitable basis. No man in public life has been more alive to this situation than Senator Capper and he has championed the rights of farmers upon every possible occasion. At a recent meeting of business men in New York City Senator Capper delivered an interesting address on "The Farmer's Place in Business" in which he set forth very clearly the importance of agriculture to the nation. Believing that this address would be of interest to many Western farmers we reproduce a portion of Senator Capper's speech on this page for the benefit of the readers of the Kansas Farmer and Mail and Breeze.

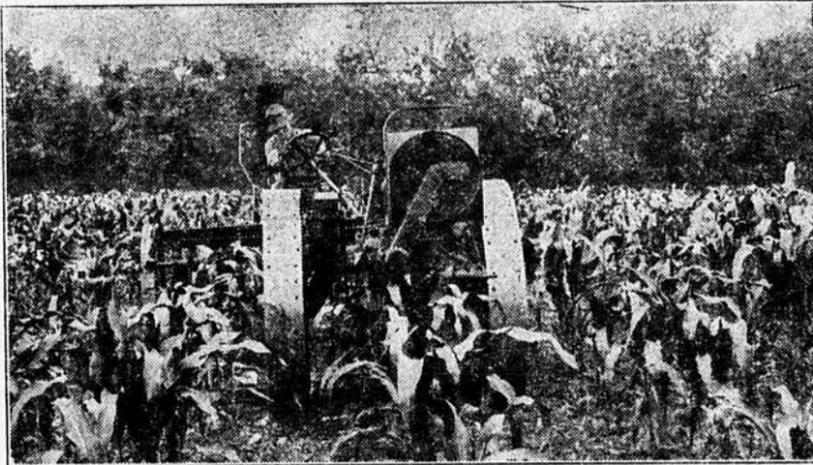
At this critical juncture in our economic and industrial development, I think there is something of greater importance to us than the question of how much money the farmers of America will spend next year, and how you may best proceed in order to divert a share of their billions into your business. It is desirable that you know rural trade conditions and that you appreciate the farmer as a possible customer, but it is of more vital importance today that you understand the farmer as a man and appreciate him as a citizen. It is well worth your while to reach out after the farmer's dollar; but it is of vastly greater importance that business should know the farmer's mind and reach the farmer's heart. The farmer's sympathy and understanding are of greater importance to business today, than are the farmer's dollars—necessary as they are in keeping the wheels of commerce turning.

Feeds the World

I should like, then, to consider the farmer's three-fold relation to business; first as a producer, second as a consumer and third as a sovereign citizen of the state.

I am afraid that we too often forget or overlook the very fundamental part the farmer plays not only in business but in our very existence. It is the farmer's business to feed and clothe the human family. At any time in the history of the world, the race is only a few weeks or months at most, from starvation. Let the farmer cease to produce for a single season; cut off the yield of field and flock and herd, of vine and tree, and we perish. The coal from the mine, the oil from the crevices of the earth, the fall of the mountain stream, supply part of the energy that turns the wheels of business; but the greater power—the man power—is merely the food grown by the farmer, converted into human energy. The calories of heat under your boilers are not so vital to your business as are the calories of energy in your workmen. A strike in the coal mines paralyzes business; but a strike by the farmers would utterly destroy business because it would destroy life itself. Business existed before the power of steam and electricity was discovered, but business never has existed and never will exist without Man Power, and that energy comes from the soil and is brought to us by the farmer.

So then, in the first place, if business is to deal wisely and equitably and for that matter profitably, with the farmer, it behooves us to remember what we owe to agriculture; or if we do not recognize the obligation, at least to remember how dependent upon it we are. Business must remember that it isn't business that feeds business either with food or with dollars. A nation cannot grow rich swapping dollars. The farmer is the great producer of real wealth. It is his business that makes the wheels of every other business go round.



While thousands and thousands of farmers have lost money this year either in crops or livestock, yet the farmers of the United States have produced enough wealth to pay off two-thirds of this country's net war debt, the total commercial value of their product this year being well over 15 billion dollars, or about 1½ billions more than last year. And this was accomplished under even more difficult price and labor conditions than in war times.

During the war the government nursed every other industry at the expense of agriculture. Now we have peace—and all the necessities of living cost so much they have all become luxuries—the greatest industry of all is still being hampered, and is still being victimized by speculators and gougers, when if it were given a square deal and honest markets, it might pull the country well out of the hole in from 2 to 5 years.

Last year the value of the American farmer's crops, measured by our depreciated dollar, was \$15,873,000,000, while the 5-year average, 1910-1914, was \$5,829,000,000. The value of his livestock in 1919, was \$8,830,000,000—making a total of nearly 25 billion dollars for crops and livestock combined.

I wish I could take this company and set you down in a typical farm home of the Middle West, that you might see for yourself the actual living conditions of the American farmer. I wish you might spend a half day with a good county-seat merchant, inspect his stock of high-grade goods and see the variety and quality of the goods the farmer buys. I never yet have known a man to make a personal investigation of this sort who has not been surprised by what he has seen.

And there is this to remember: the farm family's expenditures are made for things that are worth while. The farmer's wife and daughters are not very good customers of the manicurist or the hair-dresser. They do not buy a \$30 creation from the milliner every month; they do not demand an imported gown two or three times a season; no large amount of the farmer's income goes for matinees and luncheons and teas. The farmer's family has little opportunity and less inclination to fritter away hard-earned dollars on

jim-cracks and gee-gaws. The money that slips thru the fingers of the average middle class city family with nothing to show for it at the week's end, is invested by the farm family in things worth while, in comforts and luxuries that help to make life more pleasant.

Business must look to the American farmer today, not only to feed it, not only to buy its wares, but actually to save it from destruction.

However optimistic we may be; however great our faith in the sanity and good sense of the American people, we cannot close our eyes to the state of unrest that prevails in the industrial world. We cannot deny that business in many respects has been arrogant, greedy, heartless; with the inevitable result that labor is more ready than we have ever known it to be, to listen to the siren song of the impractical dreamer, or to be roused to passion by violent enemies of society. On the borders of every conflict between capital and labor, revolt and anarchy lurk, growing bolder with each new contest. Capital is alarmed as never before, and labor to a greater degree than ever, has lost confidence in the integrity and sense of justice of capital. And despite temporary concessions and palliations, the breach widens. God only knows what the end will be unless business speedily recognizes its fundamental responsibility to labor as well as to the public it serves, and unless labor sees that labor can prosper and profit only as it renders service.

Between these two contending forces stands—what? Well, we say, "the public." But what is the public that you know? The men in this room if we eliminated the few blooming millionaires among us, are fairly representative of "the public." What kind of a bluffer would we make between capital and labor? Wouldn't we find ourselves naturally and inevitably in one class or the other? Haven't we all pretty well developed prejudices and deep-seated opinions?

The men in the street outside are "the public"; but there is a definite, sharply drawn line between them. There is no unbiased public in New York City or anywhere in our urban population. The one stabilizer, the one arbiter, is the American farmer, and

it is to him, and to his sound sense, his innate justice, his love of a fair deal, his patriotism, his steady industry, that we must look for our way out of disaster. If he falls behind in any of these qualities, we drop farther back. He is both capitalist and laborer, and yet he lives removed from the rancor of the strife that clouds our minds and benumbs our reason. He never yet has failed his country in its time of need. It was "the embattled farmers who fired the shot that was heard around the world," at the birth of our nation, and ever since, the farmer, in war and in peace, has been our dependence and our safety.

I realize that some of you may still think of the Western farmer, as a be-whiskered Populist, a wild-eyed theorist, a dreamer of impractical dreams; I admit that he sometimes, quite frequently in fact, upsets the best laid plans of political bosses; but I submit that history shows that he is sound at the core; that he is 100 per cent American; that he believes in genuine democracy and that he is ready to die for the faith that is in him. He reads, he thinks, he discusses and when he thinks he has arrived at the truth, he acts. Business, especially in a time like this, can make no greater mistake than to antagonize the farmer. We are appreciating these troublesome days as we never have heretofore, how great is the steadying, stabilizing influence on the nation of the man on the farm. He is not a radical, nor a mossback, nor a non-progressive, but is our safest, most disinterested citizen, worker and guide, because most truly interested in the general welfare. I know him as a man who does more reading, more thinking and observing than the average town citizen and I believe that more than any other he is leaving his imprint on the history of the country.

Square Deal for Agriculture

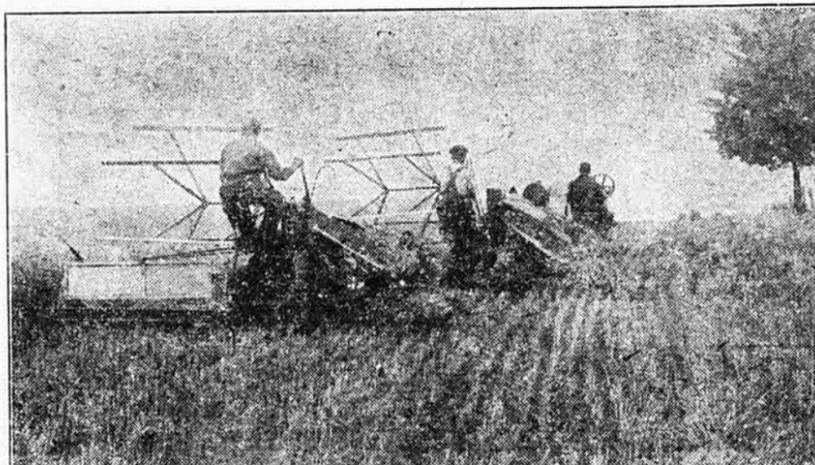
"The farmer's place in business," the topic assigned me, is interesting and important and vital. It is the biggest place. He sets the pace. He is the one man we cannot do without. But what we as business men must be more deeply concerned in now, is the relation of business to the farmer.

It is our business, your business, to see to it that that relation is right. Farming should be put first in our national policy. We should give the business which is the drive wheel of every other business its full economic rights. We should map out a great constructive program for agriculture and put it thru; give free rein to every legitimate scheme of co-operation among farmers and tax the landhog speculator out of existence. I have asked that such a program be made a national plank in party platforms at the next election, because we must be committed to such a policy nationally to properly and speedily put it thru.

To have a more prosperous agriculture we must encourage legislation legalizing collective bargaining by farm organizations, regulation of the packing industry, fair prices for farm products, extension of European markets for livestock and foodstuffs, elimination of profiteering, cheaper money for the farmer who must borrow, good rural schools and a good roads system that will benefit the farmer as well as the automobilist.

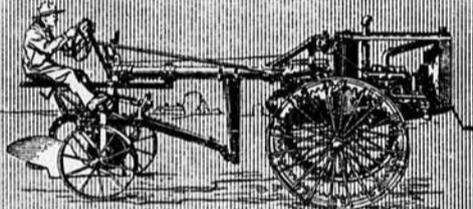
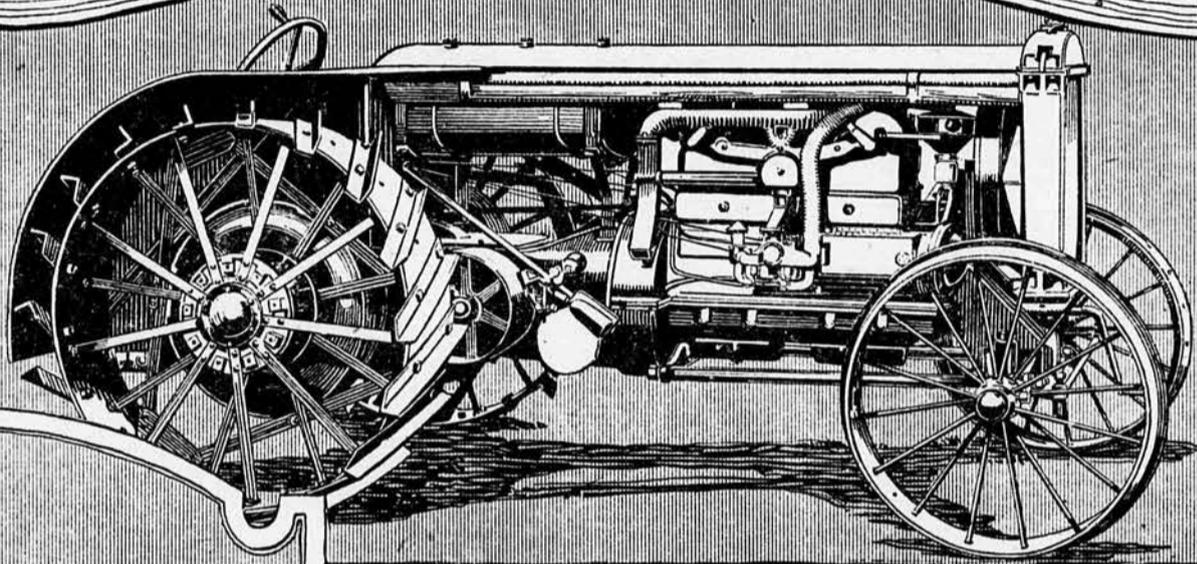
I believe the American people will line up for such a program. They are realizing the farmer's job is the one vital, primal provider and feeder of all the other jobs and that it should always have first consideration instead of last, and never be discriminated against nor hampered any more than we should discriminate against and hamper the United States.

If we would have things go well with us, we must first see they are going well with the man on the farm and I beg you gentlemen to get acquainted with him;—in a business way because it will pay you; in an economic and political way because the nation's welfare is always dependent upon him.



ALLIS-CHALMERS

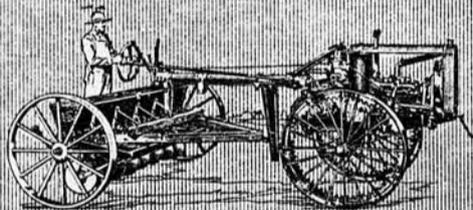
Exhibited at
 Kansas City
 Tractor Show
 Feb. 16-21



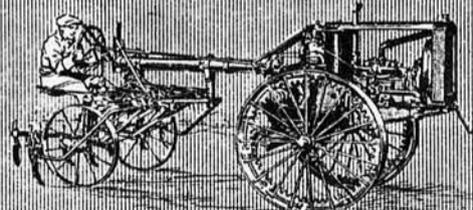
Allis-Chalmers 6-12 With
 16-in. Plow



Allis-Chalmers 6-12 With
 Two 24-in. Discs



Allis-Chalmers 6-12
 With Seeder



Allis-Chalmers 6-12 With
 Two-Row Cultivator

Backed by 65 Years of Quality Production

For 65 years the Allis-Chalmers Mfg. Company, and its predecessors, have been known as one of the largest manufacturers of quality machinery in the world.

Over \$3,000,000 has been spent in development work to make Allis-Chalmers farm tractor right for you. Your own examination of Allis-Chalmers construction will show you real reasons why Allis-Chalmers Service is superior in work done and in operating costs.

The 18-30—Four Plow Work at Three Plow Cost

It costs less to pull four bottoms with the Allis-Chalmers 18-30 than it does to pull three bottoms with many tractors:—

Plowing Speed 2.8 miles per hour.	Fuel consumption, burning kerosene 3 gallons per hour.
Plowing capacity 1.64 acres per hour.	Oil consumption 1.2 pints per hour.

Proved costs per acre for fuel and oil.....35 cents
 Average costs of three plow tractors per acre for fuel and oil.....49 cents

The Reasons:

Allis-Chalmers Motor.	Allis-Chalmers Transmission and Rear Axle positively lubricated by splash.	Magneto ignition with impulse starter.
Removable cylinder sleeves.	Allis-Chalmers centrifugal governor.	Frameless type construction.
Extra large water jackets.		Hollow square front axle.
Allis-Chalmers radiator.		
Force feed lubrication with leads outside of base.		

The 6-12—Any Standard Hitch—One Man Drive

For practical working ability and real economy where a large tractor is not necessary—the Allis-Chalmers 6-12 General Purpose offers:

26½ clearance for cultivating—convenient hitch—adapted to any standard implement, with operator riding over implement or on implement seat.

PLOWING ABILITY—one 11 in. bottom or two 10 in. or two 12 in. bottoms. Immediate accessibility to all working parts.

Farm Owners and Tractor Dealers
 Visiting the Kansas City Tractor Show
See ALLIS-CHALMERS Farm Tractors

And Visit Our Kansas City Distributor
HULSEMAN BROS. CO. South West Cor. Broadway and South West Cor. Blvd. Kansas City

ALLIS-CHALMERS MANUFACTURING COMPANY

Tractor Division—Milwaukee, Wisconsin

Cheap Power for Small Threshers

Many Wheat Crops Last Year Might Have Been Lost But for the Use of Reliable Tractors and Small Threshing Outfits

Editorials by Real Farmers

MANY PERSONS at first hesitated to purchase tractors because they only tried to use them for deep plowing and other heavy work and this plan kept the machines idle too much. However, in the last few years farmers have learned that the tractor may be used to advantage for disking, harrowing, seeding, harvesting, threshing, filling the silo, sawing wood, grinding feed, grading roads, pulling hedge stumps, and many other kinds of farm work, and thus kept busy all of the time. During the past year many farmers who were unable to get their grain threshed by regular threshing crews bought small separators and by the aid of their tractors threshed their own grain. As this plan proved very satisfactory there is no doubt but that this year there will be a big demand for tractors and small threshing outfits that can be operated successfully on the community plan.

Threshed 40,000 Bushels

I cut 225 acres of wheat and oats in 7 days with my 16-20 Rumely Oil Pull tractor operating a 12 foot Deering push binder at a total cost of 39 cents an acre. It required 110 gallons of gasoline, \$31.50, 28 gallons of Mobile oil, \$21, and hard oil 50 cents, and I paid a man \$5 a day to ride the binder, or \$35. After threshing 5,054 bushels of wheat and 789 bushels of oats of my own I started threshing for the neighbors, providing a separator man who cost me \$7 a day. After 40 days of threshing it rained enough to make plowing possible and I plowed 225 acres, pulling a six bottom Oliver plow, turning an average of 20 acres a day at an average cost of 30 cents an acre. I pulled two 18 hole Van Brunt drills, making an average of 40 acres a day at an average cost of 20 cents an acre. After the wheat was drilled I went back to the threshing and to date have threshed 35,300 bushels of wheat, 5,507 bushels of oats and 404 bushels of kafir. I got 12 cents a bushel for threshing wheat, cane and kafir and 9 cents a bushel for oats. My total repair expense on the tractor was \$14.20. It cost 2½ cents to thresh a bushel of wheat.

J. H. Bowrin.

R. 3, Solomon, Kan.

Percherons Compete With Tractors

For the past four years I have operated a 45 horsepower Holt Caterpillar in handling from 300 to 400 acres of wheat each year. The first two years I did the entire job with the tractor, including hauling the grain to market, but the last two I have found that my team of six purebred Percheron mares is an honorable competitor in keeping up the odds and ends. They have knocked all the honor out of the small tractor and have run well up on the scale with the big one. But with the scarcity of help and high prices, I must have my Caterpillar to push the load over the hill when the rain comes, and if it stays dry after harvest, help out the custom rigs by doing my own threshing. The tractor handles the 30-50 separator easily and if you don't do a good job threshing you know who and when and where to kick.

Cullison, Kan. Charles Rezeau.

Fills the Silos

I bought a tractor last summer, starting it in the field August 22. The ground was so dry that I thought it impossible to plow even the 55 acres I had for wheat with horses, but after buying the tractor I rented 80 more acres of wheat land and had it all plowed and harrowed by September 23 and ready to sow. Next we filled three silos, one of my own and two for my neighbors. Then I plowed 20 acres for another man. This was to be sowed in wheat in October. My neighbor has now bought a power grinder which I pull with my engine. The tractor is excellent too for wood sawing.

We are expecting to buy a 20-32 community threshing machine and my en-

gine is to pull it. We can then do our threshing when we are ready and not have to wait for a custom thresher until the shocks are hidden by weeds and grass, as we were compelled to do this year.

My tractor is a 10-20 and I think it the right size for the average farm. It is simple and can be used every month in the year. It burns either gasoline or kerosene very economically. I have made good interest on the investment already besides the extra 80 acres of wheat I got out last fall.

H. L. Philippi.

Westphalia, Kan.

Plan's Community Threshing

My father and I have a farm each, on which we operate a 12-20 Heider tractor. We also use 10 heavy draft geldings. After careful figuring I find the cost of preparing wheat ground by tractor power is about one-third the cost when horses are used. Further, a job that would take 10 days' work with teams can be accomplished in six days with a tractor. The saving in time is well worth considering in times of labor shortage.

The value of a tractor or any other machine depends upon the amount of good work that it will perform. A tractor does not displace all the horses on a farm, but in the rush season a good tractor under a capable operator frees men and teams for other work.

Any tractor will need overhauling oc-

out of mud holes and in fact, have done everything we wished to do with it. I have done most of the work myself. Our expense on the tractor has been 40 cents for platinum points and 75 cents for a new timer.

Milo C. Woolf.

Cheney, Kan.

Cultivates 2,820 Acres

I have made a tractor pay in many ways. In three consecutive years we planted and harvested 2,500 acres of wheat along with 320 acres of other crops. The tractor was on hand at every job. We plow early in the fall and generally that is the hottest and driest part of the year. The tractor does not mind the heat or dust, but should have proper care the same as other machinery or livestock in order to give the best results. After the plowing is over, we begin harrowing and disking and in harvest, pull two 10 foot binders. Other jobs are road grading, feed grinding, wood sawing and pulling my 22-38 inch separator. I believe threshing my own wheat paid me better than anything else I did with it.

Winfield R. Orell.

R. 1, Peck, Kan.

Keeps His Machine Busy

I purchased a tractor and a 24-43 separator last June, doing threshing for myself and for my neighbors until December. I stopped long enough to put in 500 acres of wheat. We used the



Many Farmers in the West Last Summer Purchased Small Threshers and Used Tractors to Provide the Power to Run These Machines.

asionally. This can be done at odd times when the machine is idle. The operator of a tractor should be a man of some mechanical aptitude—experience can be acquired. I believe that most of the farmers who report tractors a failure have not properly cared for their machines. A teamster who never cleans his horses, never looks after minor ailments such as wire cuts and bruises, and who seldom feeds them, could not be classed as a success with horses. Tractors are not greatly different.

The less a machine stands idle the lower the cost an hour of operation will be, for the interest on the investment is the same whether the tractor is used or not. This also is largely true of depreciation. More tractors rust out than wear out.

We do all the heavy field work with the tractor. Last fall we threshed cotton and squash seed. This winter we are baling hay. This community is planning to purchase a threshing machine which the Heider will pull.

Lakin, Kan. Paul Burg.

Does Many Chores

I am a 15-year-old boy. We had 160 acres planted to small grain. My father and I threshed it all without any hired help, using a Fordson tractor and a Finck 22-38 separator. Father did the pitching and I looked after the engine and separator. We have threshed more than 4,000 bushels and plowed more than 300 acres, 80 of which was sod. I have ground feed with the tractor, sawed wood, run a cider mill, pulled trees, dragged roads, pulled motor cars

I like to load a tractor on high gear, and use the low gear for the hard places. I pull 8 disk plows, and like them better than the mold board plows for tractor use. I plow 15 to 20 acres a day, using 2½ to 3 gallons of kerosene a day. It takes 1 gallon of kerosene to the acre to pull two 14 disk tandem disks. I can disk from 30 to 40 acres a day.

In 1917 I pulled an 8-foot binder with shocker, and a tandem disk, setting the shocks on the disked ground. This eliminated labor and saved a great deal of moisture. As soon as harvest was over I belted a small separator and did my own threshing. I also threshed some for my neighbors and they liked the work very well.

I sold my separator last year and bought a combined harvester-thresher. I pulled the thresher and a wagon on high from 2½ to 3 miles an hour, and made an average of 25 acres a day. Two men ran this outfit while a third hauled the loaded wagons to the farm elevator and dumped the loads. In the evening or morning a little Cushman engine elevated the grain to the bins, thus handling a wheat crop without hand labor. The discarded header was largely used for the machinery part of the elevator.

The fact should not be overlooked that the tractor saves a great deal of labor in the house as well as in the field, as fewer men are needed. I have turned down a great deal of custom work because I had other work to do at home.

The tractor uses about 1½ gallons of lubricating oil in a day, and a quart of hard oil. I use coal tar on the gears as it does not catch dirt. The tractor can be used for a great variety of work, and I think it is a paying proposition.

G. E. Lee.

Pratt, Kan.

Buy Only Standard Makes

Two years ago I bought an International 10-20 tractor which had been used two years. I attempted to use a 14-inch gang and sulky plow tied together, but was not successful because the tractor was too light. A three bottom 14-inch tractor plow which I bought later did excellent work. I plowed 150 acres of ground, using kerosene at an average cost of 65 cents an acre and harrowed considerable ground, pulling a four section harrow. As the ground was very damp I was afraid the big wheels would pack, so I removed all the disks of an orchard disk, except two on each side, and followed the big wheels, loosening the ground up nicely. Where the ground is dry I don't think this is necessary. Harrowing with the disk behind cost 25 cents an acre.

When the wheat seeding was done I filled several silos, the engine doing well on the belt work. However, the engine had been given poor care previous to my getting it, and carbon would get under the rings and push them out of the groove, making them fit so tightly that oil could not properly get between pistons and cylinder walls. The block was so worn that compression was poor and starting difficult. Last spring I got a new block. I had thought about reboring, but as the difference between a new block and reboring was slight I decided on the new block.

This year as threshing went out of sight, I bought an Avery 20 inch separator and did my threshing for 17 cents a bushel, labor and all included. This fall I plowed and harrowed about the same as last year, making much a better time, however, because the engine was in better shape and I was more familiar with it.

I never had any experience with a tractor previous to getting this one. If I were to buy again I would do as I did this time—buy a standard make from a reliable company which backs up what it sells and for which repairs can be gotten within a day.

W. C. Elliott.

Duquoin, Kan.

There is too much money wrapped up in one of these machines to permit it to remain idle. I purchased a silage cutter and put the tractor to work filling silos. Now, we are going to move some buildings with it.

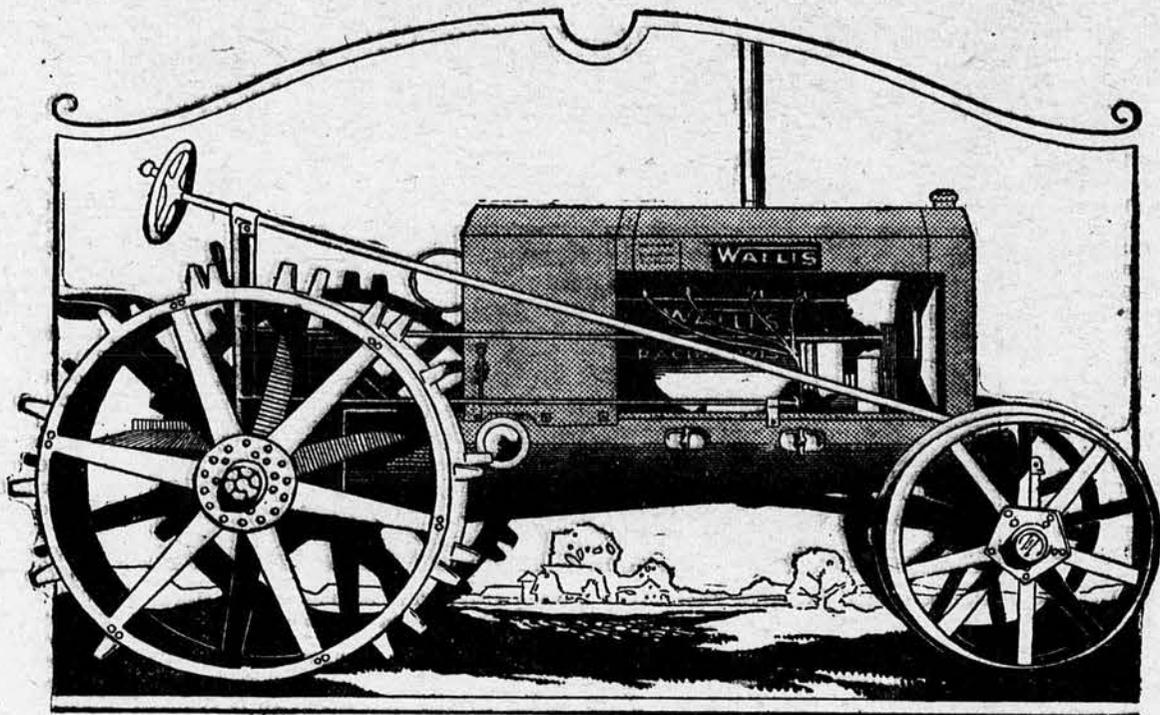
William Nicholas.

Minneapolis, Kan.

Combined Harvester Thresher

I have owned and operated a 15-30 Rumeley tractor for three years, starting with it in the spring of 1917 so as to have plenty of time to get acquainted with it before the busy season began. I never have needed the services of an expert, altho that service is free. I believe it pays a farmer to repair his own tractor. I keep my tractor in a shed when not in use, and the repair shop is located in the shed. My repair bill has been small, and I always keep my tractor in good condition.

Every farmer should select the size of tractor best suited to his farm. I sow about 300 acres to wheat and 100 acres to spring crops, and I find a 15-30 size very satisfactory. I prefer a size sufficiently large to cover the ground at the right time, rather than a smaller size used for a longer period.



DURING 12 years of service Wallis principles have proven above all else the attribute of constancy. We have established the incontestable fact that Wallis engineering is basically right—that this tractor is built to easily shoulder the strains of heavy farm work.

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The Wallis owner knows the result. He has seen it in a sweet-running, powerful machine, which goes on day after day without faltering—a machine which serves him faithfully and teaches him the real meaning of tractor economy.

Any Wallis owner will point to his tractor with pride. He will show you the highly developed valve-in-head motor. He will point to the patented "U" frame—the lightest yet sturdiest foundation ever built into a tractor. It saves many pounds of needless weight—and practically eliminates vibration. Other important developments he will point out. For instance, the cut and hardened steel gears which run in dust-proof cases in a constant bath of clean oil; the removable cylinder sleeves

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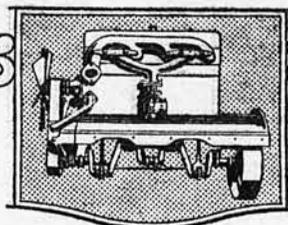
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A Profit From Pumping

Irrigation is Aiding Greatly in Increasing the Yields of Farm Crops, and Especially Alfalfa and the Sorghums, in Western Kansas

By George S. Knapp

PUMPING for irrigation has been profitable in Western Kansas. On the Garden City Experiment station, for example, water applied to alfalfa has produced a ton of hay for every 6 inches of water, applied at a cost of \$2 a ton for pumping. Annual interest and depreciation on this pumping plant amounts to \$4 an acre. In 1919 the alfalfa land on the experiment station produced 7½ tons an acre. The value of this crop at \$18.90 a ton—the average price for the state—was more than \$140 an acre. It was irrigated at a cost of a little less than \$20 an acre. Figures obtained from the experiment station not only show that it is profitable to irrigate, but also that it has paid to irrigate generously.

Experiments with milo at Garden City for the five-year period, 1915 to 1919, inclusive, show that milo which received 9.4 inches of irrigation water produced 15.3 bushels of grain and 2.1 tons of dry stover an acre; 11 inches of water produced 40.7 bushels of grain and 2.7 tons of stover; 15 inches of water produced 47.3 bushels of grain and 3.1 tons of stover, and 21.2 inches of water produced 53.7 bushels of grain and 3.5 tons of stover. If these four crops were given values of a dollar a bushel for grain and \$6 a ton for dry stover they would be worth \$27.90, \$58.10, \$66.90 and \$74.70 an acre respectively.

To irrigate these crops it cost about \$6 an acre foot of water for fuel, oil, repairs, interest and depreciation on the plant. When this charge is deducted from the crop values given it leaves \$23.20, \$52.60, \$59.40 and \$64.10 an acre respectively as the value of the crop above the cost of irrigation water. This shows that even where water is pumped from considerable depths at what is, comparatively speaking, a high cost, it has not only paid to irrigate, but large amounts of water have returned greater net profits than less generous irrigations.

Source of Power

The experiment station irrigation plant is on the high upland where the water is lifted more than 100 feet, with few exceptions the highest lift in the state. Most of the pumping plants in the state are on land where the lift is much less, and a large percentage of the irrigable land is located under much more favorable conditions of lift.

If water can be pumped profitably from such depths for the irrigation of ordinary farm crops, would it not be profitable to put in irrigation plants to pump from wells or streams where the lift is much less? Would it not be profitable to irrigate a great acreage that is now considered out of the irrigation zone? Would it not be possible to greatly increase the irrigated acreage of the state, eliminate to some extent the annual loss caused by drouth, and greatly increase the yearly crop production?

To solve this question we will have to consider the subject not only from the standpoint of topography of the land, water supply, and cost of developing that supply, but we also must determine over what portion of the state irrigation is economically feasible and desirable when considered from the standpoint of climatic features, especially with regard to natural rainfall. Are there any portions of Kansas where the rainfall is sufficient in amount and so distributed with regard to the needs of growing crops that irrigation would be undesirable or unprofitable provided irrigation projects could be developed as cheap or cheaper than those in the more arid sections of the state, and maintenance and operating costs would compare favorably with those in such sections?

It has been popularly supposed that Kansas is divided into three parts—an Eastern, Central and Western—that with regard to climatic conditions there were three distinct divisions in the state. Eastern Kansas has been considered a country where good crops almost were assured; Central Kansas a country where either humid or semi-



Alfalfa on an Irrigated Farm Near Garden City; This is One of the More Profitable Crops Grown Under Irrigation in Kansas.

arid conditions might prevail, and Western Kansas a country subject to more drouthy conditions—a place where it was necessary to irrigate to carry on agriculture profitably. At the same time it has been the general belief that irrigation was needed, and was profitable, only in the Western third of the state. Truly you might point to the fact that at this time 74 per cent of the state's irrigated land is in five western counties, but that does not show that irrigation cannot be successfully practiced elsewhere, and we have yet to find any good reason why irrigation should be limited to that portion of the state west of the 99th meridian.

Let us stop to consider the fact that, anywhere in Kansas, irrigation is largely supplementary to the rainfall. There are no portions of the state where some crops cannot be grown without irrigation. It is not necessary to depend wholly on irrigation in the Western part of the state to produce a crop. Neither can we depend wholly on rainfall in the eastern part and be sure of getting a maximum crop every year.

Let us consider a Kaw Valley farmer. He is living in a section where soil and climate are most advantageous to the growing of crops—a section where nature has given Kansas some of its greatest agricultural possibilities. Will it pay him to irrigate? He has running, almost past his door, even in the driest seasons of the year, a plentiful supply of water. He now raises corn, wheat, alfalfa, potatoes and other crops without irrigation. Will it pay him to apply water to such crops? Records of the United States Weather Bureau for 20 years show that in Eastern Kansas periods of 30 days without more than ¼ inch of rain within 24 hours have occurred during the growing season—April to September, inclusive—on an average of about one year in two. A quarter of an inch of rain on hot dry ground is of little value to growing crops. Such periods are nearly equivalent to 30-day

drouths. Much longer drouths frequently occur, during which crops suffer greatly and the yield is reduced if the crop does not result in a failure.

Would it pay the Kaw Valley farmer to pump water from the river to irrigate his crops during such periods? Crop reports compiled by J. C. Mohler of the state board of agriculture show that frequently crop prospects are very good during May and June. Crops are making an excellent growth and prospects are bright for a good year. Often, however, the crop suffers for lack of moisture in July and August and the yields are not what we would expect them to be. In June, 1916, the average condition of corn was 81.2 per cent based on 100 per cent as representing a good stand, and satisfactory growth and development. The average yield that fall was 47.2 per cent of a normal crop for the last 20 years. Conditions changed more radically in 1918 when an average condition of 82 per cent was reported in June, and but 38 per cent of a normal yield was harvested. Such conditions can be attributed to but little else than long periods of dry weather during the latter part of the growing season.

If this Kaw Valley farmer could, at an expense of from \$1 to \$2 an acre, irrigate his crops and instead of getting less than a 50 per cent yield secure an 80 or 100 per cent yield, would it pay him to do it? Would it pay him to spend \$2 an acre, if by doing so he could increase the yield of his crop 20 or 25 bushels an acre? It is a well known fact that, while the Eastern part of the state frequently has too much rain during the early part of the season, the latter part is almost invariably dry. Crops which have made a rank growth during summer months often suffer for lack of moisture during the latter part of the season. This is especially true of corn and alfalfa. There is never a time but what the yields of alfalfa could be considerably increased by irrigating during July and August, and so frequently as one year

in two the yield of corn could be nearly doubled by one good irrigation applied to that crop the latter part of July or the forepart of August.

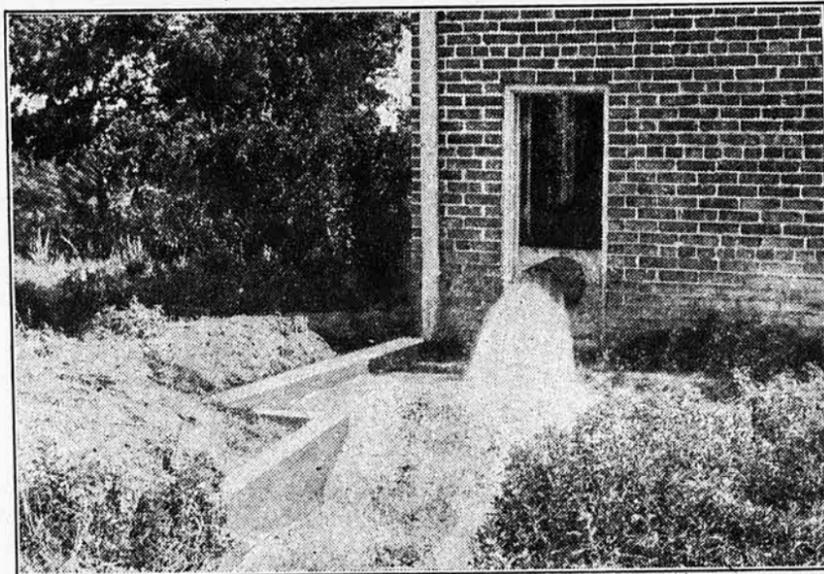
Where land lies adjacent to the river so that no extensive irrigation works are required to get water to the land, a pumping plant sufficient to provide water for 160 acres can be put in for \$1,000, or if the farmer has a tractor which he can use to operate the pump, the plant need not cost him more than \$500. It will cost from \$1 to \$2 an acre for fuel, oil and labor to give such crops as corn or alfalfa one irrigation.

Time was when land was cheap, when farm labor was less expensive, and when farm produce was much less valuable than it is now. A farmer could then be satisfied, perhaps, with whatever the land would produce when he plowed the ground, planted the seed and trusted to rainfall alone to make the crop. At present with such land worth \$200 or more an acre, and farm help more than twice as high as it formerly was, it is necessary for him to make every acre produce to its limit to make even a reasonably good return on his investment. The farmer of today cannot afford to take chances with dry weather no matter in what part of the state he is located if his land is so situated with regard to a water supply that water can be secured by the expenditure of a reasonable amount of money. It is true that the farmer, especially if he is toward the eastern part of the state, may not need to irrigate so much as a Western farmer does. He may not need to irrigate every year. He may need to irrigate only in dry years, and then not all kinds of crops, but even then a small investment for making irrigation water available is cheap and efficient insurance against drouth.

Many New Improvements

Improvement in pumps and other irrigation equipment and the building of electric power lines in rural communities is creating considerable interest in irrigation, and the publication of information such as that obtained from the Garden City Experiment station on the cost of pumping is being received by the public with much interest. Inquiries coming to the office of the irrigation commissioner from all parts of the state show that the need for irrigation is not confined to one section alone. Progressive farmers are everywhere trying to get greater yields to meet increased costs of production and almost without exception they realize that moisture is the chief limiting factor—that dry weather is their greatest handicap to the securing of greater yields. They are asking, "Would it not pay me to put in an irrigation plant and irrigate part of my land? Would it not pay me, even if the cost of pumping is high, to irrigate a few acres and be sure of a feed crop every season? Even if I do not have to irrigate every year, would it not pay me to have an irrigation plant that I could use to keep a crop from being lost by drouth?" Such questions, of course, can be answered only by taking into consideration local conditions, the water supply, cost of a plant, the kinds of crops to be grown, and their value.

There is not less than 5 million acres—about one-tenth of the total area of the state—which has sufficient water for irrigation. There is some irrigable land in all parts of the state, but by far the largest proportion of it is in the western part. Some western counties have the possibility of ultimately irrigating at least 30 per cent of their acreage. There is little opportunity for the development of any more large irrigation projects. Electric power lines will undoubtedly play an important part in future development by providing a convenient and reliable source of power for pumping. Some of these lines may be co-operatively owned and operated, but irrigation plants will for the most part be private enterprises. Most of the water will be obtained by pumping from wells or streams upon the individual farms.



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Better Farm Tools are Essential

The Labor Shortage Can be Overcome Best Thru the Proper Employment of Improved Machinery Adapted to Meet All Requirements

By W. H. Sanders

SOME VERY interesting plowing experiments have been conducted by the department of farm engineering at the Kansas State Agricultural college. The experiments had in view, first, the effect of plow design, or shape of the moldboard, in increasing or decreasing draft; second, the change in draft due to increased speed, and third, the character of soil pulverization when using different moldboards, and at slow and fast speeds.

The results obtained are striking in the extreme and serve to emphasize the need for improved machinery to best serve our present, and possibly, our future farming needs.

No More Cheap Help

Probably no one can be found who believes that we ever will again see the day of cheap farm help, and, as that implies, enough of such help that each team of horses is provided with a driver. This means that the farmer faces squarely the problem of handling his farm without hired help, still at its highest point of production, if not actually increasing production.

It is beyond comprehension that American farmers of today are staying on the job, unless they like farming and believe it is the one thing they can do best for themselves and their neighbors. Hand in hand with this idea must go the planning to make the farm and community life so well worth while as to keep the entire household of each farmstead and the best elements of the whole community satisfied and contented to remain a part of such a farm home and community because of the interesting problems to be solved; the co-operative community accomplishments; and the comfortable, worth-while, home life of every individual. If such sentiments can be made a part of every farmer's life creed, it is easy to see that with less well trained farm help each year, even present farming standards cannot be maintained unless each individual farmer is provided with some means of accomplishing as much, and more work than he and the former hired man did, and that work with less effort on his part than formerly; doing the same in less time, and in a better manner.

Serious Limiting Factors

With much of our present farming machinery such an accomplishment is impossible. The limit of speed at which machines and horses can work is an insurmountable barrier in one direction. Of course, larger machines still working at horse speed can be used, but here another limit is encountered. One driver cannot handle efficiently the larger number of horses demanded by larger machines. Too much personal and individual care is needed by each horse. And, as the hired man is a minus quantity, increasing the number of horses, only puts a bigger load on the farmer, and with lowered production.

The one logical way employed to get the desired result has been to build lighter and stronger machines that do not need extra horses to just move the machine as was the case with older tools. Further, to change the design wherever possible so as to do only the desired operation without using extra power for doing something not necessary. Wonderful results have been accomplished in saving of horse labor and increasing the effective work accomplished thru each man by American implement builders. It's the tools available that has put the American farmer and the entire American nation in the enviable, and comfortably well to do position they enjoy today.

Better Machinery Essential

But our machinery is not yet good enough. Nor does it work fast enough to permit fewer men to accomplish more in less time. Improvement in all farming tools from the manure spreader to the combined thresher, from the plow to the baler, must come rapidly. This improvement on plows may take the form of high speed plowing, perhaps at

a rate of 10 miles an hour, with the plows so designed as to properly pulverize but not "throw" the turned soil, and that cause no more draft at high speed than some of our present plows do at slow speed. Relatively small power can accomplish large results, where now, with the present type of plows the same power cannot draw the load at more than 3 miles an hour.

It is entirely possible that mowers with something like a band saw sickle might easily quadruple the acreage of grass that could be cut with a given power in a given time. The reciprocating sickle bar definitely limits the speed of mowing and harvesting. The same principle applied to harvesters and "combines" might well solve the harvest hand problem for Kansas. Every tool on the farm is capable of speeding up its rate of work if common sense is applied to the problem. Even the entire farming project can well be modified to permit of crops

being grown, rotations planned, stock kept, all with an eye to the speeding up—whenever possible—of the work schedule. This will increase the profits.

Do not get the fool notion that by advocating the use of such machinery that the farmer is to be bound more firmly than ever to longer hours of labor, and more back breaking. Just the opposite should and can be the result. Brains, applied to any project has ever, and will forever, accomplish more than brawn. The brains of the farmer himself must be closely and intensively applied to the proper solving of this proposition. Writers can only suggest or point out some of the ways open. The farmer alone can make the practical application to his individual problem.

Duty of Experiment Stations

The first duty is to demand from his agricultural college definite information as to such improved tools, and also the effect of their use under

speeded up conditions. Definite studies of costs, both as to power needed, men needed, and costs of machine operation. If he finds the college unable to supply such data because lack of funds has not made it possible for such experiments to be carried on, it is only logical that he be willing to tax himself and his neighbors so that funds are available to make such tests, and make them right. His next imperative duty is to get thoroughly acquainted with all the details of both the tool employed and the methods to be followed.

Such investigation on the part of the farmer calls for first hand study, and a careful application of the principles, methods, and machinery to his own particular problem. Whether the solution of better farm machinery will be along the line of larger units, handled at slow speed, or small, light, especially designed machines that fully meet high speed requirements, is as yet an open question.

Can rapid work be as effective in proper tillage as the old horse speed? On the other hand can one man afford to invest the extra capital in necessarily larger, heavier and more expensive machinery, just for the sake of using horse designed tools? Can he on any justifiable ground still cling to the horse as his power producer? These and other questions can only be authoritatively settled thru definite and careful experiments, extending over a reasonable period of crop years, and rotations, conducted and checked by the best experts, the most careful and skilled investigators, that the highest salaries only can procure.

Duty of Agricultural Schools

Is the big agricultural school giving any authoritative information on improved machinery and methods that will answer the question? Why are not such studies undertaken not only with regard to tools for high speed work, but crops themselves, stock raising and the whole farming scheme? Tractors and motor cultivators provide large power units well adapted to permit farmers to do more farm work in less time, and consequently cheaper than ever was known.

If horses are in large measure eliminated thru their use, it is reasonable to suppose that the kind of crops needed for feeding horses may be in large measure abandoned, because no longer needed, that methods of farm management, crops grown, and of crop production must undergo changes in many lines to adapt the farm to the tools, no less than building tools to fit supposedly "hard and fast" farming methods.

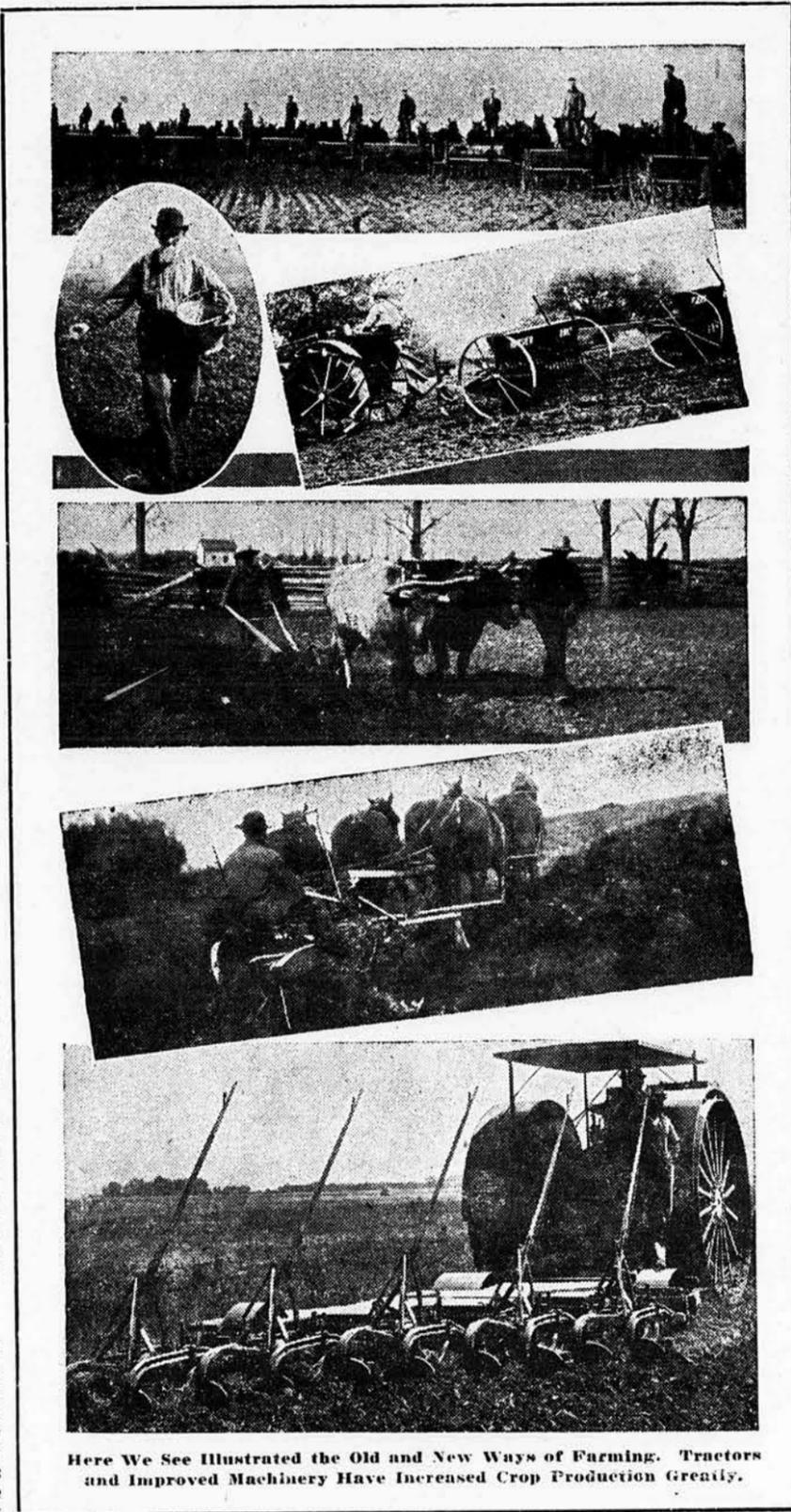
Both parts of the problem must undergo changes. Probably the evolution of the tools will precede the changed farm methods.

The implement designers will be wise to study how to use tools that can be speeded up for more work each day but capable of being handled with one man.

Farm Pumps

Farm pumps usually are of the suction, lift, force, or deep-well type or some combination of these. Suction and lift pumps do not raise water above the pump nor discharge it under pressure. Suction pumps require the cylinder to be above the water level of the supply. If a perfect vacuum could be created within the cylinder, water could be raised vertically by suction 33.9 feet at sea level. However, the suction lift usually is not more than two-thirds of the theoretical lift.

Horizontal suction pipes may extend long distances, providing the friction loss plus the vertical height from the water level to pump valve does not exceed the limiting suction lift. Where a pump cannot be placed so that the limiting suction lift will not be exceeded, it is necessary to lower the pump cylinder into the well, raising the water from the cylinder to the spout by the direct lift of the piston. Water can be pushed more easily than it can be pulled in all such cases.



Here We See Illustrated the Old and New Ways of Farming. Tractors and Improved Machinery Have Increased Crop Production Greatly.



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Market prices on hogs and cattle are such that the problem of selecting the most productive and economical feed is of utmost importance. Trimo Feeds are the result of years of practical experience and laboratory analysis and the splendid results that stock raisers in Iowa and Missouri are getting through the feeding of Trimo feeds is one of our best advertisements. Corn when fed with Trimo Feeds give maximum results.

Trimo Hog Feed

Trimo Hog Feed is all hog feed and is made to produce pork bone and growth. Trimo Hog Feed runs 9 per cent ash. Its alfalfa content causes the brood sow to give more milk. Hog feeding is no longer a matter of guesswork, nor is it a matter of feeding whatever you have to the hogs. The successful hog raiser knows that he is repaid over and over for their proper care and attention. Especially is this true regarding the feed chosen. Feed is the material from which a hog makes weight and weight is what brings home the "bacon." Trimo Hog Feed will bring you home the "bacon."

Trimo Cattle Fatner

In the manufacture of Trimo Cattle Fatner it has been our aim to build up and manufacture a feed from the standpoint of the feeder—just as though he were making the feed himself for his personal use. Trimo Cattle Fatner is a distinct feed for a distinct purpose—that of fattening cattle for market or for use where one wishes weight and finish. It has proved itself daily to be the cattle feeders' ideal feed. Those who are using it are getting results at a low cost which at all times is gratifying. Another big point in its favor, Trimo Cattle Fatner is easy to feed. Another point, you can give your corn ration from one-quarter to one-half. This at any stage of the game would be quite a saving no matter at what price corn was selling.

Trimo Dairy Feed

Regardless of your stock or the capacity of each animal, which varies, all dairymen agree you can practically double your milk production by proper feeding. Trimo Dairy Feed is a scientific product and a sure milk producer containing only the best ingredients known to the scientific milling of feeds for milk production. It furnishes a palatable, bulky laxative and juicy dairy ration. The cow when fed Trimo Dairy Feed is supplied with feeds properly proportioned, enabling her to produce her maximum milk yield.

Trimo Horse Feed

To meet the varied needs in the feeding of the horse, the Triangle Milling Company manufactures a variety of horse and mule feeds. Trimo Horse Feeds are balanced properly and contain the nutrients which build tissues, and supply energy.

Trimo Lasses Feed Green

Trimo Lasses Feed Green is a fine leafy alfalfa of bright green color, properly cured, sound and sweet, ground fine, and blended with 40 per cent cane molasses. Since alfalfa belongs to the wonderful family of legumes having the power to extract free nitrogen from the air and convert it into protein, we use it in all our feeds. This compound protein is absolutely essential to animal life. In the formation of milk, lean meat, growing of wool, hair, horns, hoofs, hides, and the development of fetal growth, stock must have food containing the proper amount of protein for young or growing stock; in fact, any living thing on the farm, rooster, hen, mule, horse, hog, cow or calf—all thrive on Trimo Lasses Feed Green. It is an all-around feed; in fact, its uses are so many that it is just up to the feeder as to what he wants to use it for.

Feed Determines Your Profit Free Sample—Use Coupon

By using Trimo Feeds you will be able to get maximum results from your feeding expenditure. Your profits on hogs and other live stock in the next few months will be controlled to a great extent by your selection of feeds. Write today for samples and prices. In coupon check names of samples desired. We can prove to you that Trimo Feeds are what we claim.

Triangle Milling Co.,
North Kansas City, Mo.

Triangle Milling Co.,
Euclid St., Dept. A,
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Gentlemen:—Without any obligation on my part please send me samples of Trimo Feeds as checked. Also price per ton and feeding information.

Name.....
Address.....

National Tractor Shows

Big Meets Soon at Kansas City and Wichita

BY JOHN W. WILKINSON

WESTERN farmers this spring will have an opportunity to see two tractor shows of unusual size and importance, one of these will be held in Wichita, February 9-14, and the other one will be held in Kansas City, February 16-21. Members of the various business organizations in both cities have done everything possible to make these shows a success in every way. An account of the Mid-West Tractor-Thresher show which is to be held at Wichita was given in the Kansas Farmer and Mail and Breeze last week.

The National Tractor show in Kansas City it is said will surpass any thing of its kind ever held in the West, and thousands of farmers and business men are planning to be present.

Large Number of Exhibits

Kansas City is America's greatest distributing center for farm tractors and implements, according to figures just available. These figures show that approximately 90 million dollars worth of tractors and implements was distributed out of Kansas City during 1919. Missouri's second city now holds the proud position of the threshold to the world's greatest market for power equipment of all kinds. That this fact is appreciated by manufacturers of tractors, tractor accessories and farm machinery, is proved by the demand for space at the Fifth Annual National Tractor show to be held in Kansas City, February 16-21. All space has been sold long in advance and the officials of the Kansas City Tractor club, under whose direction the great tractor shows are given, predict that the 1920 show will not only be the greatest exhibition of the kind ever held, but that it will mark the greatest gathering of tractor and implement manufacturers ever assembled in one place. Kansas City will be the capital of the agricultural equipment industry for six days, a tribute to the importance of its position as a distributing center and likewise a tribute to the progressive organization responsible for the great mid-winter exhibition.

From the reservations that have been received by Guy H. Hall, manager of the show and secretary of the Kansas City Tractor club, it may be supposed that the show this year will reach twice the proportions of last year's exhibits.

In speaking about the big show at Kansas City, J. B. Bartholomew, president of the Avery Company, says, "The publicity the manufacturers of tractors and allied power farming equipment get from the National Tractor show at Kansas City is really the best all around advertising they can buy at any price. First of all Kansas City is the center of the richest agricultural district in the world. Secondly, it is, after Chicago, the greatest railway center in the country and offers unsurpassed transportation facilities. This latter feature greatly simplifies shipment of exhibits and makes the show accessible to thousands and thousands of farmers who are vitally interested in power farming. The great district of which Kansas City is looked upon as the manufacturing and jobbing center, contains the greatest number of farms of large acreage, where tractors are essential to increased production."

Has Official Recognition

The Fifth Annual National Tractor show is the only official strictly tractor exhibition sanctioned by the National Vehicle and Implement association. A further tribute was paid to the Kansas City show by the indorsement of the Motor and Accessory Manufacturers' association. Accessory Manufacturers were quick to recognize the development that the tractor industry is facing and a large number have exhibited at the annual tractor shows at Kansas City. The tractor industry has profited by the experiences of the automobile industry. It didn't just grow, neither did it spring into being overnight. It has undergone a gradual process of development for two generations or more, but the last few years have seen it take its place in the very front rank of American industries, as-

suming proportions of bigness and importance quite approaching the automobile and farm implements. The Fifth Annual National Tractor show will graphically portray development of the industry. The crude affairs of a few years ago—those "Peter Coopers" of the tractor industry, have given way to the refined and highly efficient portable power plants embodied in the tractors of 1920.

The Kansas City Tractor club has directed the tractor shows at Kansas City from the very start. The first show was a success and these annual events have since become milestones in the progress of tractor development. It is quite a jump from the first tented show to last year's remarkable exhibition. The great mid-winter exhibitions at Kansas City have become, as Finley P. Mount has said, "Something more than national, they are international in scope."

Six years before the first National Tractor show at Kansas City the total output of tractor manufacturers for twelve months was 11,000 machines. The increase of production was slow. The farmers had to be educated to the possibilities of power farming. In those days tractor salesmanship embodied school teacher tactics. The first tractor show was primarily an educational exhibition and this feature has dominated succeeding shows.

Display Has Late Models

The first display of newest tractor models will be at the Kansas City show. The first appearance of new power cultivators will form extensive exhibits, and tractors of all sizes, garden, farm and commercial tractors, every type from the smallest to the largest will be housed in the giant Overland building for six days beginning February 16. This is a permanent building of concrete and brick, fire-proof construction, with approximately 4 acres of floor space available for exhibition purposes. The building is modern in every respect, heated by steam and lighted by electricity. It is conveniently located near the terminal tracks so that exhibits can be quickly transferred direct to the building. Exhibitors include practically all tractor manufacturers as well as manufacturers and distributors of allied equipment and accessories. No other show event will be held during the tractor show week and ample accommodations will be provided for out of town visitors.

Some Car

"Has this car got a speedometer?" asked an old gentleman to the auctioneer.

The auctioneer was equal to the occasion and replied:

"At 30 miles an hour it exhibits a white flag, at 40 miles a red flag and at 50 miles a graphophone begins to play. 'I'm going to be an angel and with the angels-dwell!'"

HOW TO BE AUTO EXPERT

The demand for men who understand the operation and repair of automobiles and tractors at salaries of \$100 to \$400 monthly is so great that D. T. Bartlett, president of Bartlett's Wichita Automobile & Tractor School offers to send, without charge, to all who want to learn the business, a large illustrated book entitled "The Way to a Better Job." If you are interested just drop a card to Mr. Bartlett, 154 North Topeka Ave., Wichita, Kansas, and request a free copy.

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\$17.50 Complete—put on your car. Drive up to any A-C Brake Dealer today. If your dealer is not stocked—order direct from this ad.

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DEALERS Write quick for your territory. Best seller you have ever handled. Good profits. Why not wire at our expense?

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They wear until they are worn clear through. Ten, twenty, thirty, and even forty thousand miles are the records of users.

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Grape-Nuts

A food in every sense: *nourishing, delicious, economical.*

Easy to digest because of twenty hours baking.

Ready-to-serve.

Tractors on Kansas Farms

(Continued from Page 3.)

July and August. He has no such feelings, however, for the tractor, which can be kept in the fields for 24 hours with a change of operators, and the hotter it is the better it works. If all our wheat land could be prepared when it should be and as it should be, Kansas could raise millions of bushels more wheat each year, other things being equal.

According to reports of the experiments of the Kansas State Agricultural college, plowing 7 inches deep in July or August has produced from 5 to nearly 9 bushels more an acre than where the land was plowed in September 3 inches deep. The net profit varies in about the same proportion as it costs very little more to plow 7 inches deep in July, than to plow 3 inches deep in September. It is also shown that disking immediately after harvest has increased the yield 4 bushels to the acre and the net profit from \$2.50 to approximately \$3 an acre.

Reference to these experiments is made especially to fasten attention on deep plowing and early preparation which means hard work in hot weather, ideal conditions for the tractor and unfavorable for work horses. It must be borne in mind too that the saving of labor is a most important item, as with the tractor plow one man can do the work of two otherwise; a better job and cheaper.

Best Type for Kansas

The 10-20 tractor is perhaps best adapted to the ordinary or average farmer in Kansas, as the investment in the larger type and their machinery equipment is too great for the average farmer for the time they are used. There has been unquestionably much unwise buying of tractors thruout the United States, and to my mind that is very largely the fault of the manufacturers and distributors in urging this new power on farmers not prepared for it, either in skill of operating or adaptability of plant.

Undoubtedly there are many farms where a tractor would not be found profitable and many who acquire tractors have realized disappointment and loss because their owners were incompetent operators—were not skilled mechanics. A certain size farm and a certain kind of farm may preclude the profitable use of the tractor and these are important things to be determined. Our farmers wish to know why the tractor is profitable, when it is profitable and where it is most profitable.

A drawback to the tractor industry as I see it from the farmer's viewpoint, is that there are altogether too many makes of tractors placed on the market. Some are good and some are doubtless bad, and some are indifferent, but it is difficult for the farmer to distinguish between these, and often he buys a machine that is a bitter disappointment. In such cases the result is that he has a pile of junk on hand, and becomes a non-believer.

It is possible there is no way by which the good and poor tractors may be weeded out except as the farmer learns of their worth or lack of worth thru experience, but this is an expense the farmer should not be forced to bear. It seems that the merits of tractors should be determined by other methods, for, as it is, the farmer stands the loss in buying a tractor that does not deliver the goods. He is being experimented upon—and pays for it. This naturally brings up the matter of standardization, not only of tractors, but of all farm machinery, and if this could be accomplished the millennium in agriculture would be brought near.

Government Tests Needed

If all tractors could be required to stand certain government tests before they were permitted to be placed on the market, that would be excellent. This saving the farmer from being the experimenter. It would appear to me also that possibly a half dozen standard makes might be entirely sufficient to meet the needs of the farmers for tractor power. If the number might be reduced to a half dozen or so, the tractor problem would be greatly simplified for the farmer, and if the co-operation of manufacturers could be obtained to that end, it would be a long step forward.

(Continued on Page 35.)

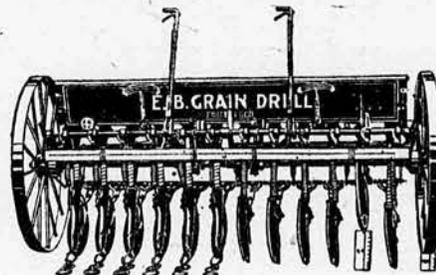


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- 3—E-B Grain Feed combines fluted feed and double run or internal feed. Prevents bunching and cracking of seed. Sows all kinds of small grain.
- 4—E-B Single Disc Closed Delivery Opener deposits the seed in the bottom of the furrow.
- 5—E-B Double Disc Furrow Opener insures greatest crop return because all seed is planted at an even depth and well covered with soil.

ANY E-B DEALER will explain these superiorities and many more in detail. And, if your needs are for a specialized type of drill, he can give you helpful information about the full E-B Line.

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Tells why the Square Deal Lock will never slip and why our way strand wires prevent sagging, bagging and buckling in

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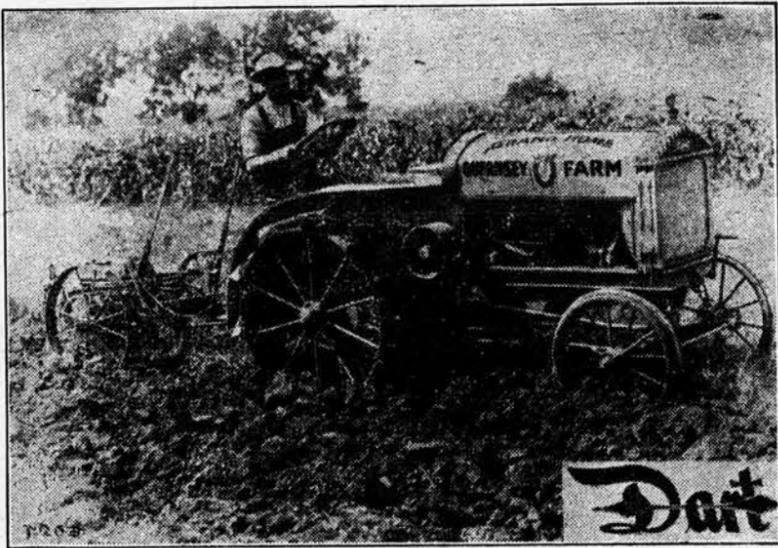
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The Tide of the Morning Bar.....Francis H. Barnett
Huidah.....Marion Harland
The Lost Diamond.....Charlotte M. Braeme
The Spectre Revels.....Mrs. Southworth
The Green Ledger.....Miss M. E. Braddon
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Main Office—Newton, Kansas.

Local Representatives Wanted.

Only \$1.30 **BUY HARNESS FROM MAKER**
Save 30 to 50%. We Prepay Freight.
Goods guaranteed 2 years. Five or six ring halter, copper riveted, of 1 1/2 inch best leather stock; only \$1.30 prepaid—others ask \$1.75 to \$2.50. Double hip strap breeching harness at great bargain. Write for **Big Free Bargain Catalogue** of Harness, Saddles, etc. Buy direct. Quit paying high prices.
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It Pays to Own a Thresher

and especially one made at Sycamore, Illinois, by the Illinois Thresher Company. They are the very latest models equipped with every modern up-to-date improvement—grain savers and profit makers.

The "Scientific"
Requiring only twenty minutes to change from a seed huller to a grain separator, or reverse. Built in sizes:
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For use in territories where Grain, Flax and Timothy are grown and where a Huller is not needed. Built in sizes:
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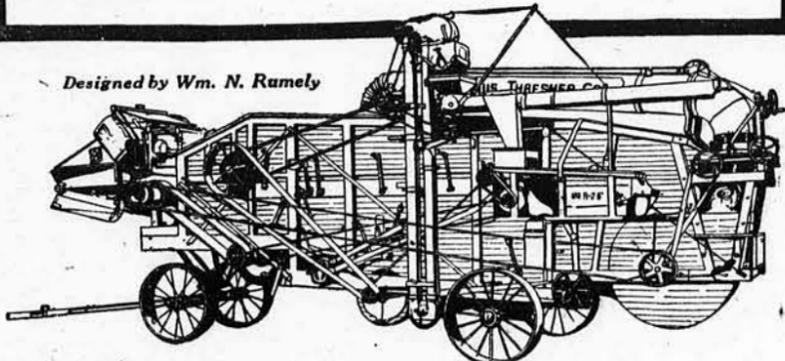
are made in several sizes either for individuals and communities or for the use of those who make a regular business of threshing.

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BY J. T. ROSA

THE CORN BELT states certainly offer great opportunities for the development of vegetable growing in a commercial way. While "corn and hogs" may continue to be the backbone of our farming for years to come, there are splendid chances for a few people in each community, perhaps a single grower, to make a good living out of vegetable growing, and at the same time be of distinct service to that community. For fresh vegetables we must have—and several kinds of them almost every day of the year.

The great opportunity lies in the development of a good local trade in our small towns. The amount of vegetables used in a year even in a country village is surprising, and the quantity can be expanded enormously if fresh home-grown vegetables are available in season. For instance, Hubert Nieman was clerking in a country store at Lockwood, Mo., a village of 700 or 800 persons. Having had a taste of vegetable growing in a good home garden, he conceived the idea of expanding the home garden into a little truck farm—for no one was growing vegetables for sale in that neighborhood, and such fresh or rather stale vegetables as were used had to be shipped to that place. Last March, Hubert left the grocery store to put in full time on a 3-acre patch, one acre being gardened intensively with early and late vegetables, and the rest being planted to staples like sweet potatoes and sweet corn. Most of the land was in sod until broken last spring, and the season was dry and unfavorable, yet this first season's garden work has netted considerably more profit than a whole year in the grocery store, and Hubert has some equipment, a lot of experience, and a lot of enthusiasm.

The Local Trade

We have a climate which permits of growing practically any crop produced either in the South or the North, we have soils that are adaptable to vegetables, manures are more easily obtained here than in the East, and we have the markets waiting for first class, fresh, home-grown vegetables. With increasing land values, some of this land must be farmed intensively to make it pay for itself, and no kind of farming is so intensive as vegetable growing. Peter Henderson said that "ten acres is too much" and perhaps that is true for the vegetable grower, unless he has a large family of willing workers, or can hire labor easily.

One who is beginning at commercial vegetable growing is far better off if he has only a small plot of ground to cultivate, on which he or she can concentrate on the careful, intensive cultivation of the crops which pay best. Women as well as men are making good at the gardening game, for instance, Mrs. Fred Osborne, at Ann Arbor, Mich., is now doing several thousand dollars' worth of business on a 10-acre truck patch. Ten years ago

she was the wife of a broken-down clergyman, without capital or experience. Hard work and seizing of opportunities have put her well ahead of the game. The first step is to look over the local situation, size up the needs and tastes of the people who will be your customers, then go ahead and produce the crops that are best adapted to the soil and the location.

To make one's work efficient, use up-to-date information and modern methods right from the start. Spraying rigs and spray materials are pretty sure to be needed. Commercial fertilizers are great boosters for vegetable crops both in point of earliness and yield. Practically every soil in the corn belt, will grow better vegetables with the addition of acid phosphate—and on land not heavily manured, nitrate of soda and other nitrogenous fertilizers will be beneficial. Cold-frames and hotbeds will contribute to the efficiency of the garden. If water under pressure can possibly be obtained, by all means install an overhead irrigation system over part of the area used for the more tender crops, like celery and lettuce, cauliflower, etc.

Essentials To Success

"What crops shall I grow" is one of the beginner's problems. That must be partly determined by local needs, but some crops are more profitable than others. Tomatoes, especially the early crop, take first place as an easily grown yet very profitable crop. Early cabbage also pays well, and is easily and cheaply grown. Cucumbers and sweet corn are profitable crops. Among the tenderer and more intensively handled crops, celery, cauliflower, leaf lettuce, head lettuce, and onions would be considered first. All of these crops yield enormously on small areas if well handled, and there is an established demand for them. Chinese cabbage, eggplant, and peppers, and the various root crops are splendid products when the demand has been worked up. For rather extensive operations, sweet potatoes, Irish potatoes, muskmelons, and sweet corn are well adapted.

Growing early vegetable plants for sale to other gardeners is a profitable side-line. There is much to learn about the handling of all these crops and the best varieties to grow, but this information is always gladly provided by the agricultural papers, the colleges and experiment stations, to him who cares to seek it.

What chances has the general farmer who would grow one or two kinds of vegetables as a side-line? Generally not as good as the person who would specialize in vegetable growing, with his whole soul bent on producing good vegetables and establishing a reputation in that line. But there is a chance for the general farmer to make a profitable side-line out of one or two staple vegetable crops.



Small Tractors Now are Manufactured for the Use of Truck Growers. They Make the Cultivation of Large Areas an Easy Matter.

Extension Control for Tractor

BY H. J. METCALF
Iowa State College

There are one or two successful farm tractors that are operated from the seat of the implement that the tractor is pulling. In other cases it is usually necessary for two men to operate a binder or similar type machine. The extension control is, as the name implies, an extension of the steering and throttle controls of the tractor to such a position that one man may sit upon the seat of the binder or other machine and operate both pieces of equipment.

The principal advantage is the elimination of the extra man. This is considerable in its favor. One man can operate the two machines with less danger to the machine and to the operators. For example, we are cutting oats with the harvester. Who ever heard of a machine running day after day without some little thing going wrong? The packers choke up, or the knottor begins to miss, or heavy grain packs in tight between the canvas. There are many little things that cause delays.

The man on the binder notices the trouble immediately but cannot make the tractor operator hear because of the noise of the engine and machinery. Considerable damage is usually done to both the grain and the binder before the stop is made. Now with the extension control the one man with both machines in hand would stop even more quickly than one could stop a horse team; a quick pull of a rope or lever and the machine is at a standstill.

Concerning Signals

Some men have used whistles and different calls for signals with varying success. I happened to see an accident in the harvest field last season. Labor being scarce, a girl and her father were putting up the hay. The young lady was running the tractor and her father, not being able to make her hear, had tied a rope to her arm by which he could give her signals. The rope became entangled in the wagon wheel, jerking the girl from the tractor, badly bruising her. Luckily, however, she fell free of the machine and was not seriously hurt. This kind of signal is dangerous to say the least and should not be practiced when it is possible to devise some other scheme.

It is not difficult to find jobs for which the extension control can be used to advantage. The first I believe in importance, is with the binder. Then there is the mower, the hay loader and any other implement that would, under ordinary operating conditions, require two men to handle it.

The manure spreader offers a job that is very heavy on horses and still the man who is careful of the way in which he applies his fertilizer needs to be upon the seat of the spreader to do a good job, regulating the feed and seeing that the distribution is even.

Road work, when the small grader is used, offers another opportunity to use the extension control to advantage. Having used his extension control for a full year, John Danskin of Nevada, Iowa, says, "It's fine. We use ours for most everything. I can get around with my tractor since I've gotten used to it in places that it would take an extra good horseman to drive a four-horse team."

A Belief in Kansas

An error was made in a quotation from John J. Ingalls in last week's issue of Kansas Farmer and Mail and Breeze. It should have read: "The aspiration of Kansas is to reach the unattainable; its dream is the realization of the impossible. Alexander wept because there were no more worlds to conquer. Kansas having vanquished all competitors, smiles complacently as she surpasses from year to year her own triumphs in growth and glory. Other states could be spared without irreparable bereavement, but Kansas is indispensable to the joy, the inspiration, and the improvement of the world."

Self Interest

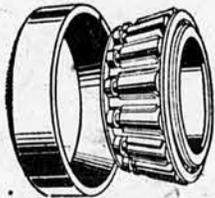
"Did you notice that motorist stop his car, get out and carefully remove a broken bottle from the road?"

"I did."

"Would you call him a good Samaritan?"

"No. I suspect he's coming back the same way."—Birmingham Age-Herald.

Do You Know—



STANDARD PRACTICE

The use of Timken Tapered Roller Bearings at points of hard service in the great majority of leading tractors—and in power-driven farm machinery—is proof of leadership established on the tapered principle of design, quality of manufacture, performance, and service to the automotive industry.

that 24,000,000 horse-power is required to operate the farms of America — more than is used in our factories?

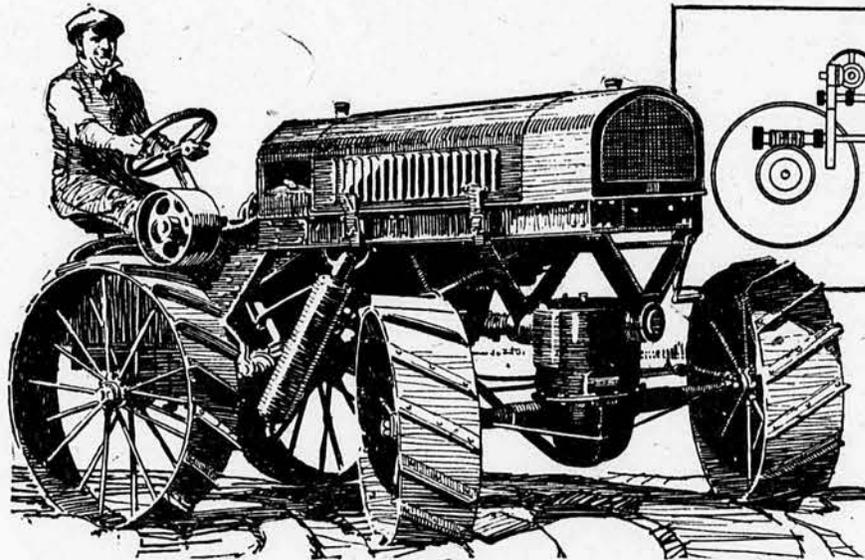
that a 14-inch horse-drawn plow averages 2 acres per day while a 2-plow tractor averages 6 to 8 acres?

that the tractor's ability to "punish work" is fundamentally dependent upon the bearings at the points of hard service—front axle, pinion gear, transmission, jack-shafts, rear axle and lower track wheels?

that the Timken Tapered Roller Bearing is the *only* type of bearing that will function properly under radial load, or thrust load, and all possible combinations of the two?

that the Timken Tapered style of bearing is the *only* one that provides take-up for wear, so that at the end of each season's plowing the bearings can easily be made good as when installed?

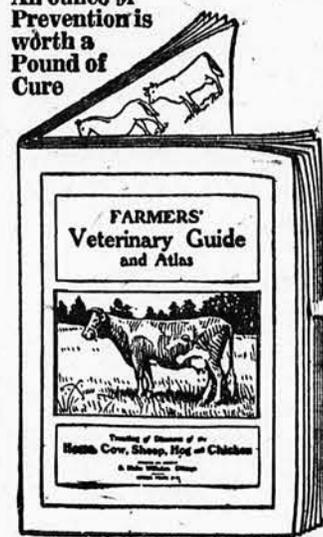
THE TIMKEN ROLLER BEARING CO.
Canton, Ohio



The locations of the eleven Timken Bearings in the Four Drive Tractor are shown by the black rectangles in the above diagrams. (Only one differential indicated.)

TIMKEN BEARINGS

An ounce of Prevention is worth a Pound of Cure



If Your Livestock Is Worth Money Is It Worth Saving?

The Farmers' Veterinary Guide and Atlas will show you how to treat diseases of livestock. You cannot afford to pass up a single word of this advertisement. He who knows how to keep his livestock healthy has the key to prosperity. This Atlas means as much to your livestock as fertilizer means to your grain crops. It enables you to know what is the matter with your horse, livestock or poultry when sick, and what to do in order to relieve them. It gives information which will be the means of SAVING HUNDREDS OF DOLLARS TO YOU in the course of a year.

A Wonderful Work of Reference—This Atlas contains 25 large colored charts showing the anatomy of the horse, cow, sheep, hog and poultry, together with full description of the symptoms, treatment and remedy for all common diseases of livestock.

How to Obtain Farmer's Veterinary Guide and Atlas Absolutely FREE!

Send us \$1.00 for a year's subscription, or \$2.00 for a three years' subscription, to Kansas Farmer and Mail and Breeze, and immediately on receipt of same we will forward this Atlas, **entirely free and post-paid**. This offer is open to both new and old subscribers. This Atlas will save you many times the cost of your subscription in less than a year. **Send for your Atlas today while the supply lasts! Do it now!**

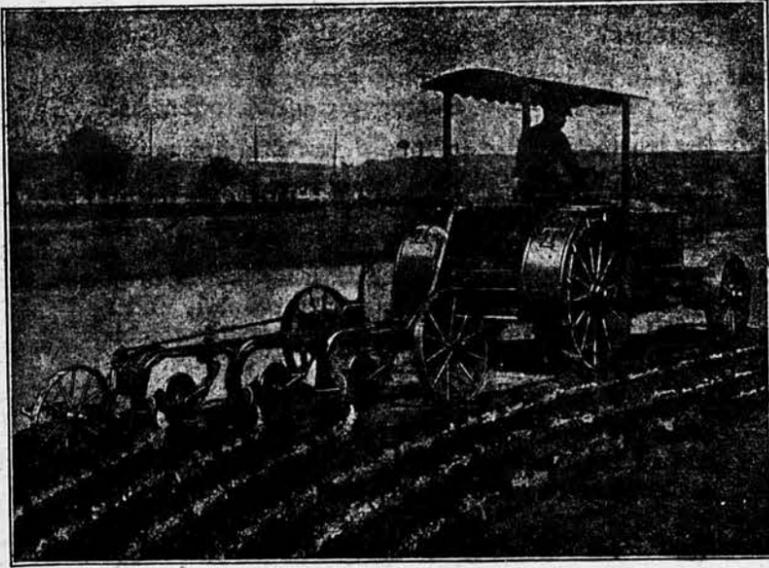
Kansas Farmer and Mail and Breeze, Topeka, Kansas.

Enclosed find \$..... to pay for Kansas Farmer and Mail and Breeze for the term of years, and send me the Veterinary Guide free and postpaid as per your special offer.

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18 H. P. on the Draw Bar, 36 H. P. on the Pulley

The Light Weight Tractor with the Powerful Pull

Burns Kerosene, Distillate or Gasoline—
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Second Floor Ridge Arcade, Kansas City, Mo.

Select the Right Machine

Expensive Equipment Must be Bought With Care

BY CLAUDE K. SHEDD

THE farmer who is ready to buy a tractor now has a choice of more than 250 different models which are being manufactured and offered for sale. This gives a wide range of choice as to size, type, mechanical construction, and price. To make a selection from this assortment is not always an easy matter.

It is only fair to say that nearly all of the tractors offered on the market at the present time are built to run and will run successfully in the hands of reasonably competent operators. A "weeding out" process has been going on of recent years and some of the most poorly constructed and "freak" designs of tractors have fallen by the wayside and are no longer being manufactured. The average tractor today is a very much better machine than the average tractor made three years ago. Still there is a wide difference between the best and the poorest tractors on the market and there is a great advantage in being able to carefully and intelligently select a tractor to suit the needs of the farm where it is to be used.

Points to Consider

The writer would suggest the following questions which the prospective tractor purchaser should answer concerning each tractor under consideration:

1. Is this the size and type of tractor best suited to the work I have to do?
2. Is the design and construction of the tractor such that it will be durable and that frequent repair work will not be necessary?
3. Is the tractor so built as to be easily accessible for repairs and adjustments? Can all repair work be done with shop and tool equipment available on the farm?
4. Are the dealer and manufacturer so organized as to be ready to give prompt service in supplying repair parts?
5. Is the tractor economical in the use of fuel and oil?
6. Is the tractor convenient, comfortable and safe for the operator?

Each of these questions should now have brief explanation and discussion.

The Size

The size is usually expressed either in horsepower or in number of plow bottoms. The two-plow and three-plow tractors have proved to be by far the most popular sizes for the corn belt. In this connection it should be remembered that a three-plow tractor traveling at 2 miles an hour has just the same capacity as a two-plow tractor traveling at 3 miles an hour. If the size is expressed in horsepower, it is well, if possible, to obtain reports of public horsepower tests to compare with the rating since some companies rate their tractors at as much as 25 per cent under their maximum capacity while others rate at maximum capacity. It is extremely important, in selecting a tractor to get one large enough for the work to be done. Tractor farming has in the past been set back more by overloading tractors than by any other abuse.

One good source of information on the capacity of a tractor is the experience of other farmers in the same neighborhood who have used this same tractor. Farmers who have had tractor experience should be and usually are

willing to give their neighbors the benefit of their experience.

In regard to type of tractor, experience has shown the four wheel tractor equipped with belt pulley to be most popular in the corn belt. In California the track-laying type is popular, due largely to the fact that this type gives good traction in "dry sandy soil." The track laying type gives much better traction when used on plowed ground. It has the disadvantage of more complicated construction of traction parts.

Under type of tractor, consideration should be given to adaptability to all the kinds of work that are to be done. Some tractors which are well designed for traction work are rather poorly designed for belt work. Some farms have much more belt work than others; but on most farms in the central states considerable belt work will be found to do after the tractor has been purchased.

The Design

Any tractor to be a success must be dependable. It must give a long term of service, requiring but very little repair work during the summer season. Few men are well enough versed in tractor design to be sure of picking a durable machine with only the looks of the machine to go by. One must depend to a considerable extent on the experience of others who have used the tractor and on the reputation of its manufacturer for turning out good quality machines.

Accessibility is a very important matter. The tractor engine usually works at nearly full load and the bearings require more frequent adjustment than in the automobile engine. Ignition and carburetion systems are sometimes put out of commission by the excessive dust in which the tractor must work. These parts should be so located as to be readily gotten at for cleaning and testing.

Repair Service

Prompt repair service is an essential. The best tractor made is likely to prove a costly failure if repair parts cannot be obtained when needed. Local dealers should stock repair parts or at least have a full stock of parts within one day shipping distance.

Economy in the use of fuel and oil is not nearly so important as the points mentioned above; but still it should be remembered that a small waste each day counts up to large amount during the life of the tractor, perhaps as much as the original cost of the tractor.

Comfort and Safety

Convenience, comfort, and safety usually are considered to be of minor importance, but are really very important. There should be about as much pleasure in driving a tractor as in driving an automobile. If it is no pleasure to drive a tractor, then the tractor is at fault. A tractor which will wear the operator out in eight hours is not nearly as valuable as a tractor that will leave the operator comparatively fresh after 10 hours' work.

In conclusion, let me say that buying a good tractor is only half of the problem. A good horse can be ruined pretty quickly by an ignorant driver. Likewise an incompetent or careless operator can get poor service out of the best tractor built.



Easy To Move From Log to Log

One Man Saws 25 Cords a Day

EASY, now, to cut down standing trees and saw logs into stove or cord wood lengths. This labor saver does the work of ten men. Easy to operate. Economical—uses little gasoline. Quickly moved from log to log and cut to cut without stopping engine. Thousands in use—every owner highly satisfied. Starts easy without cranking in any weather. Strongly built for hard, long dependable service.



Geo. E. Long President

OTTAWA LOG SAW

Cuts Down Trees—Saws Up Logs By Power

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I save you needless profits and delay; ship same day order is received. Famous Ottawa Guarantee insures high quality and your satisfaction. 30 Days Trial. Pays for itself in a few weeks.

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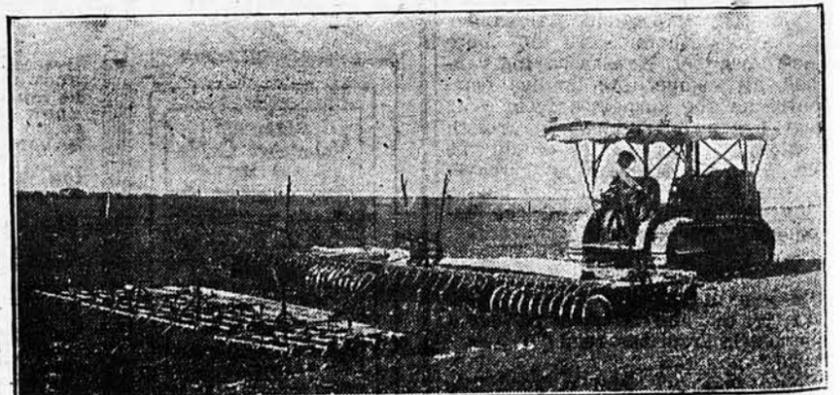


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Cut out this ad and mail it to us, with your name and address (no money); and we will send you our FAMOUS KAMAK RAZOR by return mail, postpaid. You may use the razor for 30 days FREE; then if you like it, pay us \$1.25. If you don't like it return it. SEND NO MONEY. MORE COMPANY, Dept. 312 St. Louis, Mo.

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Shear with a machine and leave no second cuts nor scar the sheep. Use a Stewart No. 9 Ball Bearing Shearing Machine. Gets 15% more wool easily and quickly. Removes the fibre completely, making it longer and better selling. Leaves a smooth, even stubble for next year's growth. Machine soon pays for itself. Price \$19.25. Send us \$2—balance on arrival. Write for catalog.

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Dept. B 122, 12th St. and Central Ave., Chicago, Ill.



The Tractor Saves Time and Man Power by Combining Several Operations in One. It Cuts Costs and Makes Us More Independent.

Tractors on Kansas Farms

(Continued from Page 31.)

ward. Some may object that this might give certain manufacturers a monopoly on the making of tractors, but it will eventually work out in that fashion anyway on the old formula that the fittest will survive. That will come about in time no doubt, but under the present methods it will be done too largely at the expense of the farming fraternity.

There is no question but that the tractor has a great field to fill in American agriculture. With the scarcity of labor and high wages it is an important factor in reducing labor costs. It assists in maintaining farming operations with less help. The fact that it does its work well and cheaply wherever its use is practicable, is another important item in its favor, and its increasing popularity is justified because it means more profit to the farmer—a chief consideration in farm management everywhere.

To Co-operate With Trucks

Approximately 20,000 farmers' co-operative societies in the United States are potential rural motor express operators, according to a survey made recently. "Many farmers hesitate to buy a motor truck because of the cost," says E. Farr, who made the survey. "Yet as labor gets scarcer and wages higher, the farmer must use more machines of all kinds on his farm and save the time and the wages of a hand wherever he can.

If after carefully considering possible savings as compared with costs he feels that he cannot own a truck individually, he can well afford, we believe, to consider a substitute for individual ownership which farmers in some sections are finding highly successful. This substitute is co-operative ownership. We find the co-operative idea spreading into the rural motor express field, particularly in those states in which the farmers have been schooled in the principles of co-operation thru such associations as creameries, grain elevators and marketing agencies."

A Profit in Truck Routes

By H. S. YOHE

To determine when the motor truck is the best means of transportation to be used by the farmer, one should know something of the ways in which the truck has been used successfully by farmers. Excluding parcel post truck service, which carries its own limitations, the farmer has used the truck in one of three ways. 1. By owning and operating his own truck and hauling his own products exclusively; 2. By patronizing truck routes, the equipment of which is owned and operated by individuals who make transportation their business; 3. Thru membership in co-operative motor truck associations.

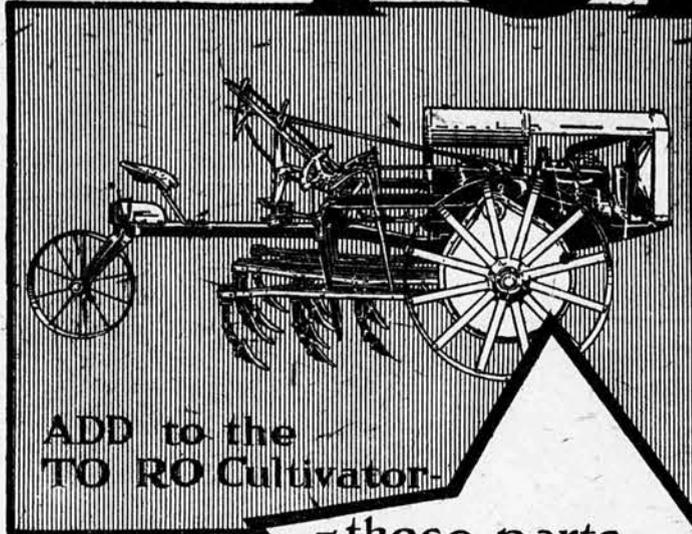
Which one of these methods shall the farmer adopt? There are men who advocate a truck for every farm, but that is economically unsound. Of course just as many people buy goods for which they have no economic need, so will there be found many farmers who will not consider their real economic needs when the matter of buying a truck is presented. Any solution of the transportation needs of the farmer which is not founded in economic need is unsound.

Motor truck routes operated on regular schedules are found in many rural sections where general farming is practiced. In fact, as a general thing, where good roads have been constructed, truck routes have followed almost immediately in all sections where there was sufficient business to warrant such a service, and there is every indication that as soon as the good roads programs of our agricultural states are carried out, rural truck routes will spring up on every hand. These routes frequently pass a farmer's door or bring shipping points to within a mile of his farm, whereas rail shipping may be 10 or 15 miles distant.

"Do you know what the Order of the Bath is?" the teacher asked Mickey.

"Sure, ma'am," replied the boy. "In our house it's Katy, then me brudder, then me."

The TORO Way



ADD to the TO RO Cultivator-

-these parts-

Just Change a Few Parts and the Cultivator Becomes a Tractor.

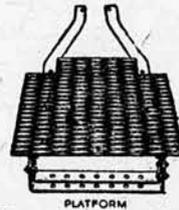
Anybody can make the change—no special tools are required. The conversion is as simple as changing a tire on your car. Reverse the change and you have a cultivator. It's a simple "monkey wrench job." You can't make a mistake.

The TORO TO-RO Cultivator

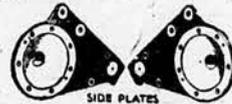
successfully cultivates any row crops. Cultivates more in a day than can be done by two men and four horses—works close to fences—and under branches in orchard cultivation. Seeds, plants, pulls harrows, discs, binders, etc. Built in three widths for rows from 18 to 48 inches both inclusive.

The TORO Tractor

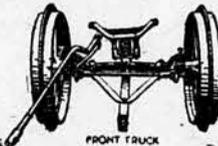
meets the requirements of any sized farm. Performs every operation except cultivating. Pulls two 10 or 12 inch plows under average conditions. Made of the best materials—engine parts of high grade standard makes—gears enclosed in dust-proof casings—fully equipped with Hyatt roller and S. K. T. ball bearings.



PLATFORM



SIDE PLATES



FRONT TRUCK

and you have-

the TORO Tractor

of Motorizing the Farm

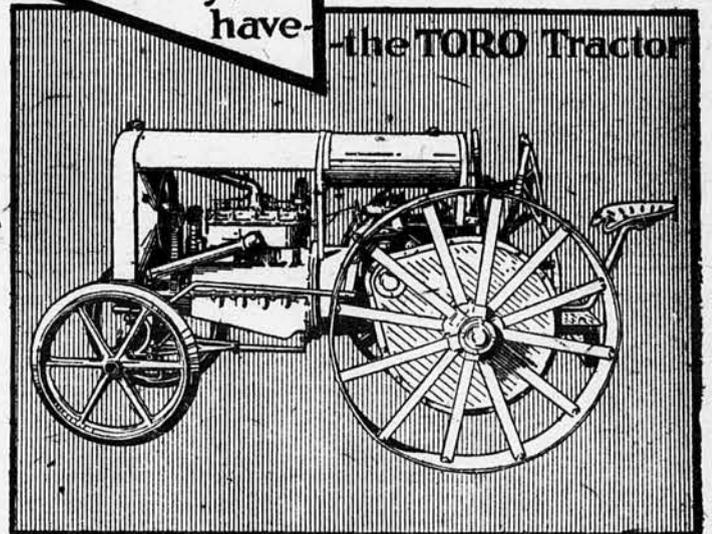
is a revelation in practical, economical power farming. If you have never seen a TORO in action—if you have never read the TORO literature—a delightful surprise awaits you. You will wonder why such a simple solution of the farm power problem had not been invented long ago.

—a Power Cultivator During Cultivating Season —Throughout the Rest of the Year—a Tractor

As a tractor, it thoroughly prepares the ground for seeding—and plants the seed. Then, as a two-row cultivator it cultivates all kinds of row crops. During harvest season it is used as a tractor for pulling mowers and binders and completes its year-round work by hauling and doing light belt work.

The Ideal Power Equipment For Every Farm

For small or medium sized farms the TORO provides every possible motive power requirement. On very large farms it does the things that are neither practical nor economical for heavy plow tractors. It is two separate and distinct machines in one—each operating independently of the other—each doing its work in the most efficient manner. It is the last word in power equipment that banishes the expense and care of horses forever.



Sold in Cultivator Form or in Tractor Form

Buy a TORO TO-RO Cultivator now and buy the tractor parts later or buy a TORO Tractor now and buy the cultivator parts later. You may buy the entire equipment or any part of it.

Send For Illustrated Catalog Before Buying a cultivator or tractor investigate the TORO. Send for catalog NOW. Know every detail—read the statements of many users.

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All kinds of fish nets, hammocks, etc., may be easily and quickly made, with my illustrated instructions before you. 21 photographs show you how. Also gives you more information about the use of nets than has ever been published. Complete instructions, netting needle and a full set of mesh blocks, for \$1.25 postpaid. Don't wait—send today. W. E. Clayton & Co., 45-N. Main St., Altoona, Kan.

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This Bible is about the size of a postage stamp and is said to bring good luck to the owner. Sent postpaid for only 10 cents in stamps or silver. NOVELTY HOUSE, Dept. 10, Topeka, Kan.

Ford Owners

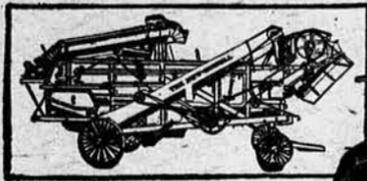


The most valuable accessory ever invented for FORDS. Saves its price many times. Makes old, worn out or cracked plugs spark like new. Keeps them working all the time. No more missing cylinders. No more spark plug cleaning. Saves gasoline, engine and car thruout. Makes engine start easier. Can be attached in 3 minutes. Your money back if not satisfied. Guaranteed to outlast your car. Send for it today on 10 days trial. Price \$3.00. Write Dept. 56. Double Action-Intensifier Co., Menasha, Wis.

10 Patriotic Cards 10c We will send 10 lovely colored post-cards postpaid for 10 cents in stamps or silver. NOVELTY HOUSE, Dept. 20, Topeka, Kan.

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“NON-KICK” positively does the business —Your Ford Can't Kick—Grab the crank—go to it—no chance for accident. Better than insurance because it prevents the accident. We guarantee this device against any mechanical defect in workmanship. Equip Your Ford Now Protection for your family. “NON-KICK” isn't an accessory—it's a necessity. Slips over crank handle —250,000 satisfied users. Here's your chance to clean up—big demand—demonstrate—sale is made—cash profits right now—good territory open—every Ford Owner wants it. 10 Day Trial Send order today—take advantage special agent's price \$2.75 —use “NON-KICK” on your Ford 10 days—if not satisfied, we refund your money. Order now—remit any convenient way—no risk—our guarantee means just what it says. THE NON-KICK DEVICE CO. 717 Central St., Kansas City, Mo.



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Demand
Reliable Farm Power**

The world-wide shortage and high price of food demands greater crops; the shortage and higher cost of farm labor demands more and more farm power—tractors and threshers in particular.

The shrewd farmer cannot afford to risk trouble, loss, delays and breakdowns with new or untried machines—or those rushed through the factory to meet a sped-up scale of production.

For 1920 Russell will build only a few more tractors and threshers than last year—but will build them right—true to "old reliable" standards of quality and service.

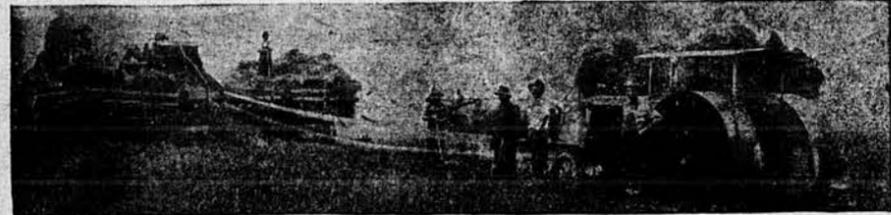
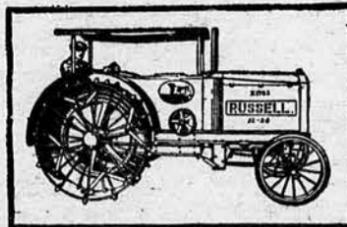
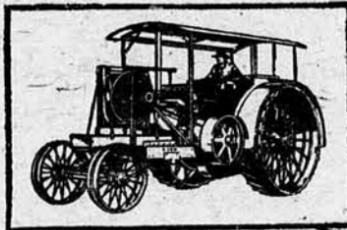
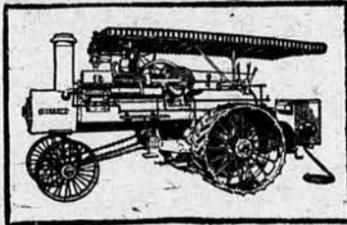
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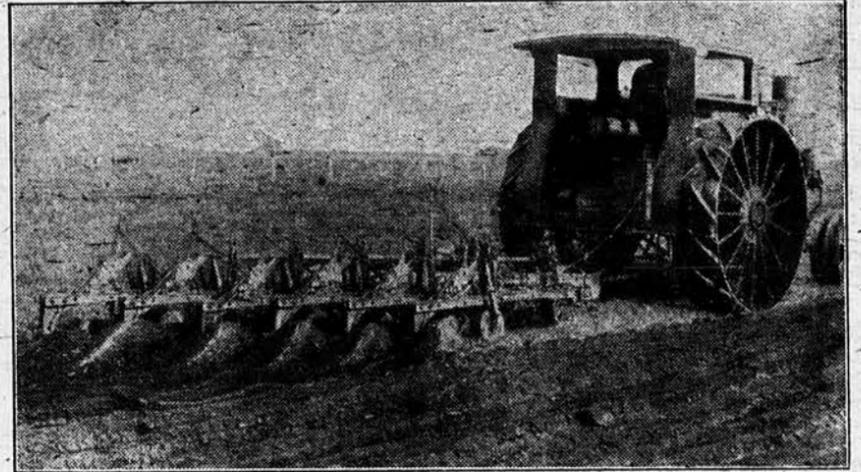
RUSSELL
THE OLD RELIABLE LINE



Grooming the Iron Horse

Make All of the Needed Repairs at This Time

BY F. W. KNIPE



WHAT CAUSES the greatest amount of tractor trouble? Is it poor ignition or poor carburetion, low grade oil or faulty material? Any of these conditions are bad enough but there is one which stands head and shoulders above all of these when taken in the final analysis. This is lack of attention on the part of the operator. How many operators give their machine half an hour's attention daily during the tractor working season? How many inspect it thoroughly each week or how many ever give it a complete overhauling? The answer is "very few."

This article will deal only with a complete overhauling of the machine such as can and should be made at this time of the year. The rush of spring work will be coming along soon at which time no farmer wants his tractor standing idle while the service man comes out from town to repair it. The way to avoid that possibility is to begin now and give that tractor a complete overhauling.

In going about this it will be well of course to get the tractor into a warm building. If no such place is available, select some place where there is plenty of light. The place should have a good floor, free from dirt, because parts are sure to drop to the floor and much time may be lost in finding them.

Where to Begin

In overhauling the tractor I prefer to overhaul the engine as a unit, and the framework, including transmission, clutch, differential and all other parts as another unit. This is not always entirely possible, however, especially in tractors of backbone construction. Wherever possible the engine should be removed completely from the frame but when not practicable to do this, it usually can be readily overhauled in place.

Since the frame is usually the most uninteresting part to overhaul I do that first in order to get it out of the way. The whole frame should be carefully looked over in order to locate any loose or lost bolts or rivets. In case rivets are lost they should be replaced and in case of loose nuts on bolts, they should be tightened. The front axle member is frequently an abused part of the machine. Insufficient grease causes a lot of trouble here. The front wheels need to be removed, all of the old grease cleaned off, and the bearings thoroughly washed in kerosene. Frequently the pivot upon which the wheels are steered is not greased properly. In consequence the grease in the oil grooves gums up and when the cup is turned down no grease can pass the old gummy oil. Steering becomes more and more difficult, wearing is excessive and the tractor efficiency is lessened. Thoroughly clean out this old oil and if the pivot has become rusty, clean it with kerosene. In re-assembling the front axle remember care must be taken to replace the roller bearings in the proper position. Fresh grease and oil must not be forgotten. Very much the same treatment must be accorded the rear wheels. However, rear axle member constructions vary so widely with different makes of tractors that it is impossible to enumerate just what should be attended to in

each case. Every bearing should receive special attention, being sure that it is getting proper lubrication. That no rollers are broken if it is of roller bearing construction, and that it is sufficiently tight.

Handling the Clutch

The transmission, differential and clutch are next on this program of overhauling. Here the first thing to do is to drain all old oil from the differential and transmission housings. Then these places, including all of the gears should be thoroughly flushed with kerosene. This is done so that any broken teeth or loose or badly worn parts can be more readily found. Here again there are so many different designs on the market that it is impossible to cover all of them. Any badly worn parts should be replaced as should any of the gears if they show broken teeth, for broken teeth may give way at any time and get caught in the gears and cause more damage than several new gears would cost. Nearly all differentials and transmissions have thrust bearings of one kind or another which should receive close attention when overhauling is in progress. It is not always necessary to dismantle these parts but it is good practice, because many little defects can thus be found that would otherwise go unnoticed. When needed repairs and adjustments have been made and these parts are once more re-assembled, don't forget to refill with the right grade of oil.

The clutch needs special attention since upon it depends to a certain degree the amount of power transmitted from engine to drive wheels or belt. Some clutches are easily adjusted while others require more attention. For instance a multiple disk or a twin disk clutch usually can be adjusted by varying the tension on one nut or bolt, while an expanding shoe clutch must be adjusted on every shoe. Herein much trouble may arise for frequently in the expanding shoe type all shoes cannot be taken up at one time because too tight an action results. This makes an uneven pressure on the shaft which in turn causes excessive wear on the adjacent bearings. On the other type clutches mentioned no such excessive wear is possible from the same cause. The clutch should be readjusted so that it will not slip under a heavy load and so that it will release immediately when the clutch lever is thrown out. Proper clutch adjustment is sometimes difficult to get but it is well worth working for when the life of the machine and power transmitted are considered.

Don't Use Hard Water

A bad practice among farmers is to use so-called "hard" water in their tractor cooling systems. Rain water or distilled water should be used but if "hard" water is used and a deposit has been formed in the radiator an excellent way to remove it is by using a 5 per cent solution of "muriatic" or hydrochloric acid. Fill the radiator with this, and let it stand for only a few minutes, drain it all out and immediately flush with fresh water. If this solution remains in the radiator for any length of time it will destroy the thin compartments of copper and

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thus ruin the radiator. The cooling jacket around the cylinders may be cleaned in this manner also.

In overhauling the engine there is one part which I would advise the average farmer to leave alone. That part is the magneto. It is a somewhat complicated mechanism which should never be "tinkered" with by any one who does not understand it. More harm than good is likely to be the result of attempting to overhaul it.

As the engine is being dismantled be sure to mark and note exactly how every part fits together. Mark especially how timing gears are set with the crank shaft gear. If these are replaced with only one tooth out of position the whole machine will be thrown out of time. This results in loss of power and many other troubles.

Clean Out Carbon Deposits

If the engine has a removable head it is a fairly simple matter to scrape out all carbon deposits which may have collected. In case the head is not removable it may be a good plan to wait until the engine is again assembled. Then run it until it is quite warm, then pour about 1/4 pint of wood alcohol into each cylinder and let it stand for a few hours. When started again all the carbon will be blown out.

Remove pistons from cylinders and examine rings. If these show signs of much wear and show loss of elasticity they should be replaced, but in replacing exercise care that they fit perfectly and do not bind. When replacing pistons in the cylinders, cover both piston and cylinder with a film of good oil. Leaky piston rings may be discovered by placing the ear at some port in the crank case and having the engine slowly turned over. If a hissing sound is heard within the crank case some rings are no longer functioning.

Valves should be properly ground and cleaned. The usual way to determine leaky valves is to place the ear, first at the intake manifold, turn the engine over and listen for escaping gas and then repeating the same performance for the exhaust valves with the ear at the opening in the exhaust manifold. In grinding valves use some good commercial preparation which may be obtained from any first class dealer. The connecting rod bearings and main bearings should next receive attention. Liners will be found between each bearing, which are very thin and may be removed one at a time until the proper adjustment is made. These bearings should be tightened up until there is absolutely no side motion when nuts are drawn down very tight. But care must also be taken that no bearing binds for in this case a burned bearing will probably result.

Next, trace out the oil lines from source of oil to the place where it is used and note carefully whether all pipes permit a free flow. This is likewise important because improper lubrication is fatal to the internal workings of a gas engine. After all of these things have been attended to, the re-assembly of the machine may be undertaken. Use care that every part is placed in position and that all nuts, screws, studs, etc., are drawn up tight. Upon completion of assembling, let the motor run slowly until it is "broken in" again. Many minor details have been overlooked entirely and neglected in this article which should be attended to. Some of these are the proper opening and cleaning of all oil holes, tightening up of the steering gear and brakes, cleaning off the accumulated incrustation of dirt and grease, all of which things should be apparent without the need of calling special attention to them.

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We guarantee that every display advertiser in this issue is reliable. Should any advertiser herein deal dishonestly with any subscriber, we will make good the amount of your loss, provided such transaction occurs within one month from date of this issue, that it is reported to us promptly, and that we find the facts to be as stated. It is a condition of this contract that in writing to advertisers you state: "I saw your advertisement in the Kansas Farmer and Mail and Breeze."

Go over the root crops and cabbage in the cellar and throw out all decaying specimens.



Oxen to Motor Trucks

(This is an advertisement the sales department insisted upon despite Mr. Watson's objections.)

O. J. Watson, the head of this large distributing house, not much over twenty years ago was a farmer boy driving an ox team in Texas.

He has been closely associated with the development of farm transportation and farm power in the Southwest.

This partly explains his unusual success, for it has enabled him to successfully select for the peculiar problems of this section the most serviceable and dependable motor cars, trucks and tractors.

His experience with the REPUBLIC Motor Truck has led him to place an order for ONE MILLION DOLLARS' WORTH OF TRUCKS, which now are available for distribution through the local dealers in Kansas and Oklahoma.

O. J. WATSON MOTOR CO.

KANSAS-OKLAHOMA DISTRIBUTOR

Wichita, Kansas

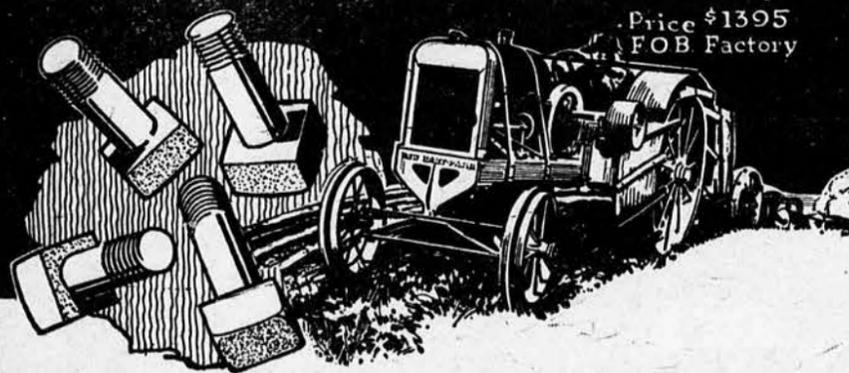


Somebody Wants Everything

Whether it be cow or chicken, hay press or sewing machine—somebody wants it. If you called every person listed in your telephone book you might find that "somebody." But think of the time and trouble. With no trouble at all and very little cost a classified advertisement in Kansas Farmer and Mail and Breeze will "plug you in" with classified buyers—men and women looking for what you have to sell. Try it!

"Plug in" with buyers

Four Bolts or Seventy?



Price \$1395
FOB Factory

THE tractor that is easiest to keep in good repair is the one that will have the longest life. The crankcase inspection plate of the Hart-Parr 30 may be removed by taking out only four bolts—NOT fifty to seventy. The same is true of the transmission case inspection plates.

You don't need to tear down the Hart-Parr 30 to get at its vital parts. The differential-shaft may be removed without taking off a wheel or moving the motor.

The Most Power for the Longest Time at the Lowest Cost

You doubtless remember how the Hart-Parr 30 walked away from all competitors at the big tractor tests of last year. Tractor success all hinges on construction. Hart-Parr Company have had 19 years' experience in tractor building. Old Hart-Parr No. 1 was the great grand-daddy of all the tractors, and many of the old Hart-Parrs of virgin prairie days are in use today.

FREE BOOK Should be in the hands of every prospective tractor buyer. It's full of useful information and it's free. Write for a copy today.

HART-PARR COMPANY

Founders of the Tractor Industry
220 Lawler Street CHARLES CITY, IOWA



Many of the old Hart-Parrs that plowed the virgin prairie of the Northwest are still in use today.

ABUNDANT POWER FOR THREE PLOWS. WEIGHS 5158 LBS.

HART-PARR 30

NINETEEN YEARS TRACTOR BUILDING EXPERIENCE

A Real Stock Show at Denver

Kansas Men Won First in the Judging Contest

BY F. B. NICHOLS

THE National Western Livestock Show at Denver last week was of unusually high educational value. It was the largest of the fourteen annual livestock expositions at Denver, in both exhibits and attendance. The exhibit of breeding Herefords was unusually good. There was a spirit of optimism shown by the livestock men which was well reflected in their conversation and in the sales.

Ninety-nine head of purebred Hereford and Shorthorn breeding cattle sold individually at two auctions netted their owners \$93,855, breaking all previous records for the West. One Hereford bull brought \$7,500, Panama 76th, bred by A. B. Cook of Townsend, Mont., went to W. H. Donald, of Melville, Mont., for that amount. The previous high price for a bull sold in Denver was \$5,000.

Princeps Domino, a Hereford yearling owned by Fulscher & Kepler of Holyoke, Colo., was a close second, selling to E. M. Candor of Versailles, Ky., for \$7,300. Gay Agnes, bred by Johnson Bros. of Eagle, Ohio, was the highest priced cow, bringing \$6,500 from O. Harris & Sons of Missouri.

Fifty Head Bring \$74,650.

The 50 Herefords offered for sale brought \$74,650, an average of \$1,490 each. The bulls averaged \$1,711 each and the cows \$1,190.

Shorthorns did not bring as high prices as Herefords, but several animals sold well. Northern Light, a white imported Shorthorn bull, brought from England by C. A. Hauf & Sons of Glendo, Wyo., was sold for \$1,000 to C. K. Mansfield of Cain, Wyo. Model Renown, sold by H. M. Erwin of Loveland, brought the same amount.

The grand champion carload lot of Poland China hogs, owned by J. N. Hamil of Proctor, Colo., sold for \$25.75 a hundred. The grand champion carload of fat lambs, exhibited by F. A. Starkweather of Blackfoot, Idaho, was sold at \$35 a hundred to the Brown Palace hotel, which also purchased several other lots. Another record was broken when Johnson Bros., of Eagle, Colo., sold a carload of 20 Hereford heifers to O. Harris & Sons for \$20,000. A year ago Harris & Sons bought a carload of sisters of these animals from Johnson brothers at \$650 a head. Within a year they were sold at a good profit.

Kansas breeders made an excellent showing. A. S. Neale of Manhattan won more than half the prize money awarded in the Holstein classes in close competition; several classes containing 25 or more entries. He showed the junior champion female. Park Salter of Wichita entered the grand champion Shorthorn bull and cow. A. C. Taylor of Alta Vista showed a carload of yearling Hereford bulls that won fourth in a class of 56 carloads. The Fort Hays Experiment station showed the best carload of Galloway steers.

The Kansas State Agricultural col-

lege made a good record in the steer classes. This included a championship on Fancy Rupert, the undefeated Hereford. This steer was champion at Denver last year, and at both Kansas fairs, the Royal and the International. The college also won first on senior Hereford steer calf and first on junior calf.

In the Shorthorn steer classes the college took first on junior yearling and first on senior calf, and the yearling was the champion steer. In the Angus classes the college took first on senior calf. An equally good record was made by the college in the sheep department, it winning many firsts in close competition with imported animals.

Kansas Won in Judging

The stock judging team from Kansas, in charge of F. W. Bell, won first with 3,427 points out of a possible 4,000. Nebraska was second with 3,396 points; Colorado, third, 3,125; and Wyoming, fourth, 2,697. K. D. Thompson of Densmore, Kan., was the high man, with 715 points out of a possible 800. The Kansas team won the National Western Livestock Show trophy and the Clay-Robinson prize of \$150. The other members of the team were N. Pearson, Manhattan; P. E. Neale, Manhattan; H. R. Gullbert, Wallace; and W. R. Holacher, Colby.

There was considerable talk among the stockmen concerning the growth of Denver as a livestock market. In speaking of this J. A. Shoemaker, manager of the Denver Stockyard Co., said: "The close of 1919 rounds out the biggest year in the history of the Denver livestock market. The largely increased receipts of livestock handled and sold at Denver reflect the confidence of the stockmen of the West in the permanency and stability of that market and serve to establish it as one of Colorado's greatest commercial institutions."

"As the old timer stands on the elevated walkway at the yards and gazes out over the expanse of pens and up-to-date buildings comprising the plant of the Denver Union Stockyard Company, which provides the most modern facilities for handling livestock, he cannot fail to be impressed with the remarkable growth and development of the enterprise started in such a primitive way back in the early '80s when a few local dealers bid off such supplies of beef as were offered at the old Bullhead corral on Wazee street and trailed them over the mountains for distribution among the mining camps of Gilpin county. It's a long step from that day to this—not so long in years as in things accomplished, for in that period the Denver market has been built up into an important livestock center and it has in itself become a great influence in the development of the West and a real asset to the man who raises or feeds livestock for market.

"The showing which Denver has

(Continued on Page 51.)

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Many magazines have announced an increase in their subscription price. Others are contemplating advancing. We can still offer a few magazines however, at bargain prices. Order today.

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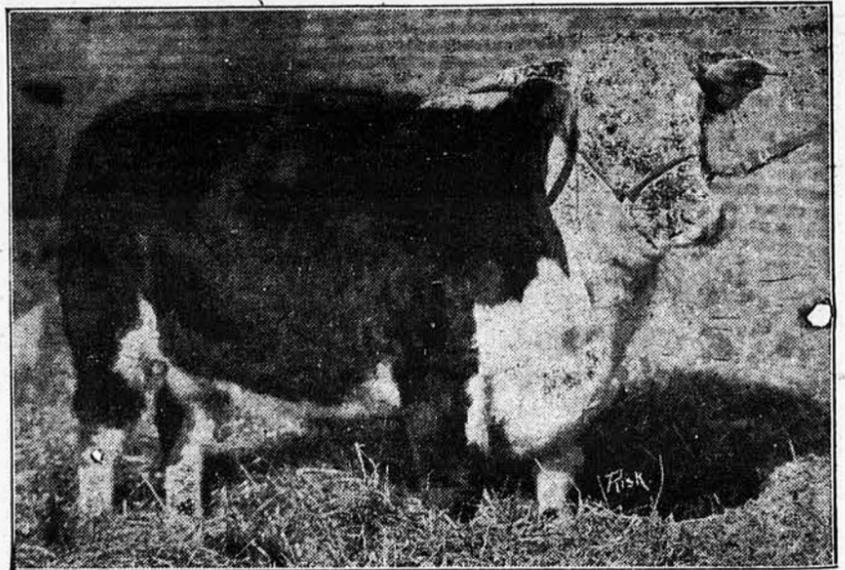
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Enclosed find \$..... for which send me all the publications in Club No..... for the term of one year.

Name.....
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Fancy Rupert, Champion Hereford Steer at the Western Livestock Show Owned by the Kansas State Agricultural College.

Tom McNeal's Answers

Clouded Title

A bought city property on the installment plan from B, under a contract providing that B was to give A a clear title and abstract upon final settlement. A died and his widow made final payment without waiting for the installments to come due, making check for full amount but having the check held at the bank until a clear abstract of title was delivered. Upon investigation it was found that there was a mortgage against all of B's property including this sold to A. B and the mortgage company are engaged in a law suit and B says he cannot give clear title until the suit is settled, but the matter has run for over a year and he still fails to make settlement. What can A's widow do to force a settlement? **MRS. J. P. R.**

She might interplead in the suit between the mortgage company and B, asking that the court determine what if any proportionate liability attaches to her property. This amount could be ordered of the court be deposited with the clerk of the court by the widow, to be held pending the determination of the suit between the mortgage company and B. Then the court could issue a decree granting her clear title to the property. When the controversy between the mortgage company and B is finally settled if the amount of money held by the clerk of the district court is more than sufficient to pay the proportionate share of this property's liability provided there should be any liability, the surplus would be turned over to B. I am assuming of course that the amount deposited would not be greater than the amount due to B of the original contract with A.

Is He Liable?

Is a man liable to a thresherman for the amount of his threshing in case he promises him the job and then because he is slow in getting around lets another thresherman do the job? **MRS. W.**

The rule of reason and common sense would govern in that case. If a farmer gives a thresherman an indefinite promise to let him do his job of threshing, he is only bound to wait a reasonable time. If the delay of the thresherman in getting around is likely to result in loss to the farmer by the spoiling of his wheat, for example, he is not bound to wait simply because he made an indefinite agreement with the thresherman to do his job. Definiteness is essential to a valid contract. A contract which does not fix any time in which it is to be fulfilled is not enforceable, but if a farmer should say to a thresherman "I wish you to do my job of threshing. Any time in the month of August will be satisfactory to me," and the thresherman promises that he will do the job in the month of August I think that would be sufficiently definite to make it an enforceable contract, but if the farmer should simply say to the thresherman, "I wish you to do my threshing next year," the contract would in my opinion be so indefinite that it could not be enforced.

Tenant's Rights

I am buying a farm and desire possession as soon as possible. The tenant says he rented the farm five years ago; had a lease for one year subject to sale with privilege of extending lease one year or two years if land was not sold. The farm has changed ownership twice and I will be the third owner, the other two allowing the tenant to remain on a verbal agreement. He plowed for wheat and feels that he has a right to stay another year because he did not receive notice to vacate before he began plowing for wheat. How soon can I get him off and what kind of a notice is necessary? Would a written contract requiring him to vacate the place on March 1 with the privilege of harvesting the wheat be sufficient notice for him to vacate on March 1? **T. R. G.**

Certainly, if he signs that sort of contract it is sufficient to bind him to give possession on March 1. If he does not you can give him 30 days' notice to vacate on or before March 1. He would still have the right to harvest the crop but not the right of possession of the premises.

Divorce.

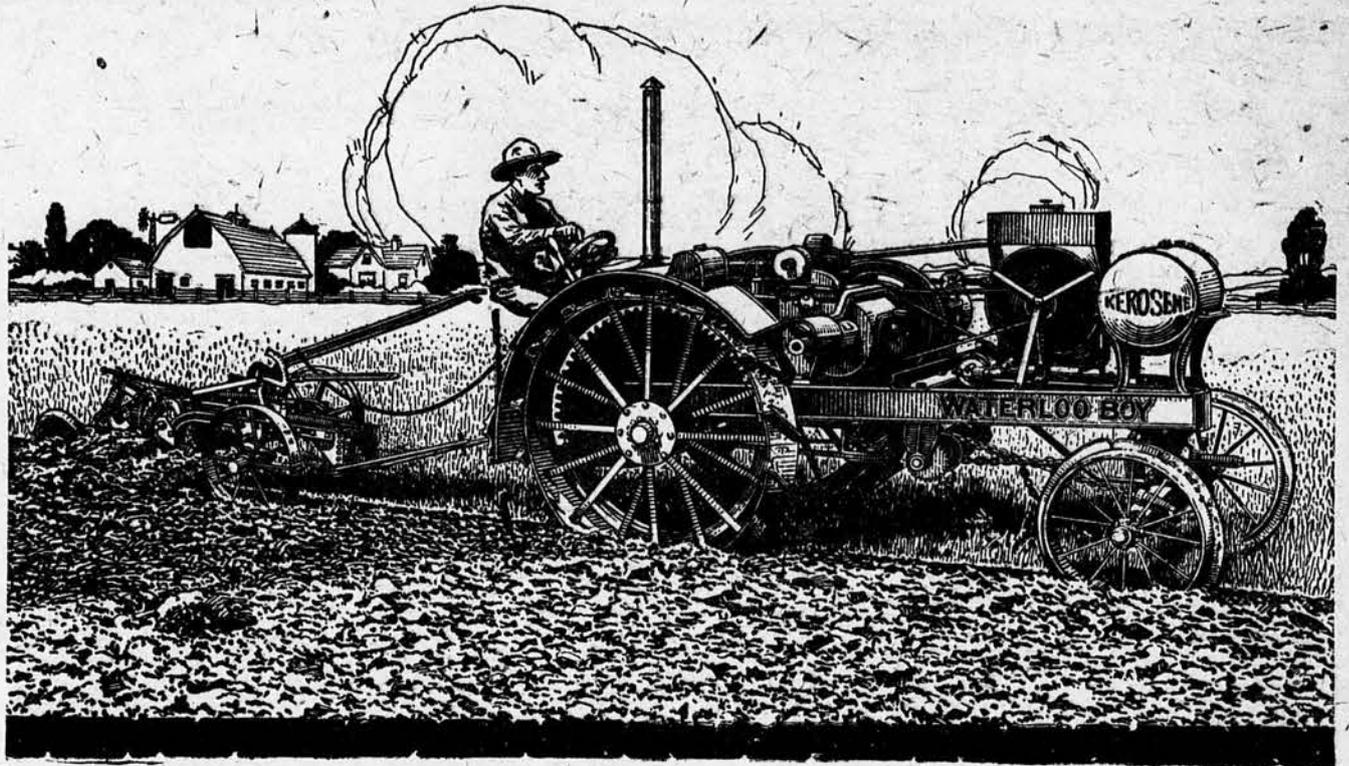
How long does a couple have to be separated before they can obtain divorce? **CONSTANT READER.**

Separation is not necessary to obtain a divorce. There are a number of other grounds on which divorce can be obtained in Kansas. If abandonment is the ground it must be for a period of one year.

Renter Can Claim the Roughness

A rented a farm from B, giving half in the crib. Nothing was specified about the roughness. Can B claim the stalk field? **SUBSCRIBER.**

He cannot.



Power You Can Rely Upon

To make you the most profit, each of your different farm operations must be timely. Often weather conditions call for extraordinary effort. It is then that you can count on the dependability and rugged power of the Waterloo Boy.

WATERLOO BOY
BURNS KEROSENE COMPLETELY

It gives you dependable service at small operating cost. Its twin-cylinder engine develops full 12 H. P. at the drawbar and 25 H. P. on the belt, using kerosene as a fuel. A patented manifold converts every drop of this low-priced fuel into power. Two gallons of kerosene per acre is the average amount used when plowing.

The cooling system always holds the engine at the proper temperature. While the motor runs at the right temperature for perfect lubrication,

enough heat is maintained to insure complete combustion and full power. The radiator holds thirteen gallons of water. You don't have to stop in the field every few hours and fill it.

The Waterloo Boy is especially strong and rugged. Its various parts are designed to meet every possible strain. Every part is easy to get at. The engine runs without vibration. Its well-balanced weight provides proper traction in soft ground.

Buying a tractor is an important investment. We have a booklet describing the Waterloo Boy fully. Drop us a postal card or letter today. Address John Deere, Moline, Illinois, and ask for booklet WB-511.

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BROOKS' Appliance, the modern scientific invention, the wonderful new discovery that relieves rupture will be sent on trial. No obnoxious springs or pads. Has automatic Air Cushions. Binds and draws the broken parts together as you would a broken limb. No salves. No lies. Durable, cheap. Sent on trial to prove it. Protected by U. S. patents. Catalogue and measure blanks mailed free. Send name and address today.

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Thousands of Farmers are Using Wright's Condensed Smoke (made from seasoned Hickory Wood). A small brush, thirty minutes and a \$1.00 bottle Wright's Smoke, smokes a barrel of meat. Smokes it thoroughly and gives the meat a delicious flavor. No fooling with fires. No danger of meat spoiling. No drying out or shrinkage. Easier, Cheaper, Quicker and better than using a smoke house.

Curing Meat Before Smoking is very important. Wright's HAM PICKLE is a scientifically prepared sugar cure that gives perfect results. A \$1 jar and 27 pounds of salt cures a barrel of finely flavored hams and bacon.

Wright's FARM BUTCHERING SET (Nine regular butchers' tools, including saw and cleaver) should be on every farm. We buy in carload lots and Re-sell at Cost - \$3.95. Send for instructive booklet: "The New Way of Smoking Meat."

All Wright Products are Guaranteed. Sold by All Drug and General Stores.

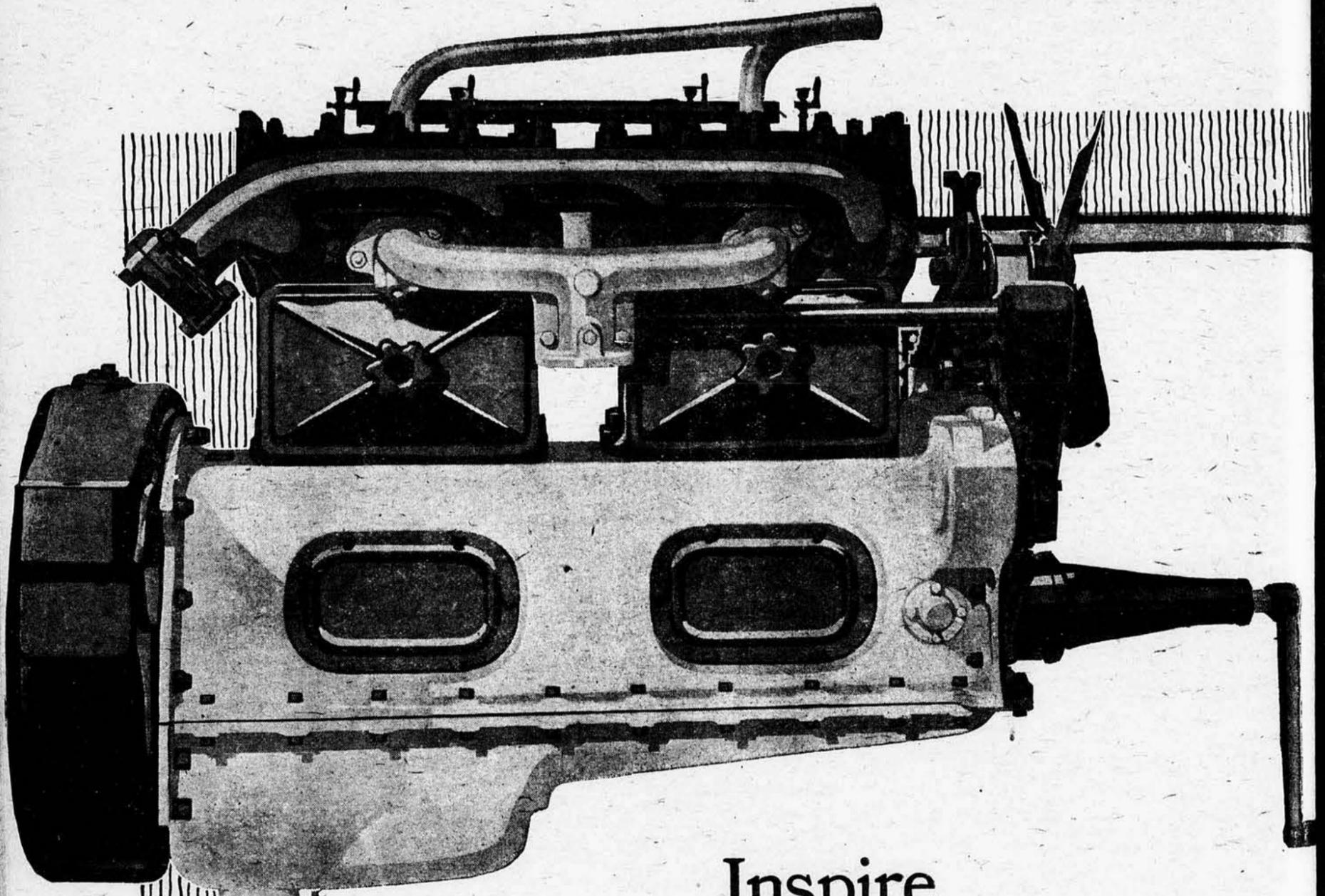
E. H. WRIGHT CO., Ltd., Established 1895 516 Broadway Kansas City, Mo.

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The high torque principle of construction, embodied in Waukesha Motors, has proven by unfailing performance to be correct.

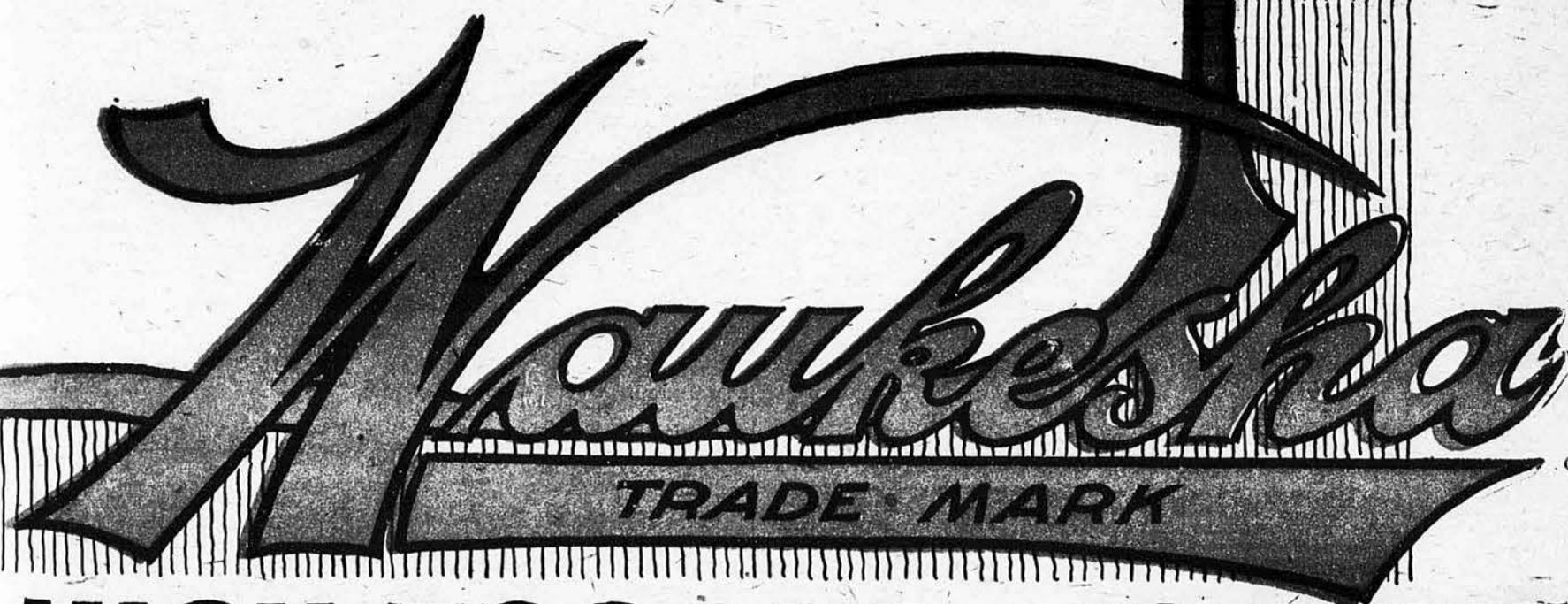
Over the road or through plowed fields, Waukesha Motors maintain maximum pull at usable speed. The result is unfailing service plus economy of operation and upkeep.

Because of the steadily increasing public demand for more efficient power plants, America's foremost automotive equipment manufacturers are installing Waukesha Motors.

By specifying a Waukesha High Torque Motor in the tractor or truck you purchase, you too will experience the feeling of confidence engendered only by dominating performance.

WAUKESHA MOTOR CO., Waukesha, Wis.
The World's Largest Builders of Tractor and Truck Motors Exclusively

Watch for Waukesha powered equipment on the field at The Wichita Threshermen's and Tractor Show, to be held Feb. 9th to 14th. There will be a special exhibit of Waukesha Motors at the Kansas City National Tractor Demonstration, February 16th to 21st.



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MAXIMUM PULL AT USABLE SPEED

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8-32-12	8	32	12	Throughout	6.5	.37 1/2	.42	
8-32-6	8	32	6	For example	8.25	.47	.53	
9-39-12	9	39	12	8-32-6	7.25	.41 1/2	.47	
9-39-6	9	39	6	3 inches, 3 1/2, 3 1/4	9.25	.53	.59 1/2	
10-47-12	10	47	12	4 1/2, 5 1/4, 6, 6	8.00	.45 1/2	.51 1/2	
10-47-6	10	47	6		10.25	.58 1/2	.66	
Extra Heavy Stock Fence, No. 9 1/2 Gauge Throughout								
H 7-26-12	7	26	12	Spacing between lateral wires	9.90	.55	.64	
H 8-32-12	8	32	12		11.50	.64	.74	
H 9-39-12	9	39	12	3 inches, 3 1/4, 3 1/2	13.10	.73	.84 1/2	
H 10-47-12	10	47	12	4 1/2, 5 1/4, 6	14.90	.87	.96	
Combination Poultry and Stock Fence								
15-48 P	15	48	6		13.00	.74	.84	
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Barbed wire 2-pt. hog, 3-inch spacing, wt. 80-rod spool, 80 lbs.						4.65	5.05	

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Kansas Farm News Notes

COUNTY farm agents, progressive farmers, and all readers of the Kansas Farmer and Mail and Breeze are urged to send us items of farm news that they desire to have published in this department of the paper. It is our plan to make this a regular feature of the paper and we need your help to make it a success. Mail your material to us at the earliest date possible.

Jackson County Farmers Meet

One hundred and fifty of the most progressive farmers of Jackson county sat down to a banquet in the chamber of commerce rooms at Holton last Monday. The occasion was the second annual meeting of the farm bureau of the county. A membership drive as systematically planned as the various war drives was to continue thru the remainder of the week. Each township had its captains and workers appointed and it was the purpose to visit every farmer in the county, soliciting his membership in the farm bureau. The annual membership fee was raised from \$1 to \$3. Among those present from outside the county and taking part in the program were H. Umberger, dean of the Extension Division of the Kansas State Agricultural college, Ralph Snyder of Oskaloosa, member of the legislature and G. C. Wheeler, one of the associate editors of the Kansas Farmer and Mail and Breeze. Frank Dixon of Holton was re-elected president of the farm bureau for the ensuing year by a unanimous vote. A feature of the meeting was the report of the county agent, E. H. Leker, in which he told briefly of the various projects that had been successfully and profitably carried out during the past year. It was decided by unanimous vote to federate with the Kansas State Farm bureau.

Profit in Dairying

A net profit of \$330 is reported by Frank A. Goodwin, a well known farmer near Scandia, Kan., as the results of dairying on a small scale during the past year.

Poultry Commands Premium

A premium of 2 cents a pound over the market price for average heavy poultry was paid a Shawnee county farmer recently for 50 purebred White Wyandotte cockerels. The purchaser commented on their uniformity in weight and general appearance. The total weight was 300 pounds and there was less than a pound of variation between the lightest and the heaviest. The premium of 2 cents over the price paid for average stock of the same weight amounted to \$6 on this single consignment. The produce company will give the cockerels a short finishing feed before dressing them for market.

Farmers in Congress

Kansas has one practical farmer in Congress, Hays B. White, of the Sixth district. A recent compilation shows a number of crafts and trades are represented, Halvor S. Steenerson, of Minnesota, and Carl W. Riddick, of Montana, are also listed as practical farmers. John G. Cooper, of Ohio, stepped from the locomotive cab to take the oath of office. William J. Burke, of Pennsylvania, was a train conductor. Mahlon M. Garland, of Pennsylvania, was an iron puddler. Frank W. Mondell, of Wyoming, majority leader in the House, once swung a pick in the mines. Henry Z. Osborn, of California, Albert Johnson, of Washington, and Benjamin K. Focht, of Pennsylvania, worked at the printer's trade. John W. Summers, of Washington, and Caleb R. Dayton, of Delaware, are physicians.

Celebrate National Prohibition

Shawnee county Grangers to the number of 150 representing 15 local Granges of the county celebrated the coming of national prohibition January 16 with a dinner and program in the banquet room of the first Presbyterian church of Topeka. It was a most enthusiastic gathering. O. W. Neil, secretary of the Pamoona Grange, acted as

toastmaster. It was decided to select January 16 as a day for an annual prohibition celebration. A history of the prohibition fight in Kansas was given by I. D. Graham, member of Oak Grange and an active member of Granges in Kansas for the last 35 years. Mr. Graham quoted Senator Capper in giving the many material and moral advantages that had come to Kansas as a result of its fight on booze. Glen Pollum, who spoke for Indian Creek Grange, brought out the fact that the Grange has always stood for national prohibition and that no habitual drunkard could hope to become a member of the organization. In addition to the various speakers representing the local Granges of the county there were addresses by State Master B. Needham of Lane, Kan., and Ernest McClure of Greeley, business manager of the Kansas Grange Monthly.

High Record Cows

F. E. Peek, Sumner county, who sold his herd of grade Holsteins last fall and replaced them with registered animals, has a cow that gave more than 100 pounds of milk in one day recently while undergoing an official test. This cow produced twin calves. Her seven-day production of milk was 634 pounds. The butterfat as shown by the test was equivalent to 22.23 pounds of butter for the week. The best single day of milk production was 100.5 pounds. Another cow of Mr. Peek's on official test produced 531.9 pounds of milk and 21 pounds of butter in seven days. Her best single day's production of milk was 85 pounds.

Kansas Judging Team Wins

The stock judging team of the Kansas State Agricultural college took first place in the judging contest held in connection with the National Western Stock Show held in Denver. The Nebraska boys won second, Colorado third and Wyoming fourth. K. D. Thompson of the Kansas team was high man of the contest, winning the individual trophy for best judge of all classes of breeding stock. Mr. Thompson was second high man of the Kansas team at the National Swine Show held in Des Moines, and was high man of the team at the International Livestock Exposition at Chicago. Of the three trophies offered at Denver the Kansas team won two and \$185 of the \$225 offered in cash prizes. In the three big national contests in which the Kansas team has competed, representing a total of 26 teams entered, it has a first, second and third to its credit. All stock-judging teams in the United States and Canada, except Texas, have been defeated by the Kansas team one or more times this season. F. W. Bell, professor of animal husbandry, coached the team. Five members of the team are K. D. Thompson, Densmore; P. E. Neale, Manhattan; W. R. Horiacher, Colby; H. R. Guilbert, Wallace, and Nevels Pearson, Manhattan.

High Priced Farm

W. E. Doornbos, of Douglas, Kan., paid \$40,000 cash for the George Haver farm near El Dorado recently. This is one of the highest prices ever paid in this section for land strictly on a farming basis. This farm is not in oil producing territory. Mr. Doornbos wanted to get nearer to El Dorado and found this highly improved 320-acre farm suitable to his purpose.

Dr. Graefe Promoted

Dr. H. M. Graefe has been appointed Federal Inspector in charge of the Bureau of Animal Industry work in Kansas to succeed Dr. B. W. Murphy whose resignation took effect January 9. Dr. Graefe has been connected with this work in Kansas for some time and has been particularly active in promoting the accredited herd plan of wiping out tuberculosis. His headquarters are in the Federal building of Topeka. The new assistant in the office is Dr. L. S. Campbell of Kansas City, Kansas. Dr. Murphy, who came to Kansas to take charge of the federal government's fight on hog cholera several years ago, goes into private business.

Farm Questions

All inquiries about farm matters will be answered free of charge thru the columns of this department. Those involving technical points will be referred to specialists for expert advice. Address all inquiries to John W. Wilkinson, Farm Question Department, Kansas Farmer and Mail and Breeze, Topeka, Kan.

Pull of Gas Engine

What is the effective pull of a 6 horse power gasoline engine on a saw, when using a counter shaft and appropriate pulleys, and on changing the pulleys on the engine and driving the load direct? J. B. LEE, Atlanta, Kan.

The direct drive will permit the greatest power being delivered to the saw pulley. The chief consideration being that provision is made either with an idler pulley or by moving the entire saw table so as to get proper tension on the belt.

The counter shaft bearings absorb power in every bearing, and there are two chances for slippage of belts; with direct drive all bearing friction other than the saw and engine is eliminated. Belt slippage is possible at one place only, hence, more of the engine power gets to the saw by direct drive than can possibly be done using counter shafts.

However, if other work is to be done with the same engine and the engine is stationary there is a strong probability that it would be better practice to have a line shaft driven from the smaller engine pulley. The proper size of pulleys mounted on the line shaft for driving the various machines at their rated speed, would simplify such a problem very much, and permit the engine to do its work at the speed it was designed for, with the least expenditure for fuel, oil, and attendance. W. H. Sanders.

Light Brahma Fowls

Will you please refer me to persons keeping the Light Brahma fowls? How do they compare with the Rhode Island Reds for laying? MRS. PAT CASEY, Alamosa, Colo.

I would suggest that you write Harvey C. Wood, River Road, Bound Brook, N. J., asking him for information regarding the Light Brahma as published by the Light Brahma club of which he is secretary.

The Brahmas usually are not believed to be quite the equal of the Rhode Island Reds for egg production although there are many flocks which are just as heavy layers as the Reds. The Brahmas average about 3 pounds heavier than the Reds. I. B. Reed.

About Smoked Meat

Is there any advantage in smoking meat and does it really preserve the meat? What kind of wood are the best to use for making the smoke? J. L. SAMPSON, Okla., Kan.

Smoking meat coats the outside surface with a thin layer of creosote which not only kills all germs present, but gives the meat a desirable flavor. Hickory, maple, and pecan wood are the most satisfactory, but ash and oak are sometimes used. Pine and other resinous woods cannot be used as they give the meat a strong disagreeable flavor. J. W. Wilkinson.

Cane Silage for Cows

Have put black cane with cane seed in silo. My neighbor tells me that the silage is injurious to feed, especially to cows and calves. ALBERT CROAK, Symon, Okla.

We have been feeding all kinds of cane silage to our breeding cattle for a number of years and never have had any injurious effects from this practice.

In Western Kansas it is considered one of the very best feeds for carrying breeding cattle thru the winter. C. W. McCampbell.

Kafir Seed

What is the amount of seed likely to be obtained from 100 pounds of good kafir? L. P. SPURLOCK, Okla.

The amount varies with different varieties and with the character of the head and grain. If heads have been cut fairly close and the grain well matured, I think you can count on 75 to 80 pounds of good seed from 100 pounds of heads. The amount may run less when grain is not well matured or if part of grain fails to develop. S. C. Salmon.

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No automobile is bigger than its builders. Continuous satisfaction in the ownership of your car comes not only from thorough approval of performance, but in the pride of its reputation and from the assurance that its makers have the ability and resources to permanently maintain both reputation and service.

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For Our Young Readers

Nancy Shows "In-ju-noo-ty" and is Awarded First Prize

BY JANET L. WIEK
Shawnee County

NANCY came home from school with a sober expression on her usually merry face.

"Mother," she asked anxiously, "what does 'in-ju-noo-ty' mean? Today in school Teacher asked each one of us to make something useful, and to use as much ingenuity as we could. Then she is going to place the things on exhibition and we are going to vote on who has made the best."

"Why," explained her mother, "she meant for you to use your mind as well as your hands, and to make something that would show that you had thought about it."

"Yes, but what can I make, Mother? I don't know of anything and we must have the things ready for next Friday."

"Help Mother with the churning now and after supper we'll see what we can think of," promised her mother.

Nancy flew around with more than ordinary alacrity that evening. She helped with the churning, set the table for supper and wiped all the dishes. "Now, Mother," she reminded, "will you help me think of something to make?"

"Yes, Nancy, get the bag of pieces and we'll see what we can think of."

There was nothing that Nancy loved better than to rummage thru her mother's bag of odds and ends of material, that were left-overs from her own dresses, her mother's dress, and bits of silks and velvets.

They poured the contents on the big round dining table and Nancy bubbled over with delight when some especially pretty pieces caught her eye.

"O, Mother, look, here's a piece of my pink gingham that I wore when I first started to school, and here's a piece of your blue challis dress, and oh, here's a piece like father's black and lavender striped shirt that you made for his birthday."

"But this isn't thinking of what you are going to make," admonished her mother. "How would you like to make a little apron out of this piece of dotted swiss? You could work a feather-stitch around the edge."

"I want to use this piece of pink gingham; it's so pretty," answered Nancy.

Her mother suggested several things, but Nancy finally decided to make three pot lifters, as they required only a small amount of material, and she could use not only the pink plaid gingham, but a piece of father's lavender striped shirt, and also a very gay piece of bright colored cretonne with birds and flowers on it.

They decided that the medium weight materials, which could be laundered, were the best, so Nancy had to give up hopes of using some pretty silk pieces.

Her mother showed her how first to cut the two outer pieces. Nancy measured very carefully with a tape measure, and cut two pieces of the pink gingham, 7 1/2 inches one way and 6 inches the other way. She carefully rounded the corners of two of the pieces—the cretonne and the gingham, so as to form oblong pieces. But she left the striped material with square corners.

For the inside pieces they chose cotton flannel and cut four thicknesses of this 1/4 inch smaller than the two outside pieces. Nancy then carefully placed these four pieces of cotton flannel between her two pieces of pink gingham and basted them all together about 1 inch from the outer edge.

Then she turned in a hem 1/4 inch on the covers of the pad, basted this in place and was ready to whip the edges together. Then came the finishing touches. A pretty blanket stitch in pink finished the edge of the pink gingham. The other two pads she finished with a black edge. A brass ring, sewed securely to one corner, served as a hanger. Nancy had finished the pink gingham pot lifter by bed time, and hurried home from school the next evening to work on the other

two pads. She was highly excited when the day for the exhibition came. Each girl had kept her work a secret, so none knew what the other had made.

During the noon hour, Miss Gibbons, the teacher, placed the various articles on display and when the pupils filed in for the afternoon session, there were many ohs and ahs of exclamation. There were dainty aprons, dust caps,



Then She Made Mother's Aprons.

a collar and cuff set and many other pretty articles.

To Nancy's great delight her pot lifters were accorded first prize. The exhibition was such a success that under the direction of Miss Gibbons the girls formed themselves into a sewing club for the purpose of learning how to sew and make useful articles. They met once each month, and during the summer vacation once each week, and Nancy soon became quite proficient in the use of the needle. She spent many happy hours outdoors on her favorite bench under the trees, sewing, and was especially happy when her mother allowed her to help make her kitchen aprons.

Boys! Boys! Girls, Too!

Three Ponies Will Be Given Away



HAPPY CLUB MEMBER WRITES Following Letter—READ IT.

Dear Sir: Received your letter saying I have won a pony. The pony came November 4th. He is sure a dandy. I am going to call him Beauty. I am very proud of him, and was never so glad in my life as when I received your letter saying I had won the pony, for I had done so little. I am 11 years old. Thanking you ever so much, I am, yours truly.—ADA STORTS, O'Neill, Nebraska.

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1. \$200 Pony, Buggy and Harness.
2. \$150 Pony and Saddle.
3. \$100 Pony.
4. 17-Jewel Watch 20 year case.
5. 15-Jewel Watch 20 year case.
6. 7-Jewel Watch 20 year case.
7. 7-Jewel Watch 20 year case.
8. 3 1/2 x 4 1/4 Folding Eastman Kodak.
9. Ladies' or Gents' Fine Wrist Watch.
10. \$5.00 in Gold.

EVERY CLUB MEMBER REWARDED Send No Money—Just Coupon Below

We have given away a number of ponies. We are going to give away three more in addition to seven other grand prizes. The ponies are exceptionally pretty and as gentle as can be. Say to yourself, "One of those ponies can be mine, because it is going to be given to someone who sends in the coupon below."

All I ask you to do is fill out and send in the coupon and I will immediately send you four packages of beautiful, appropriate post cards to distribute on my wonderful special offer. Don't put this off. Everyone wants a package of these beautiful post cards. They are the newest line on the market—Holiday, Views, Birthday Greetings, Etc.,—wonderful.

As soon as you have distributed these cards you will then be an honorable member of the pony club and will receive an Allied Victory Ring, free and postpaid with the shield of the U. S. A. in beautiful colors, Red, White and Blue. Many do it in an hour's time. Mail the coupon at once—today.

IF YOU WANT A PONY, Mail Coupon—Today

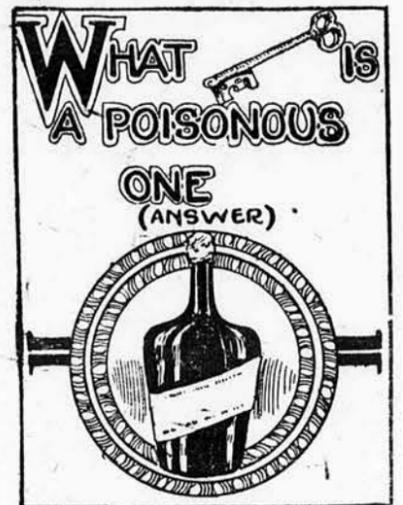
E. McKenzie, Pony Man, 256 Capper Bldg., Topeka, Kansas

Please send me four packages of post cards as I want to be a member of your Pony Club.

Name

St. or R. F. D.

Town State



Send your answer to this puzzle to the Puzzle Editor, Kansas Farmer and Mail and Breeze, Topeka, Kan. There will be packages of postcards for the first six boys and girls who send correct answers.

Solution January 17 puzzle—What goes most against a farmer's grain? A scythe. The prize winners: Magdalena Rosenstengel, Clifford Kirk, Edward Stoppel, Hene Dillman, Jessie Bilson, Alice Poister.

"You," said the reporter politely, "are what they call a self-made man." "No," replied Goldman; "my wife and family helped with advice and encouragement. I'm not self-made. I'm home-made."

Jayhawker's Farm Notes

By Harley Hatch

OUR light snowfall of two weeks ago contained enough moisture to spoil the best winter roads of the last two years. The mud is not deep and cars are running as usual but the going is not pleasant and it takes twice as much power to run a mile. Today, January 17, this mud is drying and in a day or so I think the roads will be ready for the drag. The snow provided moisture for the wheat and it now has enough to carry it until the spring rains fall. I do not expect a very big wheat crop in this part of Kansas this year; the plant does not have just the right appearance and the stand in most fields is thin. If our show for a wheat crop last year at this date should be put at 100 the show for the growing crop should not be set higher than 65.

Our Crop of Oats

The crop of oats raised here last year was much above the average of the country both in yield and quality. It is not often that we excel the North in both for it was not, in former years, considered that we had an oats growing country here. As a matter of fact, oats have been since 1905 the surest and best yielding crop we have had. In a number of years, notably 1910 and 1917, corn was a very short crop while the average oats yield for the county was fully 40-bushels. A local buyer is offering 90 cents a bushel for oats this week delivered in Burlington. I suppose these oats are wanted for seed for at that price oats are clear out of line for feeding purposes.

Spring Plowing

The land available to be sown in oats this coming spring is much smaller than usual in this county. The most of the corn ground was sown to wheat last fall and but little of the stubble ground was plowed and what there was sown to wheat, too. This means that a large part of the oats will have to be sown on spring plowing if the usual acreage is put in; I do not think, however, that the oats acreage will be as large as usual. This will leave a larger acreage for corn and kafir than has been planted to these crops for the last four years. On this farm all the corn ground but 2 acres was sown to wheat last fall which cut out our usual corn ground for oats. As we thought we had to have the usual acreage of oats we plowed 19 acres of wheat stubble in October to be sown to oats this spring.

Butchering on the Farm

A friend writes from Hutchinson regarding the price which dressed hogs should bring as compared with live ones. This was brought up by the paragraph which appeared in this column about two weeks ago regarding the Iowa man who found that if live hogs sold for \$14 he should have \$23 for the dressed hog with the head off; if he received fair wages for the work of butchering. Our Hutchinson friend writes of a farmer there who sold his hogs to the buyer for \$13 except one which he kept for a relative in town. This relative came out and helped butcher the hog, it was weighed before killing and charged for at \$13 a hundred. After it was dressed it was again weighed and the dressed meat cost \$17 a hundred. This shows a loss in dressing of \$4 a hundred, which is more than commonly small. No doubt the hog was a very good one. Our

friend does not state whether or not the dressed hog was weighed with the head on; if it was, that would make some difference. Probably no charge was made for butchering; if not, that would also lower the price, for a farmer who dresses hogs and delivers them in town should be paid for his work.

Producing Pork is Unprofitable

Our Hutchinson friend also writes that the farmer who raised the hogs told of in the foregoing paragraph told him last week that it was the first time in 22 years that he didn't have a hog on the place. In former years he has always raised from 200 to 500 each year. This is one indication of what the hog supply of Kansas is going to be next fall. This farmer also told him that a fair average gain for hogs, year in and year out, is 100 pounds of pork for every 10 bushels of corn and 18 pounds of pork for each 100-pound sack of shorts. If these figures are accurate, shorts are today cheaper hog feed here than corn. Shorts cost \$2.40 a hundred and corn is \$1.60 a bushel. This would make the feed cost of corn-fed pork \$16 a hundred while shorts-fed hogs would cost \$13.33. As a matter of fact, a combination of both feeds would make cheaper pork than either alone. No combination could be devised that would make pork at a profit at present prices, and this takes into account feed prices alone and does not allow anything for hauling feed to the farm and the hogs to town, or the work in caring for the hogs and the risk of loss.

Spring Pasture

A Neosho county reader has a field of rather flat but fairly well drained soil of good quality which was in corn last year. He wishes to get this into grass for pasture and asks regarding English bluegrass. This land has grown both alfalfa and clover and has been well manured. If I wished pasture from such a field I would sow a light seeding of oats or barley this spring, say 1 bushel of oats to the acre, and with it would sow a mixture of English bluegrass and Red clover. Disk the ground well and drill the oats; then sow the grass broadcast if there is no grass seed attachment to the drill and then harrow lightly. Use 14 pounds of English bluegrass seed and 2 to 4 pounds of Red clover to the acre. Both of these grass seeds are very high in price now and if one does not wish to run any risk the field could be sown to oats in the regular way and the crop harvested next summer. The ground should then be plowed about 4 inches deep as soon as the oats are off. Keep it worked down and about the last week in August or the first week in September sow 14 pounds of English bluegrass seed to the acre with a press drill. Do not put the drill down quite so deep as for wheat. It is just a question of weather the coming season, as to which will be best, spring or fall sowing. Do not sow Red clover in the fall.

Newlywed Style

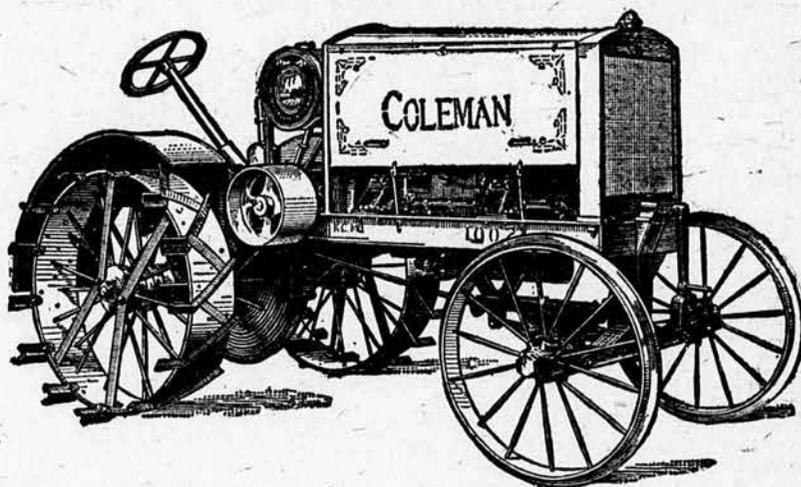
A young farmer's bride who recently undertook the management of the horticultural department of the farm, writes the agricultural editor as follows: "What can I do to make my potatoes grow? I peeled them ever so carefully before planting them, but they haven't even come up yet."—Philadelphia Inquirer.

-Tractor Sense

By Jim Manning

- The only way you can ever get your money out of a tractor is to keep it steadily on the job.
- When labor can't be gotten—you must have a tractor anyhow—at any price.
- Scarce labor has sold many a tractor that lost money for the farmer who bought it.
- A tractor laid up for repairs—a tractor that breaks down when you need it most is a mighty expensive investment.
- Get down to cases. The ONLY tractor you can afford to own NOW is the tractor that works ALL the time.

80 Coleman Tractors in Oklahoma in 1919 Averaged 15c in Repairs



Now, Mr. Farmer—if you cultivate over 100 acres, the Coleman will pay for itself in two seasons. And it will deliver labor when you need it most. It lets you live; it doesn't live off you. The Coleman tractor isn't fool proof. No machine is. But it's this near fool proof. Eighty Coleman Tractors in Oklahoma in 1919 averaged 15 cents in repairs. For example—here's what

Ernest Klump of Bessie, Oklahoma, says:

"The Coleman Tractor I bought last July has given perfect satisfaction.

"Since then we have run it continuously and have threshed an average of sixty-five bushels of wheat per hour. In this year's oats we averaged about four bushels per minute. We are pulling the 24x42 Goodson Separator we got with the tractor and must admit that it has delivered the goods, for the threshing was very tough part of the time, the straw being long and wet.

"We are now plowing and have plowed some of the hardest ground I have ever worked in. We average about twelve acres per day.

"The Coleman hasn't given me a minute's trouble yet. I had been afraid of Tractors until I saw the Coleman demonstrated at Hobart. It seemed to solve the tractor problem and my only regret is that I didn't buy it for harvest."

It's A Worm Drive

The Coleman Tractor is a worm drive. That eliminates about fifty per cent of trouble right off the bat.

Its slow speed, heavy duty type, kerosene burning motor is built for tractor service only.

It's not a freak—it's not delicate—it stands up and delivers work in unexperienced hands.

It's moderate in first cost, and it's absolutely a record breaker in low cost of maintenance.

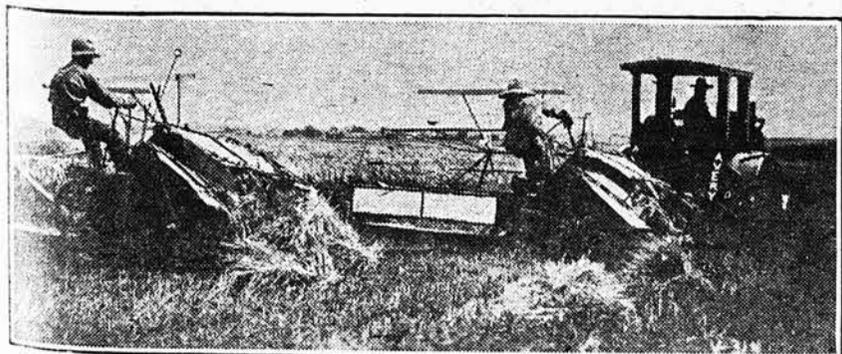
If I can't prove every statement by the actual experience of farmers, you needn't buy a Coleman—I'll give you one.

COLEMAN TRACTOR SALES CO.

James R. Manning, Pres.

KANSAS CITY, MISSOURI

Write for literature today—or see the Coleman at the Tractor Show in Kansas City.



Tractors Pull Self-Blinders More Satisfactorily Than Horses. This is Especially True in Hot Weather at Harvest Time.

With the Homemakers

Stella Gertrude Nash
— EDITOR —

Members of Ladies' Aid Societies Find Many Ways to Raise Money

THE MISSIONARY society of our church earned about \$150 last year. Besides the regular monthly dues and special offerings for the foreign fund, it has made money from the serving of sale lunches, serving for its members and others, quilting, and so on.

Next to the sale lunch, which is the best plan yet, the women have found that the making of sunbonnets thru the summer and aprons in winter is the most popular and profitable work. Comfort tying, too, at 50 cents a comfort is more profitable than the quilting which is done only for pastime and to help out a little.

Ours is a country society and the 28 or 30 members are widely scattered but they are interested and active in meeting the community's needs. The church building is largely kept up thru their efforts. They helped pay for a new stove last year, secured a new individual communion service, bought flowers for the sick and shut-in and made a special gift of \$12 to the Leonard Street Orphanage, Atlanta, Ga. This year a box of clothing was sent there. Among this year's accomplishments have been some new lights for the church and paint for the outside.

Clay Co., Kansas. Isabel Gray.

Added a Primary Room

We haven't room enough in our church for the Sunday school so we decided to add a room for the primary department. The ladies' aid pledged \$200. We furnished the dinner at a farm sale and cleared \$54, then had a bazaar and chicken pie supper, and are now tying comforts for 75 cents a comfort.

Mrs. W. B. Daniel.
Russell Co., Kansas.

More Than Went Over the Top

"Ladies, Mrs. Brown has a plan to lay before us whereby we may raise money to get the long needed seats for our church," announced the president of our ladies' aid society at a meeting called especially for that purpose.

Mrs. Brown arose and said: "A few days ago, I read an article in a magazine explaining how any society might easily earn \$100 by taking subscriptions for a magazine. I wrote the company and think their offer is very generous and fair and we can easily do the work, if everyone will help. How many will help raise the money?"

Every woman in the room rose to her feet.

"The company is sending several dozen sample copies to distribute in the surrounding country. We shall arrange for each one to have a certain territory so not one is missed and time will not be wasted by more than one calling at the same place. Each member will be asked to secure as many subscriptions as she possibly can, then turn her list and subscription money over to one of the women on the subscription committee. If we will unite our strength and work together a few weeks, we will receive our reward of \$100 for our church."

Such a busy time as there was in our community the next three months. Such good times as we had while taking subscriptions, motoring sometimes all day with a picnic lunch at noon by the roadside. We had to contend with the wind and dust, car trouble, cross dogs and other little inconveniences but when evening came, our reward was a subscription from nearly every one of the 30 homes visited, and in one home two names were added to the list.

The sample copies paved the way. Some persons gave because it was for a good cause but we endeavored to impress upon their minds that while we appreciated their help, we considered they were getting value received for their money as the magazine was a good one.

We were so successful that at the end of three months we received a bank

draft for \$106.65. That money went a long way toward paying for the new seats which we now have in our church.

Mrs. B. B. King.
Neosho Co., Kansas.

Good Workers are Necessary

It is our duty to do all we can to keep up the community spirit. Should there be no church or if a new school house is needed, or the old one repaired, we should try to arouse enthusiasm and make people see the need.

There is nothing better than a church to keep up the neighborhood spirit. It can be used for other purposes than preaching once a week. Have a reading room and keep good books and magazines in it and try to arrange a lecture course. It would be interesting as well as instructive. In summer, the canning and poultry clubs are a great help and every community should have a club for mothers.

If our community is not alive to all the issues of today it is because we think too much of ourselves and forget that by helping others we help ourselves. Parents in many communities send their children to Sunday school and expect the faithful few to look

hour of the day. Much of one's success with stock and poultry depends upon careful attention to details during the winter months. Neglect will show in the condition of the animals and their inability to withstand the changeable weather at this season of the year.

It is always a pleasure to me to turn out the hens on bright, warm days and see them enjoy their freedom. They begin by following me to the yard gate, then realizing that they are free to go where they choose, they scatter out in all directions with every evidence of delight. These days of liberty are beneficial to the fowls, too, for they pick up many a stray grain and tuft of green grass that has been protected by the snow.

Big son evidently wants to please his mother or else he has discovered the importance of vegetables in the daily diet. He has been spending every bright sunny day lately cleaning up and preparing the garden for early spring planting. Possibly he learned the value of garden truck during his sojourn in France with the A. E. F.

Now is the time the thrifty farm wife begins to peruse the annual seed catalogs. The writer has decided notions

an inch square and run one end of a stiff wire thru it, bending it up with the pliers so that the sponge will remain in position. Cut off the wire a convenient length, or bend to form a ring at the upper end. You can leave this in your grease can and it is always ready to brush over your griddle. It also is excellent for dipping into the fat and rubbing over the crusts of freshly baked bread to keep them soft.

Mrs. C. B. Smith.

Chase Co., Kansas.

Rummage Sales Increase Funds

We are planning to build a new modern church and this is how we women are raising money. Our aid society meets every two weeks and we quilt quilts, knot comforts, serve dinners at sales, and sometimes we have hot biscuit suppers, rummage sales of discarded clothing and shoes and cooked food sales, selling such food as pies, cakes, bread, baked beans, meat loaf, cottage cheese and sometimes canned fruit. We had a rummage sale on November 21 and 22 and made \$305.

Mrs. Ella Spangler.

Finney Co., Kansas.

Using Every Scrap of Meat

Brain Croquettes—Wash the brains until they are free from membranous matter and perfectly white. Place in a bowl and beat until smooth, then season with salt, pepper, and sage and add 1 teaspoon of milk for each brain. Beat well, add 1 or more eggs to the mixture, and thicken with fine bread crumbs. Roll into balls with floured hands, roll in flour and fry brown.

Sweet Breads in Gravy—Wash well and remove all bits of skin and fatty matter from the sweet breads, cover with cold water and heat to the boiling point. Pour off the hot water and cover with cold until the sweet breads are firm. Stew in a little water until tender, then add a heaping teaspoon of butter and ½ teaspoon of sweet cream for each sweet bread, season with salt and pepper and a sprig of parsley, chopped fine. Let simmer 5 minutes, and serve in a covered dish.

The following menu gives a hearty meal and if there are any leftovers they can be made into appetizing dishes for another meal: Fried sausage with cucumber pickle garnish, milk gravy, mashed potatoes, apple sauce, bread and butter, coffee. I have successfully made the following dishes from the leftovers from the meal suggested:

Drop Pats—Fry a tablespoon of minced onion in a tablespoon of sausage fryings. Add 2 tablespoons of fine bread crumbs and ½ cup of sausage minced. Heat all together, then pour into a dish containing 1 tablespoon of cold gravy and 1 cup of cold mashed potatoes. Mix all together and drop by spoonful in hot lard. Fry brown, turn and fry the other side. Serve on a flat dish.

Sausage Souffle—Beat together 1 cup of cold mashed potatoes, 1 cup of cooked sausage, minced, and 1 egg. Then add enough cold gravy to thin to a thick batter, season to taste and pour into a shallow pan. Sprinkle with bread crumbs, dot with butter and bake in a hot oven while baking the breakfast biscuits. When the souffle is thoroughly browned cut in squares, carefully remove to a platter and serve hot. This is a delicious breakfast dish.

Lydia Smyres.

Cherokee Co., Kansas.

Clean Windows with Glycerine

Washing windows in winter is a cold task but if the glycerine method is used one can wear canvas gloves while doing the work. Simply soak a small rag with glycerine, carefully rub it over every portion of glass in all the sashes, then return to the first pane washed and rub every glass thoroughly with a clean dry cloth. This removes all the



Some of the Folks Who Attended a Recent Farm Sale, Including Members of the Ladies' Aid Society Who Served the Dinner.

Are You Boosting Your Church?

THE LETTERS on this page from women telling how their ladies' aid society is making money for the church will no doubt be of interest to many readers who are looking for new ideas along this line. Every homemaker should be interested in making her church a source of inspiration and helpfulness in the community. With the proper leadership and the backing of the people, the church can be made not only the spiritual center but the social center of the neighborhood and thus become a real force for good.

—Stella G. Nash.

after them. We have 10 teachers and out of the 10 there are nine whose parents went with them to Sunday school. We can't expect our children to be interested long in something to which we can't give an hour a week.

Mrs. L. H. Pittman.

Montgomery Co., Kansas.

From an Old Farm in the Hills

Winter is a delightful season on the farm. It is then we do most of our planning for next season's work and many advance preparations are accomplished. The boys spend many hours mending and oiling harness, handling the new colts to be initiated into the intricacies and perplexities of farm work, getting out the manure and the thousand and one other tasks that fall to the average farmer's lot.

It is not all work at the old farm. We have our evenings by the bright wood fire where we spend the time reading some of the latest books, or practicing together on violin, organ, guitar and banjo—not that we are a musical family. There is not a good musician in the lot but, being remote from neighbors, we are safe in amusing ourselves in this manner to our heart's content.

Winter is a season of chores. Farm animals demand attention almost every

as to which varieties are best suited to the needs of our soil and climate and sometimes these can only be obtained by patronizing a distant seed house. We usually order all the common garden seeds by the ounce or pound, as the case may be, in order to raise an abundance of everything we need.

Little daughter has outgrown some of her soft woolen dresses and I am making the waists of them over into waists for little 4-year-old son. The removal of trimming, the addition of a plain collar and of buttons around the waist band to which the straight bottomed trousers are fastened are often all that is necessary.

Eggless cakes that the children like may be made with ordinary sorghum or Louisiana cane molasses, using soda and sour cream. My recipe calls for 1 cup of sorghum, 1 cup of sugar, 1 cup of thick sour cream, 1 teaspoon of soda, 2 teaspoons of baking powder, salt and spice to suit the taste, flour to make a stiff batter and if fruit is liked, 1 cup of seeded and floured raisins. Bake in a moderate oven about ¾ hour.

If you do not possess a greaseless griddle for frying pancakes, a small contrivance, made in the following manner, will be of great help with the ordinary griddle. Take a sponge about

Farm Home News

dirt. Finish by polishing with a soft paper.

Glycerine keeps glass from steaming and windows washed with it will not frost for a few days.

Cherokee Co., Kansas.

For the February Club Meeting

The members of the Kansas Homemakers' clubs are certain to enjoy the February meeting when the subject under discussion will be "Household Records."

Roll Call—Do I keep any kind of household record?

Paper—The card system of household records.

Paper—The book system of household records.

Discussion—Merits of each.

Paper—The possibilities of records other than monthly expenses.

Discussion, Points—

- 1—How do you know where things are when someone asks for them?
2—If you should find your house burned when you go home tonight could you give an exact list of the things in it and their value to the insurance adjuster?
3—How do you keep track of clippings, recipes, and so forth?
4—Where are the insurance policies, deeds and so forth?
5—Where do you keep the record of your family's visits to dentist and doctor and what the causes and results of these visits were?
6—Where do you keep addresses?
7—Do you know how much you spent last month for food, for clothing, to run the house; how much you saved and how much you gave away?
8—Do you know what you gave and to whom last Christmas and what was given to you?
9—If I want to become as efficient as possible where can I find out about these things?

(Note—Write to the Extension Division of the Kansas State Agricultural college at Manhattan, and to the Children's Bureau, Department of Labor, Washington, D. C., for bulletins covering thrift subjects. "Household Thrift Work" may be obtained from the Savings Division, U. S. Treasury Department, Washington, D. C.

References—"New Housekeeping," Frederick. "How Other People Get Ahead," U. S. Treasury Department. (Free).

What Folks are Wearing

9527—Infants' Barrows. The skirt is a straight piece of material and gathered to a band. Cut in one size.
9517—Girls' and Child's Coat. The



body and sleeves are in one and gathered to the yoke. Sizes, 1, 2, 4, 6, 8, 10, 12 and 14 years.
9525—Ladies' Dress. The demure simplicity of this frock makes it adaptable to woolen materials for general wear. A tasseled girdle and a neat little collar complete the dress. Sizes 38, 40 and 42 inches bust measure.
These patterns may be ordered from the Pattern Department of the Kansas Farmer and Mail and Breeze, Topeka, Kan. Price 12 cents each. State size and number of pattern.

Several letters concerning the steam pressure cooker have been received. Most of the writers wish to know where the cookers may be purchased. Some ask how many half gallon jars they will hold; others if they have a safety valve, and others concerning their durability. The 17-quart size will hold four half-gallon cans and one pint besides. There is a safety valve. It is formed by means of a ball such as is used in an automobile ball bearing and a rod over it held down by two springs. There is an opening in the lid under the ball. When the steam pressure is strong enough to stretch the spring, some steam escapes under the ball. This part of the cooker is the only part that should ever wear out. The ball is easily replaced and the spring ought not to cost a great sum. One is advised to remove the ball after using the cooker so it may not be tarnished and become set in the opening. We have been canning some meat in the cooker and find its use a great convenience. We use the oil stove, as a rule, as it is so easy to regulate the blaze and keep an even pressure.

One handy man made some racks for his wife to use in canning. They were patterned after some that are often advertised for the purpose. Each rack will hold one can and has a base that places the can more than an inch above the bottom of the boiler. The wire used was a little heavier than baling wire. Such racks could be purchased at one time for 10 cents each.

Our county club leader tells us she has 20 or 21 boys and girls who have won the privilege of attending Farm and Home Week at our State Agricultural college with all expenses paid. Some of the young people have been members of garden clubs, pig clubs or canning clubs. Two girls from the demonstration team of our canning club are on the list. These girls were given a trip to the Wichita wheat show with all expenses paid. They felt well repaid for all their work and will thoroughly enjoy this added reward of a week at Manhattan.

Clubs are being formed in the schools in this neighborhood ready for the spring work. It is a good move in the right direction when the teacher gets the children interested in such work. One reason there is so little interest in school in the country is probably the lack of anything but mere routine lesson work.

The Youth's Companion suggests an examination for parents. The writer says that a certain amount of responsibility for the success or failure of a child rests upon the parents. Yet there is no court in which they are tried for success or failure and no one grades them for efficiency. It is suggested that each parent grade himself honestly on each of the 10 following questions:

- 1—How often have I visited my child's school this year?
2—Is the school building well ventilated and well lighted?
3—Do I know the teacher personally?
4—What is my child studying?
5—Have I taken pains to see that his course of study is suited to his nature and will give the right foundation for a successful college or business course?
6—Do I make it my business to know every day how he has done his school work?
7—How does he rank as a student in comparison with others of his class and age?
8—Do I supervise his home study and protect him from all interruption during a regular time set apart for that study?
9—Do I see that he keeps regular hours, and do I insist that social matters do not interfere with his school work?
10—Am I taking my share of responsibility in the mental and moral growth of my child or am I expecting the school to do it all?

How many parents could honestly grade themselves high enough to feel satisfied in severely censuring a child that has failed to pass?
Mrs. Dora L. Thompson, Jefferson Co., Kansas.



You need these two Garden Books

The Secret of successful gardening is in the quality of seeds, combined with the knowledge of how to prepare the soil, how to plant the seed and how to care for the crop.

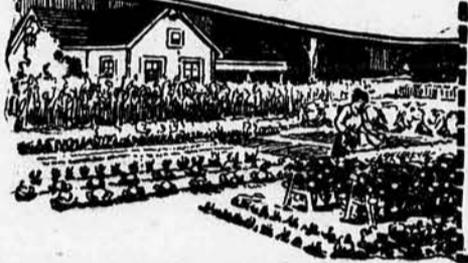
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100 lbs. \$7.50

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100 lbs. \$8.00

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We are prepared to supply the following seeds in the variety mentioned in car lots or 100 pound clean sacks to dealers or growers everywhere. KAFIRS: Dwarf white, Standard white, pink, red, Schrock Feterita, Darso and Hegari. MAIZE: Dwarf cream, Dwarf red, Standard cream, Standard Red. CANES: Amber black, Amber red, Orange fodder, Red top, Early Golden, all good fodder canes. MILLET: Golden, Common. SUDAN: Grass; absolutely free from Johnson grass. Also choice varieties of Sweet Clover and Alfalfa.

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Guymon, Oklahoma

Making a Bed in One Trip

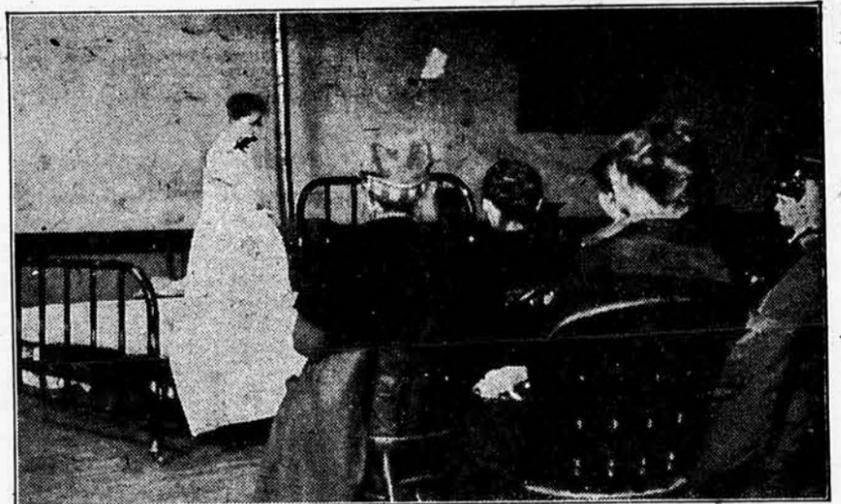
A Few Suggestions That Will Help the Home Nurse

BY MRS. IDA MIGLIARIO

HOW many times a case of serious illness in the home means the rearranging of some bedroom or often the placing of a bed in the living room so that steps may be saved in taking care of the patient. It is not always possible and one would question whether or not it would be advisable to plan and furnish a room to be used only when sickness comes into the family. However, a bit of thoughtful planning whereby some one room would be furnished simply but attractively and in such a manner as to meet the needs of those who are ill most certainly would

who has not tried it to make a bed "in one trip." It is easily done and one saves a great deal of time and many steps. The point is emphasized most when taking care of a patient for then one feels she must work quickly; but it is just as essential that the busy homemaker learn to save herself time and steps and she most certainly can reduce her mileage a day by making a careful study of herself and eliminating all unnecessary steps.

Pillows and covers should be removed one at a time and placed on chairs near an open window. The mattress should be brushed and turned



A Home Economics Specialist from the Kansas State Agricultural College Teaching Homemakers How to Make a Bed "in One Trip."

be appreciated not only by the physician in charge but also by the one caring for the patient.

There are some strong arguments concerning the location of a sick room; some feel the first floor is the ideal place and there are many points in its favor, the chief one being the fact that the nurse would be saved the climbing of steps. Perhaps the strongest point for the placing of the sick room on the second floor is the fact that the patient is then away from the noise of the household and will not be affected by the odors of foods cooking on the kitchen stove. Wherever the room be placed the one point to be emphasized is that a south and east exposure will insure plenty of sunlight—one of the greatest medicines available in illness.

The room should be shorn of all draperies, decorations, and unnecessary furniture; it should be easy to clean and easily kept clean. Polished floors, bare but for a few small washable rugs, are usually considered ideal floor covering for the sickroom because that combination spells sanitation. However, this is many times impossible for one has floors of the old type which need to be entirely covered. If one is compelled to use a room which must be covered with a carpet, or a rug with a heavy pile, it is well to place over it strips of canvas sewed together to make a rug. A canvas covering not only protects the rug or carpet but it is easily kept clean and is not difficult to wash.

A bed, bedside table, a rocker and a straight back chair, a dresser or chiffonier, a few bright, happy pictures in plain frames, and simple curtains at the windows are the only furnishings necessary in the sickroom.

The bed needs to receive special attention. Simplicity and durability should be considered when making the choice. White enamel iron beds, brass, or brass and iron combined, are most easily kept clean and may be found in simple and attractive designs. The bed should be strong enough to stand firm when set up and yet not too heavy to be moved. The springs should be made of double woven wire stretched tightly and fastened to a metal frame which fits smoothly into the head and foot pieces. If the bed is either too high or too low it adds much to the labor of the one working around the patient. The mattress should be light and clean, one which will not absorb odors and can be easily renovated.

It is quite a novel experience for one

back over the foot board to air while the bedstead is being dusted. When the mattress is to be put back in place it should be turned end to end and side to side on alternate days. Unless the mattress is enclosed in a slip it should be covered with a quilted pad or an old blanket, followed by the bottom sheet. When placing the bottom sheet lay the center fold right side up, over the middle of the mattress leaving plenty to be tucked in at the head and foot. Straighten the sheet out on the side on which you are standing. In case of illness the rubber sheet is then placed crosswise over the bottom sheet with the upper edge high enough to meet the lower edge of the pillows. Over this should be placed a draw sheet which is slightly larger than the rubber sheet, the whole being tucked under the mattress and fastened at the head and the foot by turning square corners. One should next place the upper sheet with the wrong side up, so that when the covers are turned back the right side of the hem will show, and with the center of the fold in the center of the mattress. After this has been straightened on the side of the worker the covers may be placed in the same manner. The edge of the covers should come just to the edge of the pillows so that when the patient is in bed and the covers are turned back there will not be any extra weight on the chest. This also allows the upper sheet to cover the edges of the covers so there will be no irritation of the neck and chin. The finish of the bed, that is, the counterpane or bed spread of some light weight material, is then placed and the whole fastened under the mattress along the sides and at the foot by turning square corners. The bed finish can of course be left to hang over the sides if one so desires. The pillow for that side of the bed can then be set in place and one has half of the bed made without taking any steps to speak of. One then goes to the other side of the bed and straightens the linens and covers and fastens them in the same manner as on the side just finished and so the bed has been made by going around it just once and how much better than to spend time and waste muscular energy by placing a sheet and then walking to the other side to straighten it; then coming back to get the second sheet and making two trips to put it on, and so on for everything placed on the bed!

If one has this general plan of making an empty bed well in hand it is

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then an easy matter to make a bed with a patient in it. One should have everything in readiness before disturbing the patient and then if he is able to move himself he should be asked to slip over to one side of the bed; if helpless he should be lifted over. The under sheet should then be pushed up close to the patient. (the home nurse working under the covers to avoid exposure of the patient), and the clean sheet placed just as when making an empty bed. The clean rubber and draw sheets placed in the same way, all securely fastened at the corners and sides of the mattress. After the clean pillow cover has been put on and the pillow laid in place the patient can be moved to the clean side of the bed and the worker can go to the opposite side and pull the soiled linen from under the covers and straighten the clean. The upper sheet can then be changed by spreading it over the covers as they lie on the patient and the freshly aired blanket or puff placed on top of the sheet. And then by holding the clean covers up with the left hand the soiled covers can be pulled from under them with the right hand, and the entire change has been made without disturbing the patient but very little and very few extra steps have been taken by the home nurse.

Women's Service Corner

Readers are invited to make use of this department. When you have a perplexing problem you cannot solve, send it to the Women's Service Editor, Kansas Farmer and Mail and Breeze, Topeka, Kan., then look for the answer in this column. There will be no charge.

Many Overdrapes are Used

I am planning to get new curtains for my parlor this spring. What kind of material shall I use? How wide a hem shall I make at the ends and sides? Shall I use two curtains to a window? What materials are used for colored overdrapes? Are they appropriate for parlor windows?—An Old Subscriber, Osage City, Kan.

There are many materials that would be suitable for the white curtains. Fillet net, madras, scrims and marquises are used for the best rooms. It is simply a matter of choice as one is as good as the others. The hem at the sides of the curtains should be very narrow, not more than about 1/4 inch, while the bottom hem may be from 2 1/2 to 4 inches wide. If you use the overdrapes, it would be better to have two curtains at each window. Otherwise, either way would be correct. Overdrapes are as suitable for the parlor as any other room. Cretonnes, denims, sunfast, poplin and velours are some of the most popular materials used for draperies. The main thing is to get draperies that harmonize well with the other furnishings in the room. Usually plain hangings are best but if rugs and paper are plain, a figured hanging introduces light and contrast.

When Buying the New Linen

Can you tell me how much linen a young bride will need to buy for her new home?—A. A. T., Kansas.

The following articles are usually considered essential to stock up the linen closet: Four sheets for each bed, or if the beds are all the same size, three sheets each; three pillow cases for each pillow; two blankets a bed; two spreads a bed; six face towels a person; three bath towels a person; two bath mats for the bathroom; one large dinner tablecloth; three changes of napkins a week; three everyday tablecloths, if luncheon sets are used or six if nothing else is used; six glass towels a week; six crash towels a week; two oven cloths a week and seven hand towels a week.

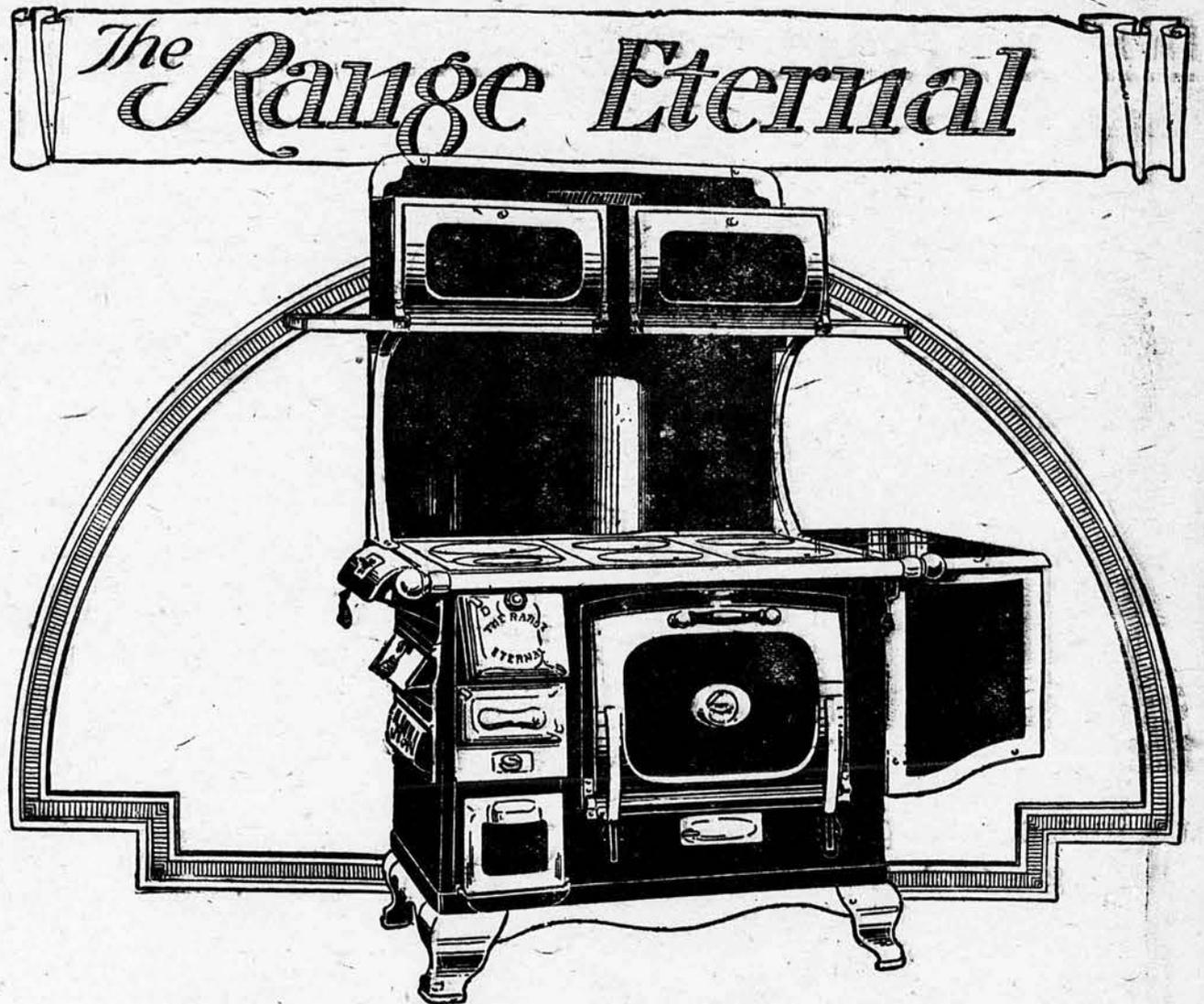
Hominy Recipe Desired Again

Please print a recipe for making hominy. —Mrs. G. D. Scott, Colorado.

A recipe for making hominy with lye was printed in the January 17 issue of the Kansas Farmer and Mail and Breeze. If you have destroyed your paper, send a stamped addressed envelope and we will send you the recipe.

She Received Many Replies

I wish to thank those who have written me concerning carding wool for comforters, thru the "Service Corner." So many replies came to me that I could not answer them personally, much as I would have liked to.—Mrs. W. C. McCormack, Jetmore, Kan.



A New Range

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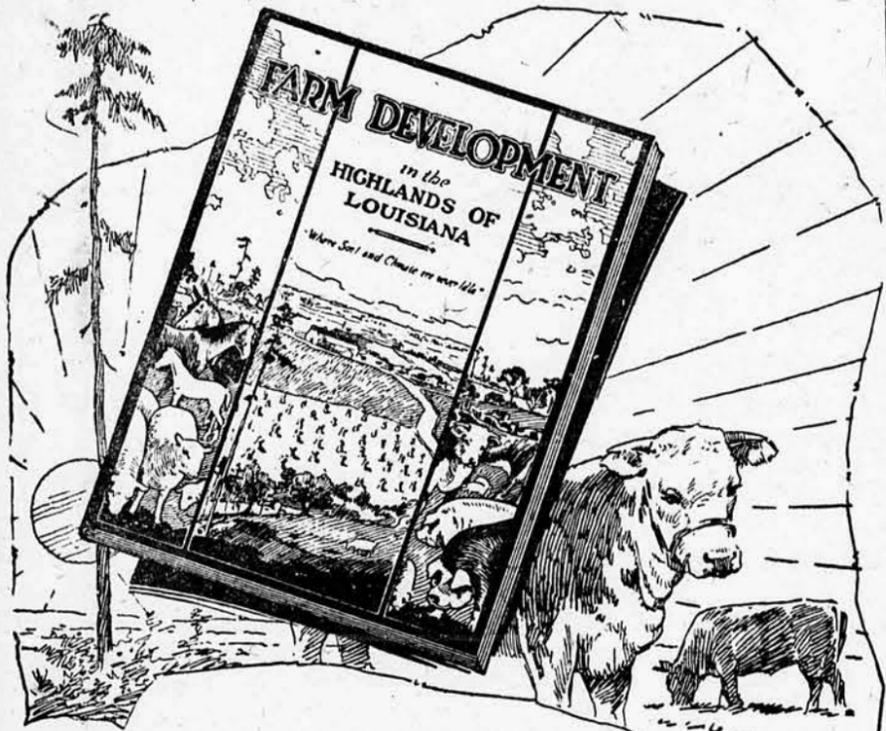
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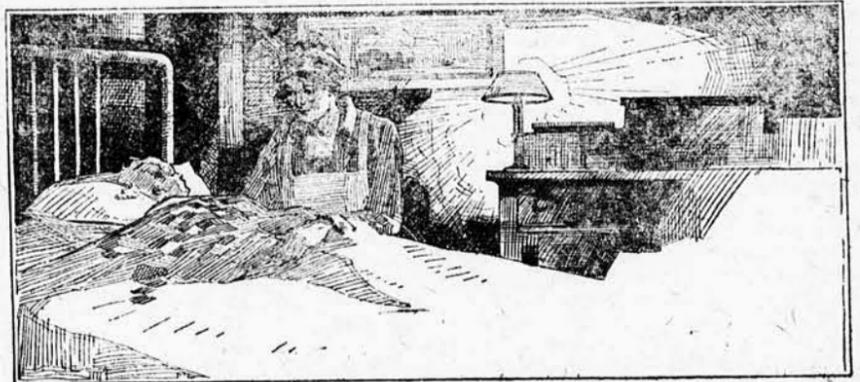
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Health in the Family

BY DR. CHARLES H. LERRIGO



IN EVERY issue of this paper our readers are invited to avail themselves of the services of Dr. Lerrigo thru the columns of his department. No charge is made for this, but when a personal answer is desired postage should be enclosed for reply to each inquiry.

Whooping Cough

What is a good age for a child to have whooping cough? writes a mother. There is no good age for a child to have whooping cough. But the very worst age is in the first year of life and anywhere in the first five years is very bad.

Twice as many children die of whooping cough as die of scarlet fever. Did you know that? And of all the deaths from whooping cough, 55 per cent occur in babies less than 1 year old and 90 per cent are in babies less than 3. So that if your baby does not take whooping cough until school age he has a very good chance to get well, and if he escapes until he reaches adult life the probability that it will be fatal is very small.

Be particularly careful to protect young babies from coughing people, whether children or adults. Whooping cough is a violent cough and sprays its germs of contagion far and wide. A short time ago a young mother who had been seated in church only a few minutes arose from her seat, replaced the wraps on her baby, and left the church. A doctor sitting near hurried out to inquire if she were ill.

"No," she said, "I am all right and so is the baby. I want him to stay all right, too. Over on the other side of the church I heard a cough that sounded like whooping cough. I refuse to take a chance on whooping cough with this boy of mine."

Take no Chances

She was right, perfectly right. Much as I dislike to think that any mother would allow a child with whooping cough to go to church or Sunday school, I know that it is done. I have heard unmistakable whooping cough while traveling on trains and street cars and I have heard it even in a theater.

There is something to be said for the parent who goes out with a coughing child, the cough resembling whooping cough. The cough often persists after the period of contagion is past, and it may happen that a child taking cold again, shortly after recovery from whooping cough will have the paroxysm and the whoop recur, altho the disease is no longer whooping cough. However, I say to the mother with young children, take no chances. Avoid all coughing persons and flee from those who whoop.

It is quite possible for a child to have whooping cough without the whoop. Such cases are common enough. A distinguishing feature that always is present, however, is the fact that the cough comes in paroxysms, quite uncontrollable, and at fairly regular intervals.

Cough is of Long Duration

During the first two weeks whooping cough is much like any other irritating cough. Two weeks will terminate an ordinary cough, but this one only gets more settled into regular paroxysms, and about the beginning of the third week it adds its whoop. Then the ordi-

nary course of the cough is to run for another six or eight weeks.

Medicines are of some value in relieving the severity of the paroxysms and shortening the course of the disease. The remedies must be selected by the doctor to fit the case. I have had no personal experience with the vaccine, but some of my doctor friends tell me they have used it with good success.

The child with whooping cough should be kept in bed during the feverish stage, which usually lasts two or three days. After that he may play both indoors and out according to his strength. I have always found it a good thing to keep children in a fresh, cool room, rather than a stuffy, warm one.

Vomiting is a very common symptom. If a child vomits his meals you must feed him again. Give small meals. Very often the child will manage to retain milk better than other foods. This will keep him going.

Keep the child clean at all times. Quite commonly he will cough up a lot of glairy mucous which may get smeared over hands and face. Wash him more often than usual and give especial attention to keeping his mouth and teeth clean. Change the bed linen frequently.

Do your very best to keep your children from being exposed to this disease, especially children less than 5.

Since there may be among my readers some young mother with a little baby who already has the disease, I must add that even little babies who are well cared for have an excellent chance to get well. My little girl of 5 gave the disease to her baby sister when the latter was only 3 months old. My wife and I had an interesting time for several weeks. There were many restless nights in which we each took care of a coughing child the whole night long, to the exclusion of sleep.

But both the children got well, and the disease left no ill effects in the 3-months-old babe, who is now a strong girl of 17, just in from a bob-sled party.

Answers to Questions

Your questions will be answered in this department without charge. This service is maintained for your benefit, and Dr. Lerrigo will be glad to give you advice upon any matter that you may desire to consult him about.

R. C.: I am sorry to have to tell you that it is quite impossible to diagnose or treat skin diseases of this general nature without seeing the patient. It might be eczema, but it might also be pemphigus, or some other skin disease. You must see a good physician and stay by him until he gets you cured up. All of these diseases are curable, but they are slow to respond to treatment and call for much patience and attention.

J. B.: The "Wasserman" is a blood test made by physicians to see if patients have syphilis. It is comparatively sure but not absolutely. Occasionally a positive result is reported in a blood that has no syphilitic taint. The error lies in the interpretation of the test.

S. R. T.: A woman 66 inches tall and 36 years old who weighs 156 pounds is not necessarily overweight. It may be all good, sound tissue.

Loose Connecting Rod Bearings

BY H. J. METCALF
Iowa State College

There is always a time in the life of a motor when it is necessary to tighten up the connecting rod bearings. The heavy work and hard blows that these bearings are called upon to stand cause some wear which becomes more and more pronounced if the lubrication is slightly inadequate. Some engines are built with plates that may be removed, while in others it is necessary to remove the oil pan or bottom half of the crank case in order to get at the connecting rod bearings.

Drain off all the oil by removing the plugs in the bottom of the oil pan. Tie up the float so that it will not be damaged when the pan is removed and take out the cap screws that hold the oil pan in place. After removing the pan, clear away all of the old gasket and any dirt and grit that is present and wash up the tools before beginning work on the bearings. Do not use cotton waste or rags that would leave lint behind, as this would interfere with the lubricating system.

Take out the cotton pins and remove the form nuts, using a socket or box wrench—open end wrenches may destroy them. Slip the cap and shims from place and keep in position so that they may be put in place again in the original order. Select the leaf or laminated shims and peel off one thin layer. This should be enough to take up the slack unless the bearing is very badly worn. Remove the same amount from both sides of the bearing and after oiling both shaft and bearing with a heavy oil, replace the cap, tighten the form nuts as snugly as possible and then see if the bearing is too tight. Using the crank, turn the engine over slowly—the bearing should fit snug but the engine should turn rather freely. Remember, one tight bearing should not make the motor turn exceptionally hard. When this is done satisfactorily, loosen the nuts and proceed in the same manner with the other bearings. After they have all been taken up, screw all the nuts down tight and put in new cotter pins. Take care that they are spread so that they will not lose out in the oil pan. Replace the gaskets and the oil pan. Do not forget to untie the float oil gauge, and the engine is again ready for work. Treat these tightened bearings with care and give them a chance to get in good working order before putting the engine to a heavy job. Keep the lubricating oil high and use a good grade of it.

A Real Stock Show at Denver

(Continued from Page 38.)

made during the last year has been in keeping with its remarkable record of past years and compares more than favorably with that of other important markets of the country. While 10 of the principal livestock markets of the United States have shown a decrease of approximately 1 million head of cattle for 1919, as compared to the previous year, Denver has shown an increase of nearly 100,000 head. These same 10 large markets show an increase in sheep receipts of nearly 2½ millions, while the increase in the number of sheep handled at Denver alone was nearly ½ million head over 1918, making Denver the third largest sheep market in the United States."

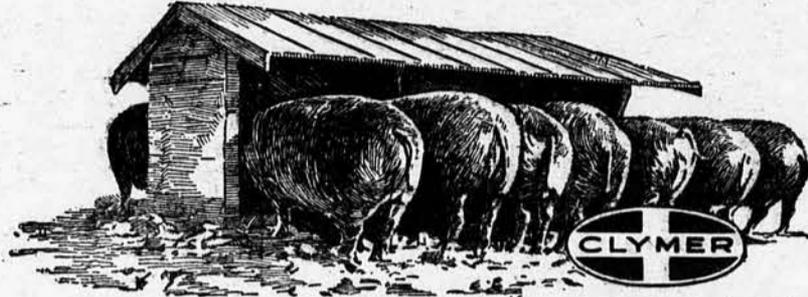
A. E. DeRicques, president of the American Livestock and Loan Co., is optimistic over the future. In speaking of this last week he said: "It is our belief that the livestock business is the best business in the country today. We have a big population, a considerable demand from foreign countries, and whether we have good times or bad times, people have to eat, and our industry will stand up as well as any other. It is our advice to those who have made that business their life-work to plan to continue in it, possibly more moderately than during the last year or two, but to gradually get back to normal and not let any bad luck stop them entirely."

Indulgent Father

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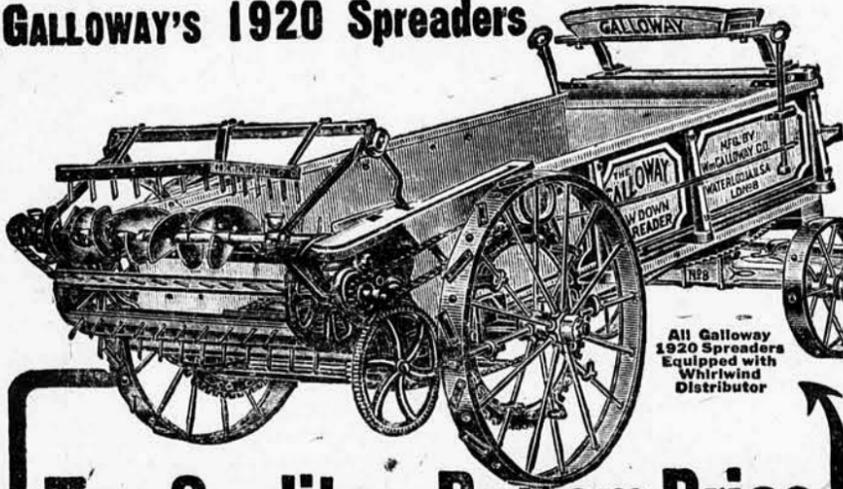
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Classified Ads turn it into Cash

Money Made in Dairying

Larger Pasture Areas Made Possible by Tractors

BY ERNEST WALKER

EVERY person who has kept dairy cows knows that one of the serious problems that the dairyman has to consider is the matter of providing plenty of forage and pasture crops. Buying expensive feeds reduces the profits to a minimum and frequently entails a heavy loss. To increase the milk flow we must give our cows plenty of succulent feed. For some time I wished to increase the number of cows on my farm but could not do so on account of a shortage of pasture. I had several horses for which feed had to be provided as well as the cows. Labor was scarce and difficult to get at any price so that it was out of the question to think of attempting an increase in the acreage of my crops thru the use of additional horses. So I decided to sell them and buy a tractor. By that plan I concluded I would be able to increase my acreage for crops with the minimum requirement of labor. Therefore I bought a Titan 10-20 kerosene tractor and learned that for raising wheat and oats, it supplies all the power I need. I sowed 180 acres of wheat last fall without horses. I used it to pull a three-bottom plow, a double row lister, to cut down ridges, pull double disk, and a five-section drag harrow. I also used it for drilling. The worst trouble I had was cutting down the listed ridges. The wheels were not the right width apart to run in the furrows and I couldn't keep them on top of the ridges but I got busy with some old Deering push binder bull wheels which were just the same size as the drive wheels of my tractor. I used McCormick

binder wheels for the front wheels. After bolting the four binder wheel rims to the tractor, I had a regular clod-pulverizing outfit and I had but very little trouble to keep it on top of the ridges. I ran it on top of the ridges and hitched a ridge "buster" straight behind it, and a disk behind this, with a drag harrow in the rear to smooth up the job. With this outfit I finished two ridges at a time. After cutting the ridges I hitched to a five-section drag harrow and harrowed all my plowed and listed ground. When I had the ground in good condition for seeding, I pulled two 12-disk drills and sowed the wheat. After I had plowed and listed 130 acres and sowed it, I decided to disk the remainder so I pulled a 7-foot double disk with a grain drill tied on behind and disked and drilled 50 acres more. We didn't have rain until September 1 and without my tractor I wouldn't have got very much wheat sowed. I had no trouble with the tractor that I couldn't remedy myself and I didn't spend anything for repairs during the season. I spent \$93.70 for coal oil, \$2.40 for gas and \$29.50 for lubricating oil and grease. I haven't had my tractor very long but I certainly would not like to start farming with horses again as I believe I can do any work with it that any other man can do with horses when it comes to raising wheat and other small grains or pasture crops for dairy cattle. I paid 35 cents a bushel for threshing this year so I intend to buy a small grain separator and do my own threshing next season. I believe I can do it cheaper than that by such a plan.

Winter Work for Tractors

Expensive Equipment Should be of General Utility

BY W. H. SANDERS

MANY TRACTOR owners set the machine aside with the coming of the first cold snap and do not consider its use until warm weather in the spring. This is a serious mistake on the general purpose farm, as there is almost daily demand for such power.

On a stock farm this is particularly true. There should always be at least one good load of manure collected each day that the tractor is peculiarly suited to haul away. The big manure spreader is a heavy load for horses. Few farm horses are systematically shod and snow, sleet and frosty ground are hard for them to negotiate. Appropriate lugs or spikes will enable the tractor to negotiate almost any winter condition.

"The manure should be spread evenly while fresh," says Professor Call of the agronomy department of the Kansas State Agricultural college.

Corn fodder and stacked hay must also be handled all thru the winter. Every farmer knows the trials of using frisky horses on such work. Besides much of the time, full loads cannot be handled because of poor footing. Here the excess power of the tractor will show an actual saving in time, less trips, and, consequently more time for other work.

With the present lesson of fuel shortage fresh in mind, the farmer with a wood lot needs no suggestion as to how the tractor can be used to draw felled trees into piles, handle the saw and haul home big loads of cut wood at the end of the day's work.

One very necessary work the tractor can do that yet has scarcely been touched is the plowing of snow from the public roads, thus preventing the usual deep mud with every thaw, and the frozen roughness with the ensuing freeze. The imperative need of good roads for motor car, truck and wagon service in winter time should be most strongly emphasized. If the roads are in reasonable condition before a snow there is no good reason why the county grader, or drag, cannot be used to grade off the snow into the ditches. Even small graders can do very effective work. If the snow is scraped into the ditches from a surface wide enough

for traffic to pass, practically no trouble will ensue from mud or rough frozen spots. Every farmer owning a tractor could, and should do a stretch of this kind of work after every snow fall, for the sake of his own car and teams.

If wood, grain, or livestock should be marketed, he can draw the maximum loads over such roads, when he would hesitate to go at all if the snow was over the road, or if a thaw was on, or any time after until the road had been more or less smoothed down by traffic that had to go.

It should not be forgotten that fall and winter plowing fallow kills large numbers of noxious insects. The tractor should be on the job whenever the ground is open until every acre is turned for frost action to do its full work.

Of course, the tractor can work in the winter. The same attention to starting, safety from freezing, and proper oiling, given your car that is used daily, will keep the tractor going. A little building skill will provide the operator a comfortable cab for protection while driving. Thoughtfulness coupled with experience will demonstrate the proper lugs or grouters to use. And good judgment will show the way to do many kinds of work now left undone, or but half done.

Of course, any shredding, shelling, grinding or other machinery can be operated in winter by a tractor. The main requisite is planning out the work then doing it.

Small Towns Ask Clean Herds

Community work in cleaning up and improving the health of dairy herds is reported from Washington county, Kansas where some of the towns have passed ordinances requiring the testing for tuberculosis of dairy herds supplying milk for these towns. In one locality where the veterinarians went to work following the passage of such an order, 11 diseased cows were found in the first 120 head tested.

Let's start the year's work right by eliminating all unnecessary expenses.

RAISES CALVES WITHOUT MILK— MAKES MONEY—WINS PRIZES

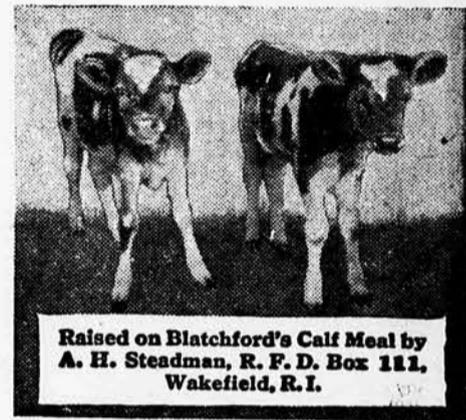
Every time you raise a calf on milk instead of on Blatchford's Calf Meal it is costing you unnecessary *dollars*. Milk is *money*, and by feeding it you are literally putting dollars into the calf that ought to go into your pocket.

Blatchford's Calf Meal costs less than milk—develops the finest kind of calves—makes calf raising easy and profitable. It has been on the American market for practically forty years—being the first milk-substitute feed for calves ever offered to the farmers of this country. Today its users number into the hundreds of thousands. And why? **RESULTS**—that is the answer. *It does the work claimed for it.* Read the following comments from a few who are raising their calves on it.

If you have been raising your calves on milk, Blatchford's Calf Meal offers you an opportunity to save \$20 to \$40 on each calf

"The calf I fed your calf meal to, I sold. He was just 300 days old and weighed 625 pounds. He never had a day off his feed. Never an attack of scours."—J. S. Baldwin, 328 South Prof. Street, Oberlin, Ohio. Here's word from Illinois: "My whole herd has had Blatchford's Calf Meal fed daily and have had splendid results with every calf."—Arthur Thomas, Fairmont, Illinois. "Have tried three other brands of calf meal and I find that Blatchford's gives me the best results. I do not have trouble with the calves scouring and they relish it with better appetites."—Thos. G. Spiller, Aubura, Washington.

Its thousands of users all speak of it just as enthusiastically. You, too, will find Blatchford's the most economical and most satisfactory feed for your calves. Try it.



Raised on Blatchford's Calf Meal by
A. H. Steadman, R. F. D. Box 111,
Wakefield, R. I.

Wins Prizes

Dear Sirs:

Am sending some pictures of my calves raised on your calf meal. The pictures do not do them justice. "Olaf Ewing" is a pure-bred Guernsey and a prize-winner at our fair this fall. "Glendora May" is another first-prize calf, and a pure-bred. I entered six head of stock at our fair this fall, winning four prizes. This is the first time I ever carried any stock to the fair, so feel that I have something worth speaking about as they are all Blatchford Calf Meal calves.

Wish you could see my fourteen large heifers. People go wild over the sight of them and can't believe they are not milk-raised calves.

A. H. STEADMAN /
R. F. D. Box 111, Wakefield, R. I.

Blatchford's CALF MEAL

is an economical *milk-substitute feed* which should be fed to calves from babyhood until they are at least six months old. The advantage of feeding it lies in the fact that it *saves milk*, and thereby *money*, and at the same time it produces the finest kind of sturdy, well-developed, growthy, thrifty calves.



TRADE MARK REG. U. S. PAT. OFF.

How Blatchford's Saves Money

Every pound of Blatchford's Calf Meal makes one gallon of rich milk-substitute. The retail cost of Blatchford's in most parts of Kansas is \$6.00 a hundred pounds. That makes the retail cost of one gallon of milk-substitute feed about six cents. The market value of milk today is 30 to 35 cents a gallon. Therefore, when you feed milk instead of Blatchford's, you unnecessarily sacrifice from 24 to 29 cents with every gallon.

Good to the last drop

JUST FIGURE how many gallons of milk your calves are fed during the first six months of their lives. Then figure how much of that milk you could supplant with Blatchford's Calf Meal, and you can readily determine the actual money-saving opportunity Blatchford's offers you. Many farmers who once used milk are now raising the finest kind of calves on Blatchford's Calf Meal and are saving \$20.00 to \$40.00 on every calf. That's why more Blatchford's Calf Meal is used every year than all other makes of calf meal put together. That's why Blatchford's Calf Meal is considered absolutely indispensable on hundreds of thousands of farms in this country. That's why *you* should always use Blatchford's in raising *your* calves.

BLATCHFORD CALF MEAL COMPANY In business over 119 years **WAUKEGAN, ILLINOIS**

Makes Money

Dear Sirs:

My calves raised on Blatchford's Calf Meal never had a pint of milk in all their lives. I have a cow now 5 years old which was given me when she was one-half hour old, and she is one of the best cows in Barry County. She is a Guernsey. Her milk test is high. I can veal calves on the calf meal. I have raised about 20 in all. I make good money on my calves. I do not use any milk, just plain Blatchford's Calf Meal.

ALMA HARDING
R. F. D. No. 8, Hastings, Michigan

Your Local Dealer Sells Blatchford's

Go to your dealer's today. Purchase a bag of Blatchford's Calf Meal. Feed it. Keep an account of the milk and money that you save. You will find that you not only will effect a very material saving in both, but your calves will thrive, and develop rapidly.

A good living and 10%

Helping Farmers To More Wealth

The Farm Journal is now, and has been for many months, engaged in an active campaign to stabilize farmers' incomes. Strong special articles each month urge organizations to make the production of food permanently profitable. All the big farm problems are National problems and are treated as such by The Farm Journal, the Nationally Dominant Farm Publication.

The February Farm Journal

Brimming with broad, practical, helpful facts about farming. Full of worthwhile, money-making suggestions that every farmer will appreciate. For the women, there is a special household help department besides illustrated stories and fiction. This is the greatest farm issue ever published—don't fail to read it, from cover to cover.

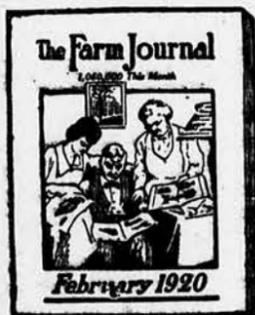
Interesting Articles You'll Enjoy—

"Co-operative Selling Legal"

An account of the operations of the Toledo Gardeners Exchange, which has made good and triumphantly passed the test of the Ohio courts.

"Tuberculosis Still the Dairyman's Foe"

A timely article on the importance of looking out for this foe of the dairyman, how to recognize it and prevent it thereafter.



"Short-Time Credits for Farmers"

How the Credit Unions fill the gap between Federal Farm Loans and private banking, as worked out in North Carolina, is simply and completely told in this article.

Using Fertilizer Formula

How to apply the Ross 1:2.08 formula to your own farm; how to make allowance for the crop you are raising and the soil you are using; how to buy, mix, and apply fertilizers, etc.

"Eight Methods That Increase Oats Yield"

How to produce a heavy oats yield and also keep costs down while doing it. A very valuable article for every farmer to read.

"Sixty-Five Ways of Earning Money at Home"

Every girl and woman on the farm has use for extra "pin money." Here is how one woman made it—an article that will interest all feminine readers.

Send 50¢ Now—4 Years for \$1

You have often thought of subscribing for the largest of all farm papers—DO IT NOW! Send 50 cents for all 1920 and 1921, or \$1 for four full years. Money back whenever you ask for it. Or get the big February issue from your nearest newsdealer—5 cents.

The Farm Journal

125 Washington Square, Philadelphia

More Titles of Timely February Articles

- "Testing and Buying Garden Seeds"
- "Growing Broom Corn"
- "30-inch Concrete and the Emperor Nero"
- "Come, Butter, Come!"
- "\$500,000 Extra for Wheat"
- "Do You Want an Orange Grove?"
- "Big Profits on Small Farms"
- "Hatching More Pullets than Cockerels."
- "Your Representative in Congress"
- "Turning Tenants Into Owners"
- "A Michigan Farmhouse—Prize Plans"
- "Trapping Skunks and Opossums"
- "Blowing Up Stumps"
- "Save on Plumbers' Bills"
- "Dust Spraying for Trees"

—and many other interesting subjects

Capper Pig Club News

Why Wait Longer to Start for Yourself?

BY EARLE H. WHITMAN
Club Manager

HAVE YOU seen some boy in your neighborhood going around lately with a smile that just won't wear off? I'll wager he's a Capper Pig club boy who's had the pleasure of getting a check from Arthur Capper in payment for a sow or gilt sold to a new club member. Perhaps last year this same happy chap was borrowing the money from Mr. Capper to pay for a contest sow, but this year he's the one who has hogs to sell and is receiving the cash. There's no one I like quite so well to send checks to as our own boys.

And what a success our club members make! Just the other day I had the pleasure of receiving a letter from Lewis Schmidt who was a member of the Lincoln county Capper Pig club for two years. "I belonged to the Capper Pig club in 1917 and 1918," wrote Lewis, "and cleared about \$375 those two years. I still have a nice bunch of registered Poland Chinas. Who could want anything better than this?"

Also I have sold about \$450 worth of hogs since I went out of the club."

Any boy with the right kind of pep and energy can do as well. I know feed is scarce and high priced, but I'm firmly convinced that Capper Pig club members will make good money on their investment in 1920. Even with an unfavorable year such as 1919, exceedingly few boys were unable to report at least a small profit, and the fact that 151 boys showed an average net profit of \$126 is sufficient proof that there's money in the club game. Capper club folks know John F. Case, the man who started the clubs for Arthur Capper and who now is director of all the Capper clubs. "It is an unusual thing for a boy engaged in pig club work to show a money loss," said Mr. Case recently. "If he charged labor rates for all the time spent in caring for his contest entry the profit might not be much, for the club boy is likely to spend more hours with his sow and pigs than is wholly necessary. From the standing of feed alone, however, no matter how high the price of feed, or how low the market in comparison, he is likely to show a profit."

Boys who have been in club work long enough to know agree with this message from Ted Tilson of Cloud county: "I should advise any boy in any county in Kansas to get into the Capper Pig club if he can, because, first, there is money in it; second, there is pleasure in it; and third, there is business training in it that a boy can get in no other way."

Wayne Cunningham, the peppy leader of the Jewell county club last year, thinks the same way. "I have sold all my hogs, but do not feel right without them," writes Wayne. "I cannot be in the club for 1920 because we are living in town and I cannot keep pigs, but I surely wish I could. I sold my sow at our farm sale for \$50 and three pigs on the market for \$85. I put my other four gilts in H. T. Hayman's Poland China sale and they brought \$46, \$48, \$40 and \$66 respectively. I made a net profit of about \$150 from my club work. I have enjoyed the work very much."

Almost anywhere you go in Kansas now you find boys who obtained a start with hogs by joining the Capper Pig club. If you're not a member, why wait longer? You cannot enroll after March 1, and the sooner you join, the better chance you will have to get a good sow. Every day boys are enrolling, but Anderson is the only county in which there is not room for some

Earle H. Whitman,
Manager the Capper Pig Club,
Topeka, Kan.
Dear Mr. Whitman:

It has just occurred to me that it might be excellent for the members of the pig club in Kansas to have copies of our report, "Hogs in Kansas," and if you wish to make an announcement to that effect, we shall be glad to supply copies of this report to the members of the pig club in Kansas who will apply for it. Sincerely,

(Signed) J. C. Mohler,
Secretary.

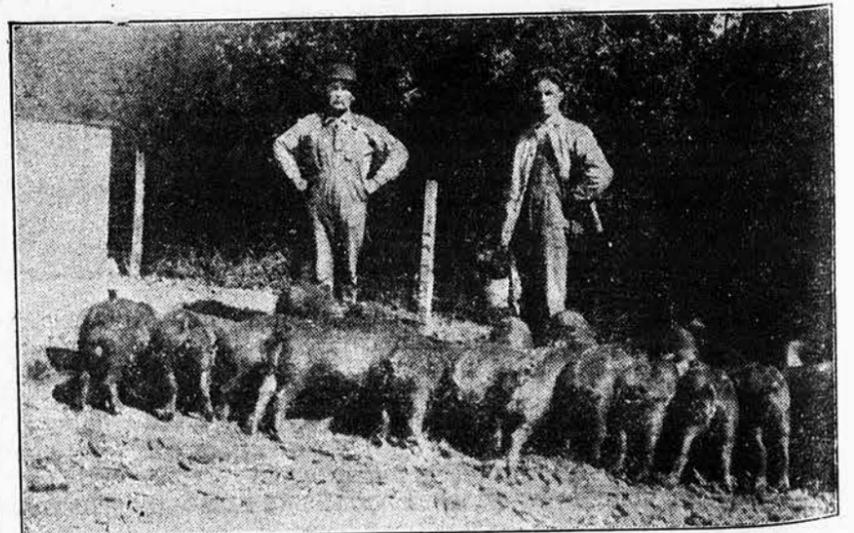
more live chaps. If you're already the owner of a good registered sow, get into the club and profit by the many advantages of the work. You'll find an application blank on the page that has the Capper Poultry club story this time. Don't wait another day, but fill out the coupon and send it in.

Of course, you've noticed the letter on this page from J. C. Mohler, Secretary of the Kansas state board of agriculture. This is a fine opportunity for ambitious chaps who desire to know about the care and management of hogs. "Hogs in Kansas" really is a wonderfully complete book, and if you will make good use of it, I advise you to write to Mr. Mohler today, telling him you're a Capper Pig club member and that you desire a copy of the book. He'll be glad to send it to you, and it will be just the thing for you to study and learn how successful swine men have made good in their business.

To Encourage Home Orchards

The government has recently issued an excellent publication on Growing Fruit for Home Use. This is published as Farmers' Bulletin No. 1001, and it may be obtained on application to the Division of Publications, United States Department of Agriculture, Washington, D. C.

The corn fodder, burlap or boards about young apple trees or other newly set smooth-bark trees to protect them from sunscald during the winter.



H. T. and Harry Mann, Partners, Out With a Bunch of the Duroc Jersey They Raise on Their Farm in Cloud County.

BOYS GIRLS HURRY!

WE'VE GIVEN AWAY MANY PONIES FREE

We're Giving Away Four More Now. Be Quick. Get Yours



Three Ponies, Buggy, Harness and Saddle Given FREE. I have one for YOU—it won't cost you one cent either—I'll even pay the Freight on it to your home. I know YOU want a pretty pony, and buggy—This is your chance, but you must HURRY. Send me your name and address TODAY—QUICK. A post card will do. Just say "I want a pony"—HURRY.

E. MCKENZIE, Manager
205 Capital Building, Topeka, Kansas

With the Capper Calf Club

Going to Choose Beef or Dairy Calves?

BY EARLE H. WHITMAN
Club Manager

WHAT BREED of cattle shall I choose?" That's the question that occurs to every Capper Calf club member when the good news comes of enrollment for 1920. To make a wise decision, many things should be considered. Perhaps the most important step is to decide what breed you like best, for most folks who are successful with livestock will tell you that if you don't like the kind you have, you won't receive the fullest measure of success. Of course, you must study local conditions, too. Don't you think it would be fine to use a part of our calf club space every week to tell something about the different breeds, where they originated, what their good qualities are, and other interesting facts I'll try to find?

First, let's consider the two main types of cattle—the dairy and the beef. The principal breeds of the dairy type are Jersey, Guernsey, Holstein and Ayrshire, while we occasionally run across a herd of Brown Swiss or Dutch Belted. The beef breeds are Short-horn, Hereford, Aberdeen Angus, Polled Durham, Galloway and Sussex. Then, of course, we find what are known as dual-purpose breeds—the Red Polled and Devon.

In distinguishing between the dairy and beef types of cattle, M. W. Harper in his "Manual of Farm Animals," says: "There are two distinct types of cattle: first, the dairy type, adapted to the production of milk; and second, the beef type, employed for the production of beef. These types are controlled by the demands made on the body of the animal. For example, in milk production the udder is perhaps as important an organ as any, whereas in beef production it is needed only to sustain the young. Again, in the case of beef production it is very important that the animal take on flesh and that the body be plump and full, whereas in the production of milk this would be considered an objection, as the food should go to the production of milk and not to fat. These two types are of necessity widely different and one can no more have maximum milk production and maximum beef production in the same cow than he can have maximum speed and maximum force in the same horse, or in the same machine.

"When we reflect upon the purpose for which dairy cows are kept, the type becomes apparent. They are useful for the milk they can secrete, and not for the flesh of their bodies; and as the food should go to produce milk and not fat, the body will be spare and not fleshy. The secretion of milk takes place in the udder and allied organs, therefore the rear development will be large. Furthermore, we cannot have large production without a large factory, thus a large secretion of milk calls for a large digestive tract, which adds to the rear development.

"In general appearance, the form of the dairy cow resembles that of a triple wedge. Viewed from the side, she shows greater depth of body behind than in front. Viewed from the rear and top, she gradually widens

from the chest to the hips. Viewed from the front and top, she gradually widens from the withers backward and downward to the abdomen. This is the desired form and many superior cows possess it, yet exceptions occur, and many heavy milkers are not associated with this form.

"In the beef type, the food goes to the production of flesh, hence the tendency to fatten is desired. The quality of the flesh in different parts of the body varies widely. In the meat market, flesh forming certain parts of the body is worth many times that from other parts. We demand therefore in the beef type not only an animal with a tendency to take on fat, but this tendency must be accelerated in the region of the valuable cuts.

"In general appearance, the form of the beef type resembles that of a brick set on edge. Viewed from the side, the top and bottom lines are parallel. There is no wedge shape; the animal is as deep in front as behind. Viewed from the rear and top, the withers and chest present an appearance almost as wide as the hip and rump. The animal is compact and broad of back from shoulders to hips. Cattle of the beef type are often referred to as 'blocky,' indicating compactness and squareness of form."

Capper Calf club members soon will be out looking for places to get their contest calves. These calves must be not less than three-fourths purebred, and may be either beef or dairy type. When you go to inspect the herd from which you expect to get your contest entries, look the animals over carefully and see if they conform with the principal ideals of the breed to which they belong. If you're going in for dairy cattle, you'll be interested in knowing the milk records of the herd, whether the sire is from a heavy milking strain, and other points to be considered in dairy cattle. I hope you'll use the calf club as an opportunity to obtain a start for a herd of your own, but even if you plan to sell your calves, you should look ahead and keep in mind that the buyer will consider the facts I have mentioned.

Next week we'll begin the study of the dairy types, and I plan now to tell you about the Jerseys. Be sure to read the story.

There's room in every Kansas county for boys and girls to enroll in the Capper Calf club. Arthur Capper will lend the funds to use in purchasing contest calves, of which there must be two, if the member hasn't the calves or money with which to buy them or can't get them from the farm herd. Calves not more than 1 month old are to be entered. Entries may be made any time between April 1 and May 1, so members should plan to buy calves born some time after March 1. Applications and recommendations are coming in fast. If you're not a member and wish to take advantage of a mighty good opportunity to get a start for yourself, clip out and send in the attached coupon. Rules and instructions will be sent to you without delay. Both boys and girls are eligible for membership.

The Capper Calf Club

Capper Building, Topeka, Kan.

Earle H. Whitman, Club Manager

I hereby make application for selection as one of the representatives

ofcounty in the Capper Calf Club. I will try to get the required recommendations, and if chosen as a representative of my county I will carefully follow all instructions concerning the club work and will comply with the contest rules. I promise to read articles concerning club work in the Kansas Farmer and Mail and Breeze and will make every effort to acquire information about care and feeding of my contest entry.

Signed Age

Approved Parent or Guardian

Postoffice R. F. D. Date

Age Limit: 12 to 18

WHY DE LAVAL CREAM SEPARATORS ARE BEST

There's a reason for everything, and surely one for the superiority of DE LAVAL separators.

The DE LAVAL was the first continuous discharge centrifugal cream separator. Invented in 1878, it has led ever since. The great DE LAVAL shops in both America and Europe are devoted solely to the production of centrifugal separating and clarifying machines.

Large staffs of DE LAVAL experimental and developmental engineers, in both America and Europe, constantly devote their time, skill and knowledge to the further improvement of the DE LAVAL Cream Separator.

Every single step of cream separator advancement, for forty years, has been DE LAVAL conceived or developed.

On the other hand, practically every feature of construction ever used in any other cream separator has been one that run-out DE LAVAL patents left free. Such features have then always been out of date in the later improved DE LAVAL construction, and most of them were never quite good enough to have been actually used in DE LAVAL construction at all.



It might aptly be said that DE LAVAL has forgotten more about cream separators than its imitators and would-be competitors ever knew.

And then it must be remembered that the cream separator, with its necessarily high revolving speed, great capacity, ease of operation, simplicity and durability, is a very difficult machine to build right, and can only be built right with long experience, highly skilled employes and a vast amount of special equipment. Hence there's nothing strange about the fact of DE LAVAL Cream Separator superiority.

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Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only \$19.95. Skims warm or cold milk closely. Makes thick or thin cream. Different from picture, which illustrates our low priced, large capacity machines. Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—

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Green Salt Cured Hides (under 45 lbs.) No. 1.....37c
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Classified Advertising Bring Quick Returns

Weeks Financial News

BY SANDERS SOSLAND

CONCERN over the future of export business in all classes of commodities has increased on financial markets as a result of renewed depression in foreign exchange. This concern is the primary factor in the sagging tendency displayed in security markets recently. It is even asserted that the same influence is also one of the highly important considerations which led the Federal Reserve Board to engage in its policy of advancing rediscount rates at the Federal Reserve banks.

It is really unfortunate for the country as a whole that the concern over export business in the future is looked upon lightly in some quarters. Thus, it was asserted a few days ago in Kansas City that if export business drops, prices of commodities to consumers will decline, which would, according to this fallacious opinion, benefit the laboring classes. From the same source the opinion was also expressed that domestic demand is so large that general business will not be seriously affected by the shutting off of a great share of the current export trade of the United States. It is difficult to imagine a more superficial view of

is also prompted to increase rediscount rates by its desire to start liquidation of commercial loans and reductions in prices of commodities in order to put the country in a better position to withstand the shock of reduced export business. A gradual decline in commodity markets is less disturbing to business than a sudden break of sharp proportions. This, it is stated, is one of the reasons for the recent advance in the rediscount rates of the Federal Reserve Bank of Kansas City and for the increases of the past week at the New York, Philadelphia and Boston Federal Reserve banks. It is not improbable that another advance will be ordered soon at the Kansas City Federal Reserve bank.

Trading on the security market in New York and the business in Chicago and Kansas City is light, showing a sharp reduction from recent months. On the whole, the tendency of prices is downward, with the speculative issues put out on the expectation of greater prosperity and greater business showing the principal weakness. There is an improved tone in rail issues, but these are still affected by uncertainty as to the plan for trans-

Sell More High Priced Eggs

The day this ad was written folks were paying 65c a dozen for eggs in the local market. Think of it! Flood your farm with well hatched poultry this year through

Old Trusty Incubators and Brooders

and have more high priced eggs and chickens to sell next fall and winter. Four sizes, with or without metal cover. We pay freight. Quick shipment from Clay Center, Neb.; St. Joseph, Mo., or Ottumwa, Iowa. Let me send you my

Poultry Raisers' Book—FREE

72 pages, size 5x12. Filled with helpful suggestions on how to turn poultry into money. M. M. JOHNSON, "The Incubator Man."

M. M. Johnson Co.
Clay Center, Neb.

850,000 Satisfied Customers

Ironclad The Iron Covered Incubator
BIGGEST HATCHING
Value Ever Offered

Investigate the Ironclad Incubator before you buy. Get my new catalog and learn why the Ironclad is the safest and best incubator. It tells how they are made and why they are better. My special offer of iron covered incubator and roomy brooder for only \$17.25 freight paid east of Rockies

30 DAYS' TRIAL
Money Back If Not Satisfied

is the greatest incubator offer of the season. You can use the machine for 30 days and if not satisfactory, we will refund your money and pay return freight charges. Machine comes to you complete, ready to use, and accompanied by a

10 YEAR IRONCLAD GUARANTEE

Both for **\$17.25** Freight Paid East of Rockies

150-EGG Ironclad Incubator
Don't class this big galvanized iron covered dependable hatchery with cheaply constructed machines. Ironclads are not covered with cheap, thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications: Genuine California Redwood, triple walls, asbestos lining, galvanized iron covers, large egg tray, extra deep chick nursery, hot water top heat, COPPER tanks and boiler, self-regulator, Zyco Thermometer, glass in door, and many other special advantages fully explained in free catalog. Write for it TODAY or order direct from this advertisement.

IRONCLAD INCUBATOR COMPANY, Box 67 RAGINE, WIS.

MADE OF CALIFORNIA REDWOOD
150 Chick Brooder

Smaller Exports In Prospect

FINANCIAL MARKETS indicate the probability of a reduced export business in the United States with foreign countries. Further declines in foreign exchange rates point to such a reduction. It is even asserted that the Federal Reserve Board is encouraging contraction in borrowing at banks to help the country prepare for lessened foreign business. When the decline in foreign buying here sets in, it will have a bearish effect on prices of manufactured articles as well as on farm products. Advances have been made in the rediscount rates of the Federal Reserve banks of the East. Money rates therefore continue upward.

the foreign trade situation. Such a view is misleading.

From time to time in this department recently attention has been directed to depression in foreign exchange rates. Up to the past fortnight there was a period of about a month when foreign exchange rates on the whole did not fluctuate widely, so less attention was paid to this market. Renewed depression then developed. Foreign exchange rates thus far in January have experienced what is described as another collapse. This brought out renewed concern over export business. The German mark has sold down as low as 1 1/2 cents, compared with the normal par of 23.8 cents. The English pound sterling has sold as low as \$3.60, against the normal par of \$4.86%. French francs have been as low as 8 cents each and Italian lire down to 7 cents each, which compares in both instances to the normal par value of 19.3 cents. Even Canadian currency has been quoted at a discount of fully 10 per cent in the United States. European countries were never before at so great a disadvantage in buying in the United States, for their money is now worth less than at any other time in history in this country.

Months of discussion and proposals for various remedies to improve the foreign exchange situation seemingly have been without avail. Billions of dollars in business are involved. There has been private lending to help Europe continue to buy. But the exporters who have made loans are gradually reaching the end of their resources. Those who have waited for betterment in foreign exchange rates have lost heavily. And when exports of manufactures begin to fall off, supplies on domestic markets will increase and prices will fall. Manufacturers will then find it necessary to reduce their operations. Labor in industrial centers will not be in so great demand. Farm products, owing to Europe's needs, will be affected last in instances, but the slackening of factory activities will tell on the markets of farmers.

Aside from the fact that the Federal Reserve Banks are already carrying loans up almost to their limit, it is said that the Federal Reserve Board

ferring the lines from government to private control. It now seems doubtful whether the program for the return of railroads to private ownership can be carried out by March 1, the date set by President Wilson.

Questions and Answers

Readers of the Kansas Farmer and Mail and Breeze are requested to send us all inquiries that they desire to have answered in regard to bonds, stocks, and farm loans. These will be answered promptly and without charge by Sanders Sosland, our financial editor, who is regarded as one of the most reliable authorities on finance in the West.

Railroad Stock

Why do you recommend Atchison, Topeka & Santa Fe railroad stock specifically as a good speculation?
W. B. B.

As you are a citizen of Kansas and as the stock of Kansas corporations is not taxable in the state; it is well to select a strong railroad stock which is put out by a Kansas corporation. Atchison, Topeka & Santa Fe common is such a stock. It is regarded as one of the best railroad stocks on the New York stock exchange, and, while it may decline further in the event of a sharp slump in security markets, it will eventually make money in an increase in value as well as thru its 6 per cent dividend return. The exemption from city, county and state taxes in Kansas on this stock is important

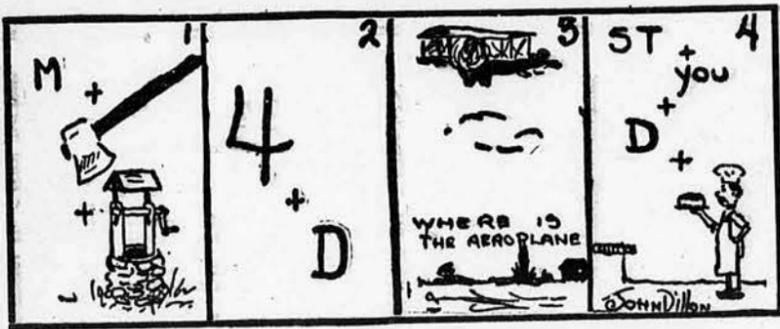
Will High Prices Continue?

In your observation on markets, do you find that bankers, brokers and others in touch with world conditions think mostly that the world has entered on a plane of prices which will be permanently higher?
F. T. W.

While there is a division of opinion among the bankers and others on the Kansas City market, the majority who have given this great question careful study feel that there is very little basis for assuming that the world is on a permanently higher plane. We may not see the extremely low prices of years ago, but world conditions point to sharp declines. I believe it's a mistake to talk about everything being permanently higher. Prepare for declines.

FOUR STANDARD AUTOS

Can You Name Them?



WHAT ARE THEY?

The above pictures represent four standard makes of automobiles. You have seen these four cars in your town often. Can you name them? Try it. It's easy—just takes a little ingenuity and skill. A good test for your ability of close observation. You can sit in your own home and see these four cars pass many times during a day.

10c AND CORRECT ANSWER
Will Bring You

Six great big issues of Capper's Farmer containing an interesting puzzle in each issue. Capper's Farmer is the real "Sleeves-Rolled Up" Farm and Family paper of the central and southwest. Departments for every member of the family. The only paper of its kind that has a page of cartoons drawn by its own artist. A page in colors every issue of "Hi Hoover" will be enjoyed by all, especially the children.

Name the autos. Send in your answer and 10 cents in stamps or coin to
CAPPER'S FARMER, Auto Dept. 70, Topeka, Kan.

WHEN WRITING OUR ADVERTISERS MENTION THIS PAPER.

Biggest Hatches Strong Chicks

That's what you want and will get with a Champion Belle City Hatching Outfit. My big catalog "Hatching Facts" tells the whole story—gives newest ideas and quickest ways to make poultry pay with my

\$12.95 140-Egg Champion Belle City Incubator

Double Walls Fibre Board—Self-regulated—Hot-Water Copper Tank—Safety Lamp—Thermometer Holder—Egg Tester—Nursery. With my \$7.55 Hot Water Double-Walled 140-Chick Brooder—both only \$18.50

Freight Prepaid East of Rockies Towards Express

I ship quick from Buffalo, Minneapolis, Kansas City or Racine. With this Guaranteed Hatching Outfit and my Guide Book for setting up and operating you can make a big income. You can also share in my

Special Offers
They provide easy ways to earn extra money. Save time—order now, or write today for my Free Poultry Book "Hatching Facts". It tells everything. Jim Rohan, Pres.

Belle City Incubator Co., Box 21 Racine, Wis.



Progressive Poultry People Are Raising Their Chickens with the

SURE HATCH INCUBATORS AND BROODERS

You can raise more chickens and do easier than with hens. Less work and greater profits. Sure Hatch Incubators are time-tried and scientifically correct. Made of California redwood. Double walls, insulated. Copper hot water heating system. Automatic heat regulator. Roomy nursery with chick tray. Built in three sizes.

SURE HATCH COLONY BROODER
beats 'em all for raising chicks. Cast iron stove heated with coal. Pure fresh air and even heat. No crowding or smothering. Raise all your chicks. Let us tell you about our Sure Hatch System.

FREE Send for Sure Hatch Book. Tells all about profitable poultry raising.

SURE HATCH INCUBATOR CO.
Box 14 Fremont, Nebr.



BABY CHICKS FOR SALE

SELECTED STOCK FROM GOOD EGG PRODUCERS WRITE TODAY FOR BOOKLET, PRICES AND FURTHER INFORMATION

Poultry Department
M. C. PETERS MILL CO.
OMAHA, NEB.

HOME MADE BROODERS

With warm medicated dirt floors and feather covers. Saves the incubator chicks. You can change any old brooder into these, or make them from an ordinary box. We will send you this information absolutely free. Also tell you

WHY CHICKS DIE IN THE SHELL
Just at hatching time. Send us your name today.

WALL REMEDY CO., BLACKWELL, OKLA.

62 BREEDS PROFITABLE

Turkeys, Hardy Fowls, Eggs and Incubators at lowest prices. Pioneer Poultry Farm. Valuable poultry book and catalog FREE.

F. A. NEUBERT, Box 302, Mankato, Minn.

DICKEY GLAZED TILE SILOS

"The Fruit Jar of the Field" A Special Discount for Early Orders. Send for Catalog No. 5.

W. S. DICKEY CLAY MFG. CO.
Kansas City, Mo.
Macomb, Ill. Chattanooga, Tenn.

Panama Canal Book 10c

A story of the building of this great canal; 36 pages; profusely illustrated; will be sent postpaid for 10 cents, stamps or silver. Novelty House, Dept. 2, Topeka, Kan.

Capper Poultry Club

Making a Good Resolution is the First Step to Success

BY BERTHA G. SCHMIDT
Club Secretary

NOW THAT we're just on the eve of the new club year I think it would be an excellent plan to make some resolutions. This will be the second New Year's Eve for club girls this year, for if February 1 marks the beginning of the club work, why shouldn't January 31 be our New Year's Eve, and the time for making club resolutions?

Here are some resolutions which I suggest for all club members:

- I resolve to study the club rules carefully and then if there is anything that I do not understand about them I will write to our secretary for further information.
- I will fulfill all of the requirements of the department to which I belong, keeping records and sending monthly reports on time.
- Whenever I come across a good article on poultry it shall be added to our county Capper Poultry club library.
- I will attend all monthly meetings possible and do my best to make each of them a success.
- I will give my chickens good care and strive to be a prize winner or at least to increase poultry production as much as possible.
- I will work in harmony with my team mates.
- I will try to interest my friends in club work and line up as many new members as I can.
- I will send a picture to our secretary.
- If possible, I will attend the annual pep meeting at Topeka next fall.
- Not only will I strive to make a success of my club work but I will be interested in the progress of my community, hoping some day to take a bigger part in its achievements.



Esther Evans of Rooks County.

The club work is farther advanced for this time of the year than ever. At the time of this writing we have 245 members, including mothers. Isn't that a remarkable record for our opening day? By April 1, which is the last day for accepting applications, we should have a club which will greatly increase poultry production in Kansas in 1920.

Here are those in the counties having more than five members at present:

Atchison—Mary Gingrich, Alma Bailey, Florence Madden, Lillian Brun, Ruth Banks, June Rork, Ethel Banks, Mateel Hawk, Mothers' Division—Mrs. E. A. Bailey, Mrs. Arthur Gingrich, Mrs. C. M. Madden, Mrs. John Brun, Mrs. May Banks, Mrs. George Rork.

Clay—Lenore Rosiska, Nettie McNeer, Treva Chayer, Bessie McNeer, Grace Larson, Florence Mildfeldt, Beulah Chayer. Mothers' division—Mrs. F. L. Rosiska.

Cloud—Neva Rolph, Claire Jamison, Thelma Tilson, Evona Tilson, Esther Teasley, Grace Smith.

Coffey—Gladia Bowman, Agnese Kiger, Edith Grover, Georgia May Fry, Katie Wheeler, Elsie Wheeler, Golda Stevens, Ruth Wheeler, Carrie Kaufman, Laura Osman, Ruby Piper, Mattie Clarine Grover, Mothers' division—Mrs. John Bowman, Mrs. Mattie Grover, Mrs. Nora Wheeler, Mrs. Mary Wheeler, Mrs. Bertha Kaufman, Mrs. Amanda Osman.

Crawford—Edith Brower, Mary Morton, Mildred Spurling, Nola Rose, Etta Hodges, Mabel Hodges, Nina Hosford, Anna Painter, Clara Armstrong, Leta Schifferdecker, Mothers' division—Mrs. Grant Kearns, Mrs. H. O. Berry, Mrs. H. D. Emery, Mrs. J. W. Hodges, Mrs. William Schifferdecker.

Dickinson—Anna M. Rush, Gladys Thomas, Gertrude Patton, Elizabeth Butterfield, Mary Rush, Lucile Fields, Vera Williams.

Greenwood—Anna Greenwood, Gladys Davey, Mabel Culver, Alleen Sims, Evelyn Starkey, Gene Kates.

Johnson—Edythe Brown, Virginia Bryan, Fredonia Silvers, Helen Andrew, Leone Moll, Nola White, Norma Reynolds, Marie Rausch, Lucy Cristler, Clara Louise Barthol, Mothers' division—Mrs. A. H. Bryan, Mildred Silvers, Mrs. W. A. Andrew, Mrs. Alice Schulz, Mrs. Anna Andrew, Mrs. Jake Lefmann.

Linn—(Including associate members)—Wilma Rogers, Nellie Pows, Elva Howerton, Blanche McGee, Hazel Parmley, Elma Parmley, Pearl Morrell, Marybelle Huffman, Leona Rogers, Anna Thyer, Elsie Morrell, Mildred Ungeheuer, Hazel Horton, Clea Paddock, Ruby Guffey, Mary Jackson, Ruby Jackson, Ruth Alexander, Oral Franklin, Mothers' division—Mrs. R. A. Rogers, Mrs. E. E. Howerton, Mrs. J. E. McGee, Mrs. W. L. Parmley, Mrs. Ada Morrell, Mrs. W. E. Huffman, Mrs. Leo B. Curtis, Mrs. Lula Harrison, Mrs. C. T. Horton.

Reb—Bessie Taylor, Lottie Maphet, Goldie Mae Maphet, Pearl Taylor, Rosamond Dawson, Ona May Weaver. Mothers' division—Mrs. Bertha Taylor.

Rice—Ruth Stone, Myrtle Edgar, Pauline Griffin, Marjorie Smith, Mabel Kelley, Katherine Oswald, Helen Lanning, Beatrice Hollingsworth, Mary Selridge. Mothers' division—Mrs. C. A. Stone, Mrs. Mary Edgar, Mrs. Ethel Smith.

Even before the club for 1919 was closed a prize offer was announced. Mrs. A. H. Bryan, R. 3, Gardner, Kan., offers a trio of White Plymouth Rocks to the girl in the new club who makes the best record with this breed of chickens. One club member suggested last year that presidents and secretaries of breed clubs ask breeders whom they know to offer prizes in this year's club work. This would be a very good plan but be sure to ask them to write to me about the offers they make so that they are placed on the list. Breed club officers for 1919 will continue in office until after April 1, provided they are still members of the club.

The picture used today shows you Esther Evans of Rooks county and her flock of Buff Plymouth Rock chickens.

If you wish to join the club fill out the application blank and send it in at once.

Our Best Three Offers

One old subscriber and one new subscriber, if sent together, can get The Kansas Farmer and Mail and Breeze one year for \$1.50. A club of three yearly subscriptions, if sent together, all for \$2; or one three-year subscription \$2.

A Dentist's Epitaph

View this grave with gravity,
He's filling his last cavity.
—Princeton Tiger.

Capper Pig and Poultry Clubs

Capper Building, Topeka, Kan.

Earle H. Whitman, Club Manager; Bertha G. Schmidt, Secretary. Send Pig Club applications to Mr. Whitman; Poultry Club to Miss Schmidt. I hereby make application for selection as one of the representatives

of.....county in the Capper

..... Club.
(Write pig or poultry club)
I will try to get the required recommendations, and if chosen as a representative of my county I will carefully follow all instructions concerning the club work and will comply with the contest rules. I promise to read articles concerning club work in the Kansas Farmer and Mail and Breeze and will make every effort to acquire information about care and feeding of my contest entry.

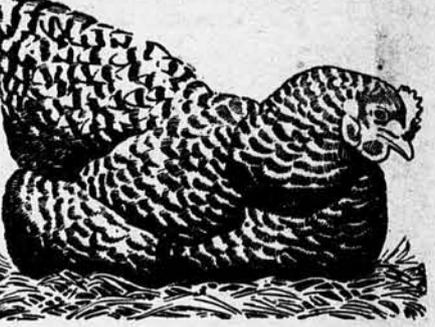
Signed Age

Approved Parent or Guardian

Postoffice R. F. D. Date

Age Limit: Boys, 12 to 18; Girls, 10 to 18.

"Wasn't Getting An Egg—Now 10 a Day"



"I received your 'More Eggs' Tonic and started giving it to my hens. I wasn't getting an egg, now I am getting 10 a day." So writes Mrs. Ernest Campbell, of Mineral, Va. Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results.

Now is the time to give "More Eggs" to your hens, while prices are high and profits big. Don't let your hens loaf; make them lay. "More Eggs" Tonic has done this for 400,000 chicken raisers all over the country. It will do the same for you.

\$1.00 Package

Free

If you wish to try this great profit maker, simply write a postcard or letter to E. J. Reefer, the poultry expert, 7551 Reefer Bldg., Kansas City, Mo., and ask for his special free package \$1.00 offer. Don't send any money. Mr. Reefer will send you two \$1.00 packages of "More Eggs." You pay the postman upon delivery only \$1.00, the price of just one package, the other package being free. The Million Dollar Merchants Bank of Kansas City, Mo., guarantees if you are not absolutely satisfied, your dollar will be returned on request. So there is no risk. Write today for this special free package offer.

Poultry Raisers Everywhere Tell Wonderful Results of "More Eggs"

- "More Eggs" a Godsend**
I received your "More Eggs" Tonic and found it was a great Godsend. I was only getting 12 eggs a day, and now I am getting 50 per day.
MYRA LEE, Boston, Ky.
- 1200 Eggs from 29 Hens**
The "More Eggs" Tonic did wonders for me. I had 29 hens when I got the tonic and was getting five or six eggs a day. April 1st I had over 1200 eggs. I never saw the equal.
EDW. MEKKER, Pontiac, Mich.
- 160 Hens—1500 Eggs**
I have fed two boxes of "More Eggs" to my hens and I think they have broken the egg record. I have 160 White Leghorns and in exactly 21 days I got 125 dozen eggs.
MRS. H. M. PATTON, Waverly, Mo.
- \$200 Worth of Eggs from 44 Hens**
I never used "More Eggs" Tonic until last December; then I just used one \$1.00 package and have sold over \$200.00 worth of eggs from forty-four hens. "More Eggs" Tonic did it.
A. G. THODE, Sterling, Kan., R. No. 2, Box 47.
- 1368 Eggs After 1 Package**
Last fall I bought a box of your "More Eggs" Tonic and would like to have you know the result. From January 1st to July 1st my hens laid 1368 eggs.
A. E. WHITE, Scranton, Pa.

Send No Money

Don't send any money; just fill in and mail coupon. You will be sent immediately two \$1.00 packages of "MORE EGGS." Pay the postman upon delivery only \$1.00, the extra package being FREE. Don't wait—take advantage of this free offer TODAY! Reap the BIG profits "MORE EGGS" will make for you. Have plenty of eggs to sell when the price is highest. Send today!

FREE \$1.00 PACKAGE

E. J. REEFER, Poultry Expert,
7551 Reefer Bldg., Kansas City, Mo.

Dear Mr. Reefer—I accept your offer. Send me the two \$1.00 packages of Reefer's "More Eggs" for which I agree to pay the postman \$1.00 when he brings me the two packages. You agree to refund me \$1.00 if both of these packages do not prove satisfactory in every way.

Name

Address

Last Big Block of the Canadian Pacific Reserved Farm Lands

THIS announces the offering of the last big block of the Canadian Pacific Reserved Farm Lands. Until this block is disposed of you can secure at low cost a farm home in Western Canada that will make you rich and independent. The country is ideal for mixed farming as well as grain growing. Later, the same lands can be bought only from private owners—and naturally, prices will be higher. Never again on the North American Continent will farm lands be offered at prices so low.

Your Last Big Opportunity

This block contains both fertile open prairie and rich park lands in the Lloydminster and Battleford Districts of Central Alberta and Saskatchewan. You can buy farm lands on the rich prairies of Manitoba, Saskatchewan and Alberta at prices averaging about \$18.00 an acre. Or land in Southern Alberta under an irrigation system of unfailing water from \$50 an acre and up.

Twenty Years to Earn and to Pay

The Canadian Pacific offers you this land under a plan of long term, easy payments that is remarkable in the history of farm investments. You pay down 10%. Then you have no payment on the principal until the end of the fourth year, then fifteen annual payments. Interest is 6%. In central Saskatchewan, Seagar Wheeler grew the world's prize wheat. World's prize oats were grown at Lloydminster.

Lands Under Irrigation

In Southern Alberta, the Canadian Pacific Railway has developed the largest individual irrigation undertaking on the American Continent. This district contains some of the best lands in Canada. An unfailing supply of water is administered under the Canadian Government. Prices range from \$50 an acre up on the same easy payment terms. \$2,000 loan in improvements. Twenty years to pay back.

M. E. THORNTON
Supt. of Colonization
Canadian Pacific Railway
950 First Street, E., Calgary, Alberta

For all information about Canada, ask the C.P.R.



No Taxes on Improvements

There is a small tax on the land—seldom more than 20c an acre for all purposes but there are no taxes on your livestock, buildings, improvements, implements or personal effects. Good markets, modern schools, roads, churches, amusements, make farm life desirable and attractive. Here you can achieve independence.

No Sale Without Investigation

The Canadian Pacific will not sell you a farm until you have inspected it. You must be satisfied—and every question answered before taking up your home. Investigation is invited and made easy. Don't delay your investigation. This announcement calls attention to the last great block of Canadian Pacific Reserved Farm Lands.

Special Rates for Homeseekers and Full Information

Special railway rates for homeseekers make inspection easy. Send now for free illustrated pamphlets answering all questions and setting forth figures about land values, acreage yields, climate, opportunities, etc. Do not delay. Send coupon below for information.

M. E. THORNTON, Supt. of Colonization
CANADIAN PACIFIC RY.
950 First St., E., Calgary, Alberta

I would be interested in learning more about:

- Irrigation farming in Sunny Alberta.
- Farm opportunities in Alberta, Saskatchewan and Manitoba.
- Special railway rates for homeseekers
- Business and industrial opportunities in Western Canada.
- Town lots in growing Western towns.

My name

Address

Town

State

Kansas Crop Men Meet

Improvement of Kansas field crops by development of better adapted varieties and the working out of plans for seed distribution is the program of the Kansas Crop Improvement association which holds its annual meeting at Manhattan, February 4, during Farm and Home Week. This association has as its members, farmers who are especially interested in the growing and distribution of seed of improved varieties of our field crops. Its membership requirements are such that any farmer qualified to properly produce and market good seed grain can become a member. Fred G. Laptad of Lawrence, a prominent hog breeder and seed corn grower, is president. H. L. Cudney of Truesdale, an agricultural college graduate and a grower of improved seed, is vice-president. John Brox of Atchison, W. H. Shaffer of Columbus and Chris Van Deventer of Mankato are additional members on the board of directors. The secretary-treasurer is Bruce S. Wilson of Manhattan.

While the secretary of this association of improved seed growers is connected with the Kansas Agricultural college and experiment station, the organization itself is entirely independent of the college, altho naturally very closely associated with the work being done thru experiment station activities. Many of the farmer members have been conducting experiments in co-operation with the agricultural college in determining the adaptability of the various varieties in different sections of the state. A number of especially high yielding field crops have been developed during the last five years; among them might be mentioned the Kanred wheat, especially adapted varieties of blackhulled kafir and Kansas Orange sorghum. The value of Pink kafir, Freed White Dent, Pride of Saline, Commercial White and Shawnee White, varieties of corn have been determined thru the co-operative efforts of the members of the crop improvement association.

A system of seed inspection has been adopted and worked out whereby the seed marketed can be passed upon in advance of its sale. In 1919 more than 25,000 acres of Kanred wheat were inspected, more than 600 farmers of Kansas applying for this inspection. S. C. Salmon will tell of this inspection work at the annual meeting. C. C. Cunningham will report on the co-operative experiments by farmers and F. D. Farrell, director of the Kansas experiment station, will speak on the subject, "A Better Balanced Cropping System for Kansas." Prof. L. E. Call, who did educational work in France during the demobilization period will give some of his observations of French agriculture illustrated by lantern slides. Carlton R. Ball of the United States Department of Agriculture will also speak.

For Sane Farm Leadership

The fraternity of Alpha Zeta is taking an aggressive stand in fighting radical movements in agriculture and in politics. This organization is composed of graduates of the agricultural colleges of the country who have maintained a high standard of scholarship in their college work. It was established in 1897 at Ohio State University; the Kansas chapter is at Manhattan;

there are 27 chapters in America, with about 3,000 members. These resolutions were passed at the national conclave held recently:

Whereas, the membership of the Fraternity of Alpha Zeta is composed of 3,000 members, each of whom has received collegiate training in agriculture, the most of whom are actively engaged in agricultural work, and whereas it is the fundamental purpose of this fraternity to render a service to agriculture; and whereas the problems confronting American agriculture are such as to have called forth the attention of agricultural leaders to the necessity of the best thought, the most fundamental principles of constructive action and the fearless endeavor of conscientious leaders for the solution of these problems.

Be it resolved that it is the duty of the Fraternity of Alpha Zeta to assume its full obligation and responsibility in the solution of these problems.

Be it further resolved that the Fraternity of Alpha Zeta recognizes that among these problems in American agriculture are the following:

1. The maintenance of and continuance of the true principles of American citizenship as opposed to extreme radicalism characterized by certain extremists who would, if they could obtain power and authority, tear asunder the framework of American national ideals.
2. An increased efficiency and economy in the business of American agriculture both in the field of production and marketing to the end that American agriculture will be able not only to compete with the agriculture of the world, but also with commercial industry of every sort in the world.

3. Be it further resolved that unselfishness, a willingness to serve and a desire to maintain a balance sheet with humanity which carries in the item of service to mankind, a maximum of service and a reasonable and just material reward, is a quality of leadership desirable of emulation and exemplification by Alpha Zeta men; that progress in American agriculture as in all work is dependent on intelligent and well-guided action in the rank and file of American farmers and can best be promoted and secured thru the further extension of agricultural investigation, teaching, and extension work as represented by such institutions as are created by the Hatch, Morrill, Adams, Smith, Lever and the Smith-Hughes acts.

Be it further resolved that the Fraternity of Alpha Zeta declares itself as convinced that fundamental to progress is an appreciation and realization of all that is embraced in the true definition of the word "Co-operation"; that, whereas co-operation of mankind in industry, in government, in church and in school has made possible the greatest progress and development of these institutions, so likewise in agriculture, the employment of the fundamental principles of true co-operation is essential to the future success and development of American agriculture, and in these principles the Fraternity of Alpha Zeta has an abiding faith.

SOMETHING DIFFERENT

A Farm Paper Edited on a Farm

Capper's Farmer, published by United States Senator Arthur Capper of Kansas, is a farm paper that is different. It is edited on the farm by a farmer and for the farmer. It is published in the heart of the greatest agricultural country in the world. It stands for a square deal for the consumer and fair profits for the producer thru eliminating grain gamblers, market jugglers, and other trusts and combines. For that great body of American Farmers who live with ideals, who want to be progressive, there is no such favorite as Capper's Farmer. There is a department for the women folks, boys and girls, marketing, livestock, poultry, dairy, field crops, farm machinery, horticulture, health, etc. In addition to the regular editorials, Senator Capper's Washington Comment is one of the most interesting and instructive.

In order to introduce this bright and breezy farm paper to readers of the Kansas Farmer and Mail and Breeze, the publisher agrees to send the paper six months for ten cents. This is a special offer, good for ten days only. You should send in your dime today. Address, Capper's Farmer, 507 Capper Bldg., Topeka, Kansas. You can't afford to miss a single copy.

Order seed for your crops early if you desire the best.

10c Brings a Farm Paper That is Different

Senator Capper's Washington Comment

One of the most interesting and instructive departments of Capper's Farmer is conducted by Senator Capper in Washington, D. C. In these articles you get the latest and most authentic news and comment on what should be, and is being, accomplished by our representatives in Washington.

Capper's Farmer, published by United States Senator Arthur Capper of Kansas, is a farm paper that is different. It is edited by men who live on the farm. It is published in the heart of the greatest agricultural country in the world. It stands for a square deal for the consumer and fair profits for the producer thru eliminating grain gamblers, market jugglers, and other trusts and combines. For the American farmers, who want to be progressive, there is no such favorite as Capper's Farmer. There is a department for the women folks, boys and girls, marketing livestock, poultry, dairy, farm machinery, horticulture, health, etc.

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Rural Engineering Hints

By C. E. Jablow

WHEN IT is recognized that upwards of 150 different manufacturers in the United States manufacture tractors and offer them for sale to the farmer, it will be seen that any remarks that may be made in the matter of selection will be timely. It is almost a settled fact that each one of these manufacturers may indicate to the prospective purchaser why his particular style of tractor is superior to any others on the market. It should be said here to the credit of many manufacturers, that they eliminate themselves from some fields and thereby aid the farmer in his choice. Other less scrupulous manufacturers or their sales representative are at times prone to recommend their tractor for a certain purpose for which it is in part unsuited. As long as the demand for tractors is good even the company with the last suggested policy will continue to do a thriving business.

How to Judge a Tractor

Unfortunately, too often the purchaser of a tractor has not familiarized himself with the construction and operation of tractors before he makes a purchase and of course I appreciate that this cannot always be done. It is also true that a man who has devoted his energy to farming and specialized in crops is likely to be a specialist to judge machinery, such as a tractor.

At first thought it would seem that the lower the amount of fuel for each horse-power, the better would be the purchase of the tractor. While this often may be true, it is not always the case. Under laboratory conditions or in the manufacturer's plant an engine may give a certain performance and out in the fields under hard service conditions an entirely different and larger amount of fuel is used for each horsepower. It must also be understood that record performance and average performance are entirely different matters. Many companies are interested in the first, the farmer is most naturally interested in the latter.

For a record performance the motor and all the rest of the machinery connected with it is put in as favorable a condition as possible. Under long continued and hard service conditions it may be difficult and almost impossible to keep the tractor under the ideal condition indicated.

Again if the design is at fault and trouble is experienced with a certain part at a critical time, the saving due to fuel economy will not then interest the farmer. It is then the ability to make ready repairs and secondly the cost. The cost of such may entirely wipe away arguments for fuel economy. One important repair in a season to one tractor may cause the more wasteful tractor of another make to actually prove the better of the two. This may be wholly due to the design, workmanship and material used in the construction.

Consider the Vital Parts

Too often, as with the automobile, a tractor may be purchased from the general appearance of the exterior. The color of the paint, the design of the seat, the shape of the radiator and other points of little consequence many times have sold tractors. I have heard a tractor salesman ask "Doesn't it look good?" when standing, perhaps, about 20 yards away and viewing the tractor complete. The axiom should have been added, "Things are not always as they seem."

The valve gear, or all the parts which have to do with the operation of the valve may put a tractor in a front rank or just the reverse.

The design and proportion of the bearings frequently cause difficulties. In one make of tractor I have examined I have come to the conclusion that the connecting rods are seriously at fault and should ordinarily result in the rejection of the tractor. The gears in the transmission are an important item and should be investigated. An accurately cut gear will of course result in less wear than improperly cut gears. Those that are exposed to the

cutting action of dust cannot as a rule be expected to give the same service as gears that are protected.

Some of our leading manufacturers are now using special alloy steels for their gears and other parts which give these parts a dependability twice that of the ordinary steel. It is next to impossible to detect the different qualities of a piece of steel by a superficial examination. About the only thing that can be suggested in this matter is to accept the advertised statements of the manufacturers.

Another matter of almost equal importance is the heat treatment that is frequently given to some of the special parts in the factory. Such work, which must be conducted with care, does not change the appearance of the part, but affects very materially its useful life and of course necessarily increases the cost of the part. Statements of the manufacturers backed up with experience of your neighbors will show the purchaser the advantages of the process employed.

How to Buy

Two tractors of a similar design, with approximately the same grade and amount of workmanship may be compared as to the cost a pound. Tractors offered on the market vary from a minimum of about 21 cents a pound to a maximum around 45 cents a pound. Not as much variation as some of our standard commodities in these days of profiteering.

It may be better to compare tractors by their belt horsepower rather than by their draw bar horsepower, as the loss to the draw bar from the engine may be subject to considerable differences in different makes of tractors.

The present price of tractors is quoted from an approximate minimum of \$42.50 a horsepower on the belt to a little more than \$100 a horsepower.

In this connection, it should be noted that this difference is not due to the whim of the manufacturers, as a slower engine will be larger for a given horsepower than one of a higher speed. The higher speed engine should for this reason be the cheaper, other things being equal.

The variation in weights for the complete tractor for each engine horsepower has a usual range from 120 pounds to more than 200 pounds. A 20-horsepower engine on the brake, should weigh between 2,400 and 4,000 pounds. The heavier engine will likely be the most costly. Engine speeds vary from 400 revolutions a minute to 1,800 revolutions a minute. As the engine usually drives the pulley direct, a proper rotative speed should be selected for the work in hand. Engine horsepowers range from two to 60 or 70, even larger.

The first tractors were adopted from mounting a motor car engine on trucks. Such an engine may give good results in a laboratory but experience has shown that they will not stand up in the field. Some manufacturers still cling to such ideas and naturally their product is not the equal of other manufacturers who keep abreast of the times.

In some localities it is found that an air cleaner, to remove the dust from the air supplied for combustion within the cylinder is a necessity. This is now a part of the standard equipment on many tractors.

Do Not Judge Too Quickly

Perhaps the worst abused piece of machinery is the modern tractor. Many owners seem to think that as it is a cold piece of iron and steel it can accept any kind of treatment. However it is a fact that a tractor will respond to kindly treatment better than a horse. It has been demonstrated that two tractors of exactly the same kind may in the hands of one owner last but two or three seasons while in the hands of another owner it will have a useful and satisfactory life in excess of 12 years. The experience of a single neighbor or friend should not be depended upon too strongly unless conditions are known and are considered in arriving at a decision.

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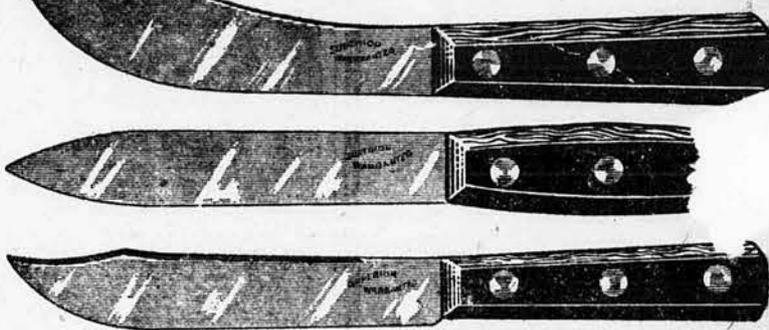
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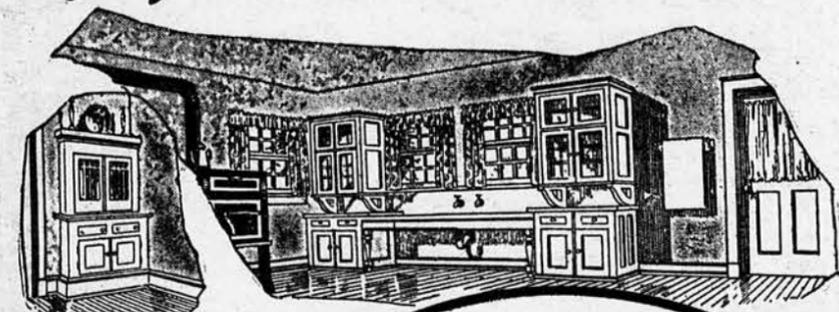
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Sane Thinking Has Won

BY F. B. NICHOLS

THERE ARE indications that the wave of radicalism has reached its height, and has broken on the rock of common sense. If this is true it is a most happy thing, and a great triumph for American farmers, who have supplied much of the solid background of sanity which has carried the United States thru the abnormal crisis of the last year. The common sense shown by the farmers of this country since November 11, 1918, is one of the things which historians of the future will record with great satisfaction.

In this time many leaders of labor and of capital have given demonstrations of silly and selfish reasoning and action which will be regarded with amazement by future generations. Some organizations of individuals have apparently gone on the theory that they were superior to government; that they could say "must" to the great bulk of the population of this country. The ideal of true service to the people has apparently been absent in many cases from the reasoning of men, despite the fact that many thousands of the best young men of our land had only a few short months before given their all in service for America along the Marne, the Meuse and in the hell of the Argonne.

But the memory of these men—the best of the youth of our land—has been kept in the foreground in the thinking of the farmers of America, and especially in Kansas. Certainly we ought to be willing to live and work for the ideals for which the best of our land died. And farmers as a class have been. With a belief in the principles of democracy they have gone ahead calmly, thinking wisely, and working steadily. That is why the future is bright with promise today, for liberty under law is supreme in America as never before. The future is secure in the promise of justice for all the people.

A Windbreak Pays

When the winter winds are blowing there are many farmers who wish they had a windbreak on the exposed side of their homes. A windbreak provides a fine protection for livestock and gives the cows a chance to spend sunny days outside when the cold winds would otherwise be uncomfortable.

A double windbreak will give the most protection if there is room for such a planting. The rows can be 6 or 8 feet apart with the trees alternated 10 feet apart in the rows. The best evergreens for the windbreak are a little under 2 feet in height, as such trees soon brace up after transplanting and then make a rapid growth. Evergreens do not succeed well in sod and will do best if the soil has been used the previous year for corn or potatoes, suggests the Ohio Farmer. The best time for planting is in the spring. Of course, the trees are always carrying foliage and it means that a lot of moisture is needed for transplanting to keep them growing vigorously.

Without a doubt a good windbreak will increase the real estate value of a farm as it helps to protect the farm and the crops at all seasons. Even in the summer a corn crop will be protected from hot drying winds by an evergreen windbreak and often the increased yield of other crops will make up for the grain lost on the land that is occupied by the windbreak.

In the fall the poultry can range better if the air on the range is comparatively still. Often a day will be sunny and yet the wind be so strong that the birds will seek shelter. A strong wind raises the warm feathers away from their bodies and chills the skin. Livestock suffer less from cold than they do from chilling winds and drafts, and it saves feed and increases their vigor to protect them with a windbreak.

An orchard often needs the protection of an evergreen windbreak. Windstorms break the limbs when loaded with fruit or scatter unripened fruit on the ground. By lessening the force of the wind against the orchard it is sometimes possible to reduce the injury during storms. Frequently windstorms cause much anxiety on farms and tip over poultry houses and corncribs, even

if they do not develop into cyclones and do serious damage to human life and large and expensive farm buildings. It seems the need for windbreaks will be greater every year, as more of the woodlots are constantly being removed for lumber and fuel.

Excellent for Wheat

BY B. O. MOFFITT
Simpson, Kan.

I have a Titan 10-20 tractor and have plowed 100 acres at a cost of \$48.50, double disked 100 acres at a cost of \$25.33, harrowed 90 acres at a cost of \$6.25, making a total cost of \$80.08. I consider the tractor most valuable for preparing ground for wheat. This is all I have used my tractor for as I bought it in August, 1919. I was inexperienced in handling a tractor, but it gave me no bother. I have had no expense for repairs. It runs just as well as the day I bought it. As to which is the cheaper, motor power or horse power, here is my experience. I hired a man to run my disk three days. He double disked 20 acres, charging me \$5 a day. His board cost \$1.50 a day or \$4.50. Horse feed at \$2.50 a day amounted to \$7.50. This added to his wages or \$15 made a total of \$27. I double disked 100 acres, or five times as much, at a total cost of \$25.33.

Cheaper Than Horses

BY J. STOPPEL
Ellsworth, Kan.

We have used a Heider 18-20 tractor for the last six years and find it a safe investment. Altho we have used it for plowing and disking only, we have found the work could be done cheaper with it than with horses, figuring the value of horses and tractor and the amount of work that can be done. The tractor can be put to many other uses on the farm, such as belt work and hauling. Before the advance in price for gas and oil it cost 34 cents an acre for fuel and oil. At the present prices it would cost more an acre. The more experienced the operator, the greater the success obtained. The tractor is like the horse. Take care of it and it will do the work.

Prizes for Poultry Letters

THE Kansas Farmer and Mail and Breeze desires to get letters from farmers everywhere in the state telling about their experiences in raising and marketing poultry. We know that this will take some of your time, but we are willing to pay you for the effort and will make it worth while. No matter whether you have made a success or a failure in trying to do certain things your experience will be valuable to some one else.

You may write on any phase of the work that you think of most interest, but short letters will answer our purpose best. For the best letter a prize of \$10 will be given, and for the second best a prize of \$5. All letters should reach us on or before February 1. Address all letters to the Poultry Editor, The Kansas Farmer and Mail and Breeze, Topeka, Kan.



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SEEDS

SEED BARLEY, \$2 PER BUSHEL, SACKED. Herman Pautsch, Lincoln, Kan.

SEED CORN, EARLY AND LATE VARIE-ties. Laptad Stock Farm, Lawrence, Kan.

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BEST WHITE BLOSSOM SWEET CLOVER seed, reasonable. John Lewis, Route 1, Madison, Kan.

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WANTED - HEDGE POSTS IN CARLOAD lots. Chas. Peterson, Thayer, Kan.

WANTED - HEDGE POSTS, CARLOAD lots. Nunn & Kline, Box 466, Columbus, Kan.

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LANGSHANS.

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S. C. WHITE LEGHORNS, COCKERELS 6 for \$10. Will Tonn, Havens, Kan.

S. C. WHITE LEGHORN COCKERELS, \$1.50. F. W. Wirt, Preston, Kan.

ROSE COMB BROWN LEGHORN COCKERELS, \$1.50. Otto Borth, Plains, Kan.

SINGLE COMB WHITE LEGHORNS, COCKERELS, \$2. C. C. Phillips, Tescott, Kan.

ROSE COMB BROWN LEGHORN COCKERELS, \$2. Ida Standifer, Reading, Kan.

CHOICE EGG BRED BUFF LEGHORN COCKERELS, \$2. Ollie Oshorn, De Soto, Kan.

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SINGLE COMB BROWN LEGHORN COCKERELS, \$2.50, \$3. John Linke, Raymond, Kan.

SINGLE COMB WHITE LEGHORN COCKERELS, \$1.50. Herman Pautsch, Lincoln, Kan.

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SINGLE COMB WHITE LEGHORN COCKERELS, large variety, \$2.50 to \$5. Lillian V. Orr, Coats, Kan.

LARGE BONED, YELLOW LEGGED Barred Rock cockerels, \$2 each. L. K. Poo, Lowmont, Kan.

SINGLE COMB WHITE LEGHORN COCKERELS, heavy laying strain, \$2. Vivien Hind, Madison, Kan.

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PURE BRED SINGLE COMB WHITE LEGHORN cockerels, \$2 to \$4. Mrs. Della Van Horn, Nickerson, Kan.

PURE SINGLE COMB WHITE LEGHORN cockerels, \$1.50; six for \$7.50. Agnes Wilson, Grantville, Kan.

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WINTERLAY-BARLOW'S WELL KNOWN strain, Hogenized Single Comb White Leghorns, standard. Bred to lay and do it. Flock of 160 laid 146 eggs January 17th. Eggs, chicks, catalog. Barlow & Sons, Kinsley, Kan.

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BUFF PLYMOUTH ROCK ROOSTERS FOR sale. H. M. Davis, Hatton, Kan.

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BUFF ROCK COCKERELS, \$3.50 AND \$5. E. L. Stephens, Garden City, Kan.

PURE BRED WHITE ROCK COCKERELS, \$2. Mrs. Geo. F. Garr, Grenola, Kan.

WHITE ROCK COCKERELS, \$2.50 EACH. Anton E. Peterson, Morganville, Kan.

LARGE BARRED ROCK COCKERELS, \$3 each. Mrs. Wm. Slayter, Jewell, Kan.

PURE BRED WHITE ROCK COCKERELS, \$3.50-\$2.50. Mrs. Elwin Dales, Eureka, Kan.

BARRED ROCK COCKERELS, \$2.50 EACH if taken soon. C. S. Jordan, Brewster, Kan.

PREMIUM BARRED ROCK COCKERELS, \$3 to \$5. Mrs. Howard Barnard, Madison, Kan.

BARRED ROCK COCKERELS FOR SALE. Write your wants to L. Thomas, Wetmore, Kan.

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PURE LARGE BARRED ROCK COCKERELS, \$2.50-\$3 each. Agnes Wilson, Grantville, Kan.

PURE BRED WHITE ROCK COCKERELS, large type, \$3.50 each. F. D. Noomille, Huron, Kan.

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ROSE COMB RED COCKERELS, DARK red, large bone, from good layers, \$3 to \$5; pullets, \$3. Mrs. Maude Smith, Aiden, Kan.

ARISTOCRAT BARRED ROCK COCKERELS, \$3 to \$5. Satisfaction guaranteed. Send us your order. James H. Parsons, Quinter, Kan.

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SIMS BARRED ROCKS WON JANUARY, 1920, at Kansas City poultry show, eight regular prizes and tied for best display. Evidence enough for quality. Great winter layers. Mated breeding pens a specialty. Cockerels and pullets, \$4 and \$6 each. Guaranteed satisfaction. Geo. Sims, LeRoy, Kan.

RHODE ISLAND REDS.

PURE S. C. RED COCKERELS, \$3-\$5. Mrs. Finney, Ogden, Kan.

ROSE COMB RED COCKERELS, \$2. MRS. J. H. Oglin, Hooker, Okla.

ROSE COMB RED COCKERELS, \$3 TO \$5. Laura Tegarden, Turon, Kan.

SINGLE COMB RED COCKERELS, \$3 TO \$7. Mrs. Ira Amend, Stafford, Kan.

LARGE, DARK RED, ROSE COMB REDS, \$2 up. Mrs. F. Hawley, Belpre, Kan.

SINGLE COMB RED COCKERELS, \$2.50 and \$3. Chas. Olsen, Alta Vista, Kan.

DARK RED SINGLE COMB COCKERELS, \$2.50 each. Josie Jones, Arcadia, Kan.

FINE ROSE COMB RED COCKERELS, \$2.50-\$4. Verne Paddock, Hunnewell, Kan.

ROSE COMB REDS, BEAN AND TOMPKIN strain. C. D. Wood & Son, Elmdale, Kan.

BRILLIANT REDS, SINGLE COMB, large bone, \$3. Claude Meade, Anthony, Kan.

SPLENDID ROSE COMB RED COCKERELS, \$2.50 to \$5. Lucy Ruppenthal, Lucas, Kan.

SINGLE COMB RHODE ISLAND RED COCKERELS, \$2 each. Mary Smutz, Lian, Kan.

ROSE COMB RHODE ISLAND RED COCKERELS \$2.25. Mrs. Zella Young, Bloom, Kan.

CHOICE S. C. RED COCKERELS AND hens, \$2 up. M. E. Hawkins, Mound City, Kan.

VELVETY ROSE COMB RHODE ISLAND COCKERELS, \$3, \$5. Mina Johnson, Route 1, Erie, Kan.

ROSE COMB RHODE ISLAND COCKERELS, \$3; pullets, \$2. Della Schultze, Quenemo, Kan.

PURE BRED ROSE COMB RED ROOSTERS, \$3.50 each. Mrs. Edgar Franklin, Wilmore, Kan.

LARGE, DARK VELVETY RED COCKERELS, Single Comb, \$2.50. Edna Knisley, Talmage, Kan.

ROSE COMB REDS-EGGS FOR HATCHING. Mating list free. Alfred S. Alberty, Cherokee, Kan.

PURE BRED ROSE COMB RHODE ISLAND Red cockerels, \$2 to \$5 each. C. S. Holtzinger, Ellis, Kan.

SINGLE COMB COCKERELS, TEN YEARS a breeder. Satisfaction. J. J. Smith, Burlingame, Kan.

CHOICE ROSE COMB RHODE ISLAND Red cockerels, \$2.50 and \$3. Chas. E. Booth, Paradise, Kan.

THOROBRED ROSE COMB DARK RED COCKERELS, Bean strain, \$3-\$5. Mrs. Lillie Wayde, Burlington, Kan.

R. C. RHODE ISLAND RED COCKERELS from state show winners, \$3-\$5 and up. Ruby Morris, Rosalia, Kan.

PURE ROSE COMB RED COCKERELS, good shape and color, \$1.50-\$3. Mrs. Walter Miller, Winfield, Kan.

LARGE DARK RED ROSE COMB REDS, good scoring. Satisfaction-guaranteed. Highland Farm, Hedrick, Ia.

SINGLE COMB REDS, PULLETS AND COCKERELS, Ricksecker strain, cheap, good reasons. Robt. Murdoch, Baldwin, Kan.

SINGLE COMB REDS THAT PLEASE OUR customers, \$3-\$5. Choice runner drakes, \$1.50. Hamm Dairy Farm, Humboldt, Kan.

EARLY HATCH, DARK RED ROSE COMB Rhode Island cockerels, \$3, \$4. Guaranteed. Walter Baird, Deerhead, Kan.

ROSE COMB RED COCKERELS, \$3 AND up. Chicks and eggs from prize winning stock. Mrs. R. E. Hailey, Wilsey, Kan.

PURE BRED ROSE COMB RED COCKERELS, well developed, from prize winning stock, \$2 to \$5. E. A. Bryan, Emporia, Kan.

SINGLE COMB RED COCKERELS, TYPE, color and vigor combined, \$3, \$5 on approval. J. A. Bockensette, Fairview, Kan.

HEART OF AMERICA WINNER SINGLE Comb Reds, Tenth cockerel in class of 92. Cockerels with good color, type and vigor, \$5 to \$15. Choice hatching eggs, mating list free. Olive E. Jones, Parsons, Kan.

RHODE ISLAND REDS.

ROSE COMB RED COCKERELS, \$2 TO \$5, prepaid. Booking orders now for baby chicks. Mrs. Gilbert J. Smith, Lyons, Kan.

PURE BRED ROSE COMB RHODE ISLAND Red cockerels, \$3 each, of a good laying strain. August Kohler, Cheney, Kan.

DARK ROSE COMB RHODE ISLAND RED COCKERELS, also three cocks, large, bony type, \$3.50 and \$4. Chas. Jacob, Chapman, Kan.

ROSE COMB REDS-FINE LOT OF ROBUST, deep colored cockerels. Longfield strain, \$3 and \$5. A. R. Hoffman, Haddam, Kan.

MY ROSECOMB REDS WON FIRST PEN state show three years straight. Cockerels \$2.50 to \$7. Morris Roberts, Hoisington, Kan.

RHODE ISLAND RED COCKERELS, strictly pure and fine, three to five dollars. Guaranteed. M. A. Jones, Scottsville, Kan.

SINGLE COMB RHODE ISLAND RED COCKERELS, velvety red. Tompkins strain, \$2.50 to \$3.50. Mrs. D. S. Sloan, Sedgwick, Kan.

LARGE DARK SINGLE COMB RHODE ISLAND Red cockerels, big boned, from scored birds, \$3 to \$5. Mrs. Frank Melcher, Seneca, Kan.

S. C. RHODE ISLAND RED COCKERELS that characterize true Reds. Will give absolute satisfaction. Mrs. E. S. Monroe, Ottawa, Kan.

FINE LARGE BONED S. C. RED COCKERELS from the famous C. P. Scott strain direct. Eggs in season. Mrs. W. W. Scott, Route 5, Topeka, Kan.

LARGE, DARK, VELVETY RED COCKERELS, Single Combs, \$2, \$3, \$5 each. Fine Bourbon Red turkey toms, \$6; hens, \$5. Mrs. T. A. Hawkins, Wakeeney, Kan.

DARK RED SINGLE COMB RHODE ISLAND Red cockerels, big boned, early hatched, farm raised, \$3.50 to \$10. Boyd & Graham, Longview Farm Route 7, Topeka, Kan.

ROSE COMB RHODE ISLAND WHITE COCKERELS, \$5, \$7.50 and \$10. Guaranteed satisfaction. Seven years a Rhode Island White breeder. Mrs. John F. Nevin, Arrington, Kan.

RHODE ISLAND REDS THAT ARE RED for sale. Cockerels, large single comb, \$2, \$3, \$5 each. We have tested nine years for laying qualities. Eggs \$10 per hundred. Henry Lenhart, Hope, Kan.

WYANDOTTES.

ADVERTISE YOUR STOCK IN THE SPECIAL poultry number, February 7.

GOOD SILVER WYANDOTTE COCKERELS, Henry L. Brunner, R. 5, Newton, Kan.

PURE WHITE WYANDOTTE COCKERELS, \$3 choice. Nora Elliott, Haviland, Kan.

WHITE WYANDOTTE COCKERELS, three dollars. Mary Lowe, Alma, Kan.

I AM STILL SELLING SILVER WYANDOTTES. M. B. Caldwell, Broughton, Kan.

GOLDEN LACED WYANDOTTE COCKERELS, C. C. McCandless, St. John, Kan.

CHOICE BUFF WYANDOTTE COCKERELS, \$5. Fannie Nofsinger, Lane, Kan.

PURE ROSE COMB WHITE WYANDOTTE COCKERELS, \$2. Vernie Smith, Studley, Kan.

PARTRIDGE WYANDOTTES; COCKERELS, \$3, \$5 each. DeBusk Bros., Macksville, Kan.

GOOD GOLDEN WYANDOTTE COCKERELS, \$2.50. Mrs. Geo. Effland, Victor, Kan.

WHITE WYANDOTTE COCKERELS, \$3 each. Mrs. Emma Arnold, Manhattan, Kan.

WHITE WYANDOTTE COCKERELS, \$2 and \$2.50 each. Mrs. Epps Raney, Kimbal, Kan.

WHITE WYANDOTTE COCKERELS, \$3-\$5, pullets, \$3. Mrs. Robt. Greenwade, Blackwell, Okla.

CHOICE GOLDEN WYANDOTTE COCKERELS, \$2 each. Frank Dietrich, Miltonvale, Kan.

THOROBRED WHITE WYANDOTTE COCKERELS, \$2.50 each. Mrs. John Howard, Clyde, Kan.

ROSE COMB WHITE WYANDOTTE COCKERELS, \$2.50. Sade Springer, R. 4, Manhattan, Kan.

CHOICE WHITE WYANDOTTE COCKERELS, \$2.50 each. Mrs. Ed Ecklund, R. 1, Herington, Kan.

MAMMOTH BRONZE GOLDBANK STRAIN toms, \$10 and \$15. Freda Peckenpaugh, Lake City, Kan.

THOROBRED WHITE WYANDOTTE COCKERELS, \$3 to \$5. Eggs, \$7 per 100. Bruce Taylor, Alma, Kan.

ROSE COMB WHITE WYANDOTTE COCKERELS, \$3; hens, \$2. Dustin strain. J. O. Stewart, Wamego, Kan.

SOME EXTRA GOOD COLUMBIAN WYANDOTTE COCKERELS, \$3 and \$

To Reduce the Crop Costs

Kansas Farmers Anxious to Buy More Tractors

BY JOHN W. WILKINSON

FARM products in 1919 rose to the record amount of \$24,982,000,000 or nearly three times the amount shown in 1909. This is certainly a remarkable development for a period of 10 years. The farm crops alone of 1919 are valued at \$16,025,000,000. In this list are items, and groups of items that each exceed a billion dollars. By far the most valuable single crop is corn, the computed value of which, at \$1.35 a bushel, is \$3,934,000,000, or more than the farm value of all crops before 1904. No dream of expectation could have foreseen either the 2,917,450,000 bushels of this crop or their value when Whittier wrote his injunction to "heap high the golden corn; no richer gift has autumn poured from out her lavish horn."

The cotton crop, notwithstanding a

low production in quantity and export difficulties, is next, altho far below corn, in value, with \$1,969,000,000 for lint and \$2,325,000,000 for lint and seed. Not so very many years ago cotton had third or fourth place in order of value, but its recently acquired second place seems to be permanent.

Hay Crop Worth Billions

The hay crop has been second to fourth in value for many years. Third in order in 1919, the 109 million tons of this crop had a farm value of \$2,129,000,000, and if to this is added the value of the pasturage the total may be as much as 3 to 3 1/2 billion dollars, high enough to be in company with corn.

Wheat, according to the estimate, had an average farm price of 11 cents a bushel in 1919 above the price of 1918, or \$2.15 a bushel. With a value of \$2,024,000,000, it is as low as the fourth crop in order, notwithstanding its spectacular proportions of 941 million bushels.

All cereals combined have grand total value of \$7,474,000,000, or more than the annual value of all farm crops before 1916. The vegetable total, including potatoes and sweet potatoes, is \$1,479,000,000; the fruit total, 730 million dollars; the seeds total 261 million dollars, including beans and peanuts; the sugar-producing crops, 147 million dollars.

Huge Livestock Values

In the total farm value of animal products, \$8,957,000,000, the chief group of items is the value of animals sold and slaughtered, which is placed at \$4,634,000,000. Next below this group is that of dairy products, whose value of \$2,789,000,000 is reckoned at the farm and in the form in which they left the farm. Poultry products follow with \$1,359,000,000, and wool with 160 million dollars.

During the coming year it is predicted that the value of many farm crops will increase. This is especially true of wheat. In the production of this crop and other farm products last year Kansas was one of the leading states. A large part of the increased wheat production was made possible thru the use of tractors. The wheat planted in Kansas last year comprised an area of 17,969 square miles or as much land as is contained in 16 of the largest counties in the state. The last official report showed that there were 8,689 tractors on Kansas farms which was an increase of 60 per cent of the number reported for the previous year. At the same ratio of increase this would mean that in 1920 farmers would purchase 5,213 machines. However, the shortage of labor and its high price will increase the demand for tractors more than ever and I hope to see 15,000 tractors or more in the state by the end of 1920. Last year the number of tractors in use were distributed in the following way in the various counties of the state: Allen, 96; Atchison, 51; Barton, 168; Bourbon, 55; Butler, 75; Cherokee, 71; Clay, 77; Cloud, 107; Coffey, 99; Cowley, 134; Crawford, 60; Dickinson, 265; Doniphan, 22; Douglas, 78; Finney, 86; Ford, 128; Franklin, 78; Geary, 58; Harvey, 180; Jackson, 61; Jefferson, 90; Labette, 142; Leavenworth, 81; Lyon, 127; Montgomery, 91; Neosho, 53; Pratt, 111; Reno, 268; Rice, 123; Riley, 63; Saline, 191; Sedgwick, 144; Shawnee, 82; Sumner, 289; Wilson, 78; Wyandotte, 15. Farmers are showing much interest in the coming tractor shows at Kansas City and Wichita and a large number of them will be in attendance with a view to selecting tractors for their use this year. Kansas no doubt will invest heavily in these machines in order to increase and cheapen cost production of crops. Local conditions on the farms for this month are shown in the following county reports:

Allen—Weather has been cloudy this week and some rain and sleet have fallen. Ground now is covered with 1/2 inch of ice. This is hard on wheat. Livestock is healthy and wintering very well. Our local auctioneer reports 102 sales since August 1, and other auctioneers have held some livestock sales well at public sales, especially mules and farm mares.—T. E. Whitlow, Jan. 24.

Anderson—Prospects for this year's wheat crop are not very promising. There is no snow on the ground, and the freezing and thawing which we have had has been hard

on wheat. Some early sown fields are satisfactory. It is difficult to get cars to ship wheat and hay. Wheat is worth \$2.25; corn, \$1.50; flour retails \$3.60 for 48 pound sack; fat hogs, 14c; eggs, 50c.—C. W. Kiblinger, Jan. 22.

Barber—Ground is covered with a light sleet, and the thermometer is 20 degrees below zero. Most farmers believe that wheat is all right, but it does not show up much. No active trading in livestock is being done, except with mules, which sell well. Livestock is wintering well. Farmers have done no spring work. Butterfat, 59c; butter, 50c; eggs, 45c; poultry, 25c.—Homer Hastings, Jan. 24.

Chautauqua—Weather is very disagreeable and hard on wheat. Feed of all kinds is scarce and high. Not nearly so much oats will be sown as was first intended because seed is so high. Hogs are scarce, and there are very few brood-sows in the county. Corn is worth \$1.75; oats, \$1; seed oats, \$1.25; shorts, \$3; bran, \$2.30; corn chops, \$3.50; cotton seed meal and cake, \$4.50; eggs, 60c; butterfat, 60c; butter, 50c hogs, \$12 to \$14.—A. A. Nance, Jan. 24.

Cloud—The cold wave which struck here three days ago was followed by less than an inch of snow. No farm work is being done except getting wood and hauling manure. Livestock is doing well, altho some losses have been reported, in stalk fields. Hogs still are scarce, and the spring pig crop will be light. Some large farms are selling at a good price. Hens are not laying very well and eggs sell for 50c.—W. H. Plumly, Jan. 23.

Coffey—Weather is cold and stormy. Ground is covered with ice and travel is difficult. We have plenty of rough feed and hay, but corn is being shipped in. Early sown wheat is in good condition, but late sown does not look well. Everything sells for good prices at public sales.—A. T. Stewart, Jan. 24.

Decatur—Weather is colder. There is plenty of moisture for growing wheat. Livestock is doing well and we have plenty of feed. Wheat is selling for \$2.60; ear corn, \$1.20; cream, 58c; eggs, 40c.—Harry Hanchett, Jan. 22.

Douglas—We are having winter weather and a light snow fell January 22 which covered wheat, and greatly benefited it. Late sown fields look bad. Farmers are sawing wood. Few sales have been held. Some farmers are selling at good prices. Livestock is doing well, and no disease has been reported. Corn is worth \$1.60; wheat, \$2.50; hogs are going up.—O. L. Cox, Jan. 24.

Edwards—A light snow fell January 23. The ground was getting dry and some fields were beginning to blow, especially in the sand. Corn husking is completed, except in a few isolated fields, but considerable cane and kafir remain to be topped. Weather has been warm during January, permitting farmers to complete some farm work which was delayed in the early winter because of cold weather.—L. A. Spitz, Jan. 23.

Ellis—Weather has been cold the past week and it looks as if it might snow. This weather is hard on livestock, and it probably will damage wheat as it has no protection. Feed is plentiful. There still is a great deal of threshing to be done.—C. F. Erbert, Jan. 24.

Franklin—Weather has been pleasant since Christmas but a change is pending, and the ground now is covered with sleet. Some wheat has not come up yet, but other fields seem to be satisfactory. Some farmers are hauling water. Public sales are more numerous and everything sells very well. Livestock is doing well. Wheat, \$2.50; corn, \$1.50; hay, \$16 to \$22; eggs, 52c.—E. D. G., Jan. 24.

Harvey—We had a cold wave January 20 but weather has moderated. It now is cloudy. Livestock is doing very well, and prices are improving. Wheat is \$2.65; corn, \$1.62; oats, \$1 to \$1.10; butter, 50c; eggs, 48c; apples, \$2.80 to \$3; potatoes, \$2.40; flour, \$3.30.—H. W. Prouty, Jan. 23.

Haskell—Wheat is in good condition altho moisture would benefit it. Livestock is doing well as weather has been mild. Considerable cattle are going to market.—H. E. Tegarden, Jan. 24.

Kingman—We had some rain January 22 which froze as it fell. It benefited wheat, but makes traveling difficult. No farm sales have been held. One farm sold last week for \$100 an acre. Elevators are full and we can get no cars. Farmers are buying seed for spring planting. The agent for Kingman county bureau is urging better seeds, and home grown. He made good in his work last year. Butter, butterfat and eggs are lower.—W. C. Craig, Jan. 24.

Labette—Farmers are hauling wood and feed. The snow has gone, but it looks as if more would fall. A good many cattle are dying. Wheat has been damaged some by thawing and freezing. Cream, 65c; potatoes, \$3.20; eggs, 60c; sugar, 18c.—J. N. McLane, Jan. 23.

Linn—The warm weather drew most of the frost out of the ground, but little plowing has been done. We are having a heavy sleet which is considered bad for wheat. All unnecessary farm work has been suspended. A number of farms have changed hands at fair prices. Livestock is doing well. Kafir filled well, and is making excellent feed. Some farmers are sawing wood and coal is more plentiful. Fat hogs are scarce and some farmers are butchering. Sugar is scarce and high. There still are a few farms for rent here. Wheat is \$2.25; oats, 70c; corn, \$1.25; potatoes, \$3.90.—Mrs. O. J. Mitchell, J. W. Clinesmith, Jan. 23.

Marion—Weather has been very pleasant for January. Farmers were beginning to get a good start with plowing when it froze again. We had a heavy sleet January 22, but have had very little snow this winter. Wheat that didn't come up last fall came up the last two weeks. Sales are starting again. Eggs are worth 50c; wheat, \$2.70; corn, \$1.70; kafir, \$1.75.—Jac. H. Dyck, Jan. 23.

Ottawa—Mild winter weather prevails with 1 to 2 inches of snow on the ground. Many farmers have taken advantage of the mild January weather and good prices to haul their wheat. A great amount of wood has been worked up this month. Wheat has a small top but has not been winter killed. Census takers have finished their work here.—W. S. Wakefield, Jan. 24.

Pottawatomie—More snow fell January 22 which was beneficial to growing wheat. It is standing the freezing well. More public sales are being held and everything brings satisfactory prices. Corn is worth \$1.55; oats, 92c; seed oats more than \$1; eggs, 55c; butter, 50c; hens, 28c; hogs, \$14.50.—F. E. Austin, Jan. 23.

Rawlins—Weather was fair the past week, and the snow is nearly all melted.—Roads are muddy. Elevators are full, and we have no cars. Farmers are disappointed because they cannot haul wheat. There is much wheat in bins yet. Much corn still is in the

field. Livestock is doing well. Wheat is worth \$2.50 to \$2.55.—J. S. Skolant, Jan. 16.

Ellis—Weather is cold and a light snow is on the ground. A large number of sales have been held and livestock sells rather low. Ground is frozen but wheat still is in good condition. Livestock is doing well, and feed is holding out. Farmers are shipping in corn to feed. Not many hogs are left in pens, and there is a decreased number of brood sows. Corn, \$1.50; eggs, 50c; butterfat, 60c; No. 2 wheat, \$2.50.—P. O. Hawkins, Jan. 24.

Trego—Weather is very pleasant, and frost is nearly out of ground. Wheat is beginning to grow. Threshing is progressing satisfactorily, but the grain is in bad condition. There is plenty of feed for livestock. Corn shelling is in progress. Farmers raised a good crop of corn, sorghum, kafir and other small grain.—C. C. Cross, Jan. 19.

Growing Evergreens

BY CHARLES A. SCOTT

When is the best time to plant and trim evergreens?

This question, received from several parts of Kansas by the editorial department of Kansas Farmer and Mail and Breeze recently may indicate more of an interest than usual this year in the planting of evergreens. In this state the most successful results are obtained from early spring planting. The exact time of planting varies from year to year with seasonal conditions. Usually the most favorable weather conditions prevail between March 25 and April 20. However, if the latter part of March and the fore part of April is cold and dry as has been the case the last two years it is a good plan to defer planting until the weather warms up and the spring rains begin.

Trees of all kinds survive transplanting much better if planted when the weather conditions favor rapid development. Winter planting is not safe except for trees that have large balls of earth adhering to their roots. If the planting is done before freezing weather is over the newly set trees will suffer seriously. Freezing dries the foliage and the roots are not active enough to supply the needed moisture when the temperature is low.

Late planting is equally as undesirable. The extreme heat of the season develops the buds and brings out the leaves faster than the roots can supply moisture to support the growth, and the trees die of starvation. This statement is contrary to the commonly accepted idea that May or June is the proper time to plant evergreen trees. The fact that they can be transplanted in May or June during favorable weather conditions is merely further proof of their hardiness, rather than evidence that it is the proper time to plant them. For a full discussion of the time and method of transplanting trees, address the Kansas Experiment station, Manhattan, and ask for Circular No. 55.

Evergreen trees may be trimmed at any time it is convenient to do the work if the term is applied strictly to cutting off broken, dead or undesirable branches. When live branches are cut off the resin that exudes from the fresh surface seals the wound against the entrance of moisture or fungous spores. Clipping or shearing such evergreens as the Red cedar or the Chinese Arbor Vitae to develop form and density should be attended to about twice a year. The first time is in April, just before the season's growth begins; and again in July or August. By repeated clippings any desired form may be developed if a definite pattern is followed. Clipping also develops density, which is always desirable in ornamental trees. This treatment is also used to prevent ornamental trees from outgrowing the size desired.

Operating Cost is Small

BY R. E. CRANE
Winfield, Kan.

I bought a 10-20 Mogul tractor in June, 1917, using it for plowing, harrowing, seeding and cutting wheat, also grading roads and threshing with a 20 inch Case separator. The fuel consumption runs about 25 gallons a day at 10 and 11 cents a gallon, making the cost an acre 28 cents. Adding lubricating oil, 2 gallons a day at 45 cents a gallon, would make a cost of 39 cents an acre for fuel and oil. One may count on a repair bill close to \$150 a year on farming 200 acres exclusively with a tractor, so after balancing all up the cost is \$365, less the driver, or \$182 an acre for plowing, harrowing, seeding and cutting.

TURKEYS.

- PURE BOURBON RED TOMS, \$7. F. E. Tonn, Route 3, Haven, Kan.
- BOURBON RED TOMS, \$10-AND \$8; HENS, \$6. Carrie Yapp, Jewell, Kan.
- WHITE HOLLAND TOMS, \$7; HENS, \$5. Mrs. R. A. Lewis, Timken, Kan.
- BOURBON RED TOMS, \$10; HENS, \$7. Mrs. H. Passmore, Wayne, Kan.
- PURE FINE BOURBON RED TURKEYS white Rena Ghehrst, Peabody, Kan.
- PURE BRED MAMMOTH BRONZE TURKEYS. Mrs. Leroy Fisher, Peabody, Kan.
- PURE WHITE HOLLAND TURKEY TOMS, \$7; hens, \$6. Frank Darst, Fredonia, Kan.
- BRONZE TURKEYS FOR SALE. WRITE Stone, the Bronze turkey man, Columbia, Mo.
- GOLD-BANK BRONZE TURKEYS. BEAUFEST; toms, \$10; hens, \$7.50. Mrs. A. Burg, Lathin, Kan.
- FOR EXTRA FINE YOUNG MAMMOTH Bronze turkeys write to R. L. Parrott, Osborne, Kan.
- PURE BRED MAMMOTH BRONZE TURKEYS. Toms, \$12; hens, \$7. W. Williams, Carlton, Kan.
- PRIZE WINNING WHITE HOLLAND TURKEYS. Toms, \$10; hens, \$6. Grace Scott, Anthony, Kan.
- MAMMOTH BRONZE TOMS, YOUNG, 20 to 30 pounds, \$8 and \$10. Mrs. Elmer Cogwood, Raymond, Kan.
- LARGE, WHITE HOLLAND TOMS, \$10; hens, \$8. Barred Rock cockerels, \$3. Norman Gross, Russell, Kan.
- EXTRAORDINARY FINE MAMMOTH Bronze turkeys for sale. None better. Exceptional prices. Gertrude Washington, Kensington, Kan.

SEVERAL VARIETIES.

- 1919 COCKERELS, 49 VARIETIES. FREE book. Aye Bros., Blair, Neb., Box 5.
- CHOICE WHITE ROCK COCKERELS, white guineas, Buff Orpington ducks. Mrs. Chas. Snyder, Effingham, Kan.
- 88 BREEDS, FINE PUREBRED CHICKENS, ducks, geese, turkeys. Stock and eggs. Catalog 4c. A. A. Ziemer, Austin, Minn.
- MAMMOTH TOULOUSE GEESSE, BOURBON turkeys, Buff Orpington and Partridge Rock cockerels. Mrs. Frank Neel, Beverly, Kan.
- PURE BRED WHITE ROCK AND RHODE Island White cockerels, four and five dollars. Exceptionally fine birds. M. A. Jones, Southville, Kan.

POULTRY WANTED.

- RUNNER DUCKS WANTED. EMMA AHLSTEDT, Lindsborg, Kan.
- TURKEYS, CAPONS, DUCKS, GEESSE, guineas, chickens, all wanted. High prices, coops loaned free. The Copes, Topeka, Kan.
- POULTRY—WE ARE BUYERS FOR ALL kinds of poultry and eggs. Get our quotations before selling. Highest references furnished. Witchey Poultry and Egg Co., Topeka, Kan.

POULTRY SUPPLIES.

- MANLY LEE INCUBATOR, 200 EGG, GOOD condition. \$30. Buff Rock cockerels. Missouri Stevens, Humboldt, Kan.
- CLAY COUNTY POULTRY AND PET Association, all breeds and varieties. Free literature. Sec'y H. L. Boge, Harvard, Mo.
- NEW 1,200 EGG CANDEE INCUBATOR for sale. \$175. Used by experiment station. Costs \$238 New York factory. Candee Incubator, \$25. Col. Warren Russell, Winfield, Kan.

STRAY LIST.

- TAKEN UP BY J. F. PARSONS, WHO RESIDES in Center township in Stevens county, on the 28th day of December, 1919, one red steer branded "N" on right side. Age, past year. C. A. Bell, county clerk.
- TAKEN UP BY C. M. BOSLEY, OF OLIVET, Center township, on the ninth day of October, 1919, one female fox hound; color black and tan with some white. Age, about 2 months. Stella Olcott, county clerk.
- TAKEN UP BY OSCAR OLSON, WHO RESIDES at Osage City in Grant township, on the 28th day of November, 1919, one steer, weight about 600 pounds, color red with part white face; with horns; left ear split. Stella Olcott, county clerk.

Real Estate Market Place

Real estate advertisements on this page (in the small type, set solid and classified by states) cost 65 cents per line per issue. Send check, money order or draft with your advertisement. After studying the other advertisements you can write a good one and figure the cost. About six and a half words make an agate line. Count initials and numbers as words.

There are 7 Capper Publications totaling over a million and a quarter circulation and widely used in this advertising. Ask us about them.

Special Notice All advertising copy discontinued or changed and change of copy intended for the Real Estate Department must reach this office by 10 o'clock Saturday morning, one week in advance of publication.

KANSAS

WESTERN LANDS FOR SALE OR TRADE.
J. E. Stohr, Ensign, Kansas.

50 Southeastern Kan. farms for sale. Possession March 1. Robbins & Craig, Thayer, Kan.

BEST FARM BARGAINS for sale in S. E. Kansas by G. W. Meyer, Fredonia, Kan.

WRITE your wants to Bersie Agency, Eldorado, Kansas, for land bargains.

WELL IMPROVED FARMS, \$85 to \$125 per acre. I. N. Compton, Valley Falls, Kan.

203 ACRES, imp., 40 wheat goes, \$112.50 a. Terms. Bert W. Booth, Valley Falls, Kan.

BARGAINS. Bargains in wheat farms and stock ranches. Write for list. W. B. McAdams, Brewster, Kansas.

A 320-ACRE FARM, for sale. For terms, write or come to H. S. Paxton, R. F. D. 1, Mullinville, Kiowa Co., Kansas.

SEE SCOTT CO. Improved half section, \$25; terms; sec. near school, 250 a. wheat, \$30. Terms. R. H. Crabtree, Scott City, Kan.

150 A. CORN, wheat, alfalfa bottom land. Fair improvements, near market, \$11,000. Route 1, Box 15, Langdon, Reno Co., Kan.

FOR SALE—Good farms from \$80 to \$125 per acre. Call on, or address, O. C. Faxon, Meriden, Kansas.

FOR SALE—1,000 acres, well improved wheat, alfalfa and stock ranch. A. C. Bailey, Kinsley, Kansas.

720 ACRES, good wheat and corn land, for sale. Two bodies, terms. Write owner. E. E. White, Akron, Colorado.

GOOD IMPROVED level 320 a., quick sale. Write for descriptions. Box 231, Minneola, Kansas.

WE CAN SUIT YOU in stock and dairy farms in Leavenworth county, any size. Will Newby, Tonganoxie, Kansas.

FINE HOME—160 near Emporia, all alfalfa, new buildings, near school; \$15,000. T. B. Godsey, Emporia, Kansas.

EASTERN KANSAS FARMS. Large list Lyon and Coffey counties, for sale by Ed. F. Milner, Hartford, Kan.

WE DON'T OWN THE WORLD, we sell it. Write for farm list and pictures. Kansas Land Company, Ottawa, Kansas.

CARY & HOARD, Real Estate Exchange and Loan Agent. Ranches a specialty, sold on commission. Phone 13, Anthony, Kansas.

FOR SALE—All kinds of farms in N. E. Kan. Send for printed list. Silas D. Warner, 727 1/2 Commercial St., Atchison, Kan.

WRITE for our free list of eastern Kansas farms and ranches for sale. The Eastern Kansas Land Co., Quenemo, Kan.

HAMILTON AND STANTON county lands, \$8 up. Write me your wants. Tomson, Syracuse, Kansas.

FOR SALE—Hay meadow, 87 acre farm, 10 miles from Topeka. Priced at a bargain by owner. Jos. Baxter, Clay Center, Kan.

160 ACRES, 4 miles from town, good house, 7 rooms, good barn, other outbuildings, 90 acres wheat, balance grass. Price \$35 per acre. LeRoy Realty Co., LeRoy, Kan.

TWO SQUARE SECTIONS Living water; 6 miles to county seat. Price \$22.50 per acre. Terms. D. F. Carter, Leoti, (Wichita Co.) Kan.

BUY THIS BARGAIN—40 a. improved in Osage county, Kansas; 20 a. growing wheat; \$3,200 gets it if sold quick. Address Owner, 315 Quinton, Topeka, Kan.

THREE GOOD Douglas Co., Kan., improved farms for sale cheap if taken soon, nine to eleven miles southwest of Lawrence. Roy Flory, Lone Star, Kansas.

FARMS ranging from 80 to 600 acres, well improved, for sale. Black loam soil from \$75 to \$100 per acre. Jake Brown, Olpe, Kansas.

480 ACRES, well improved, smooth rich land. Close to town, high school, two railroads. Sell whole or separately. Good terms. Address, A. Gibbs, Kincaid, Kansas.

FOR SALE—202 acres well improved bottom farm, 4 miles from Abilene. Write for description. Mrs. W. T. Reed, R. 1, Enterprise, Kan.

WE HAVE some splendid 40's, 80's, 160's close Ottawa, well improved, good corn, wheat land. Priced worth the money, at your service. Write us. Bridwell-Gilley, Ottawa, Kansas.

40 ACRES, 2 miles good Franklin County town, all tillable, main road, no rocks, good improvements, must be sold. Price \$150 per acre. Write, W. T. Porter, of Kansas Land Company, Ottawa, Kansas.

EASTERN KANSAS FARMS—240 on Borden Condensary milk route. Smooth, good soil, 8 room house, good barn, windmill, all tillable. Price \$17,400.

160 one mile east of condensary, adjoins finest dairy farm in county. 90 for crops, 30 prairie meadow; 49 tame pasture. Good small buildings; fine water supply. \$110 per acre. Depue & Slaughter, Fort Scott, Kansas.

KANSAS

GOOD SOUTHEASTERN KANSAS FARMS For sale on payments of \$1,000 to \$2,000 down. Also to exchange for clear city property. Address The Allen County Investment Co., Iola, Kan.

A WHEAT FARM BARGAIN—160 acres all under cultivation, close to market, only \$4000. Also 600 acre farm, 450 acres under cultivation, \$25 an acre. Write Jas. H. Little, La Crosse, Kansas.

I WOULD rather invest in Wallace county, Kansas, land right now than anywhere I know of. Come and see for yourselves. Live agents bring your men. I show good stuff. A. H. Wilson, Sharon Springs, Kan.

WE HAVE several choice Kaw valley alfalfa and potato farms. Some fine upland farms, good black rich soil, well improved. Close to Lawrence and university. Write Wilson & Clevenger, Merchants Bank Bldg., Lawrence, Kan.

320 ACRES, Lane county, Kansas; close to town, mostly smooth, 190 acres wheat, good improvements, big bargain, only \$32.50 an acre, attractive terms. Mansfield Investment & Realty Company, Healy, Kansas.

REAL BARGAIN—200 acres, 1 1/2 miles from Westphalia, good 7 room house, barn 50x60, implement shed, hog house, everlasting water; price \$65, \$4,000 cash. W. J. Polre, Westphalia, Kansas.

240 ACRES, well improved, price \$100. 145 acres, 60 in wheat, price \$75. 315 acres, price \$125 per acre. Write for description. Triplett Land Co., Garnett, Kansas.

480 ACRES, smooth as floor, only half mile town, Lane county, Kansas; 300 acres wheat, highly improved, good road. Price \$40 per acre, terms. Philip Robinson, Healy, Kansas.

WE HAVE A FARM in the oil belt and have an oil man ready to drill if buyer will lease. Price \$16,000 which is its value as a farm. Other farms. Holcomb Realty Co., Garnett, Kansas.

80 ACRES, well improved, good 9 room house. Good barn, 50 a. in cultivation. 10 a. blue grass pasture, 12 a. prairie hay, 8 miles Waverly, 3 ml. smaller town. Price \$6,200, terms. W. H. Lathram, Waverly, Kan.

PRICED TO SELL—160 half cut, bal. good grass, fair imp., seventeen a. alfalfa, good water. \$55. 154 fine bottom alfalfa land, 3 miles Emporia, \$150. Jas. C. Dwelle, Emporia, Kan.

GOOD FARMING AND OIL LAND 160 acres good farm land, good improvements, close to school, 6 ml. Moline, close to good oil well, unleased, \$80 per acre. Other good farms for sale, \$40 to \$80 per acre. C. H. Wilson, Moline, Kansas.

FOR SALE—160 a. good upland, 80 a. cult., 50 pasture, bal. hay land. Good orchard. Fair improvements, 14 miles of Topeka, 3 ml. of high school and 1 1/2 ml. of grade school. W. F. Kansas Farmer and Mail and Breeze, Topeka, Kansas.

FOR SALE—160 acres of land; 35 acres fenced and watered pasture and hay; balance in fine crop of wheat; two miles from Lindsay, Ottawa Co., Kansas, four miles from Minneapolis, county seat. For price and terms address, M. E. Richard, Gettysburg, Pa.

122 ACRES, 1 mile town, large improvements, some alfalfa, all creek bottom land, 25 acres wheat, 25 acres blue grass pasture, balance for spring crops, fine water, big bargain. Price \$150 per acre. Write W. T. Porter, of Kansas Land Co., Ottawa, Kan.

WE HAVE some bargains in 80's, 160's, 320's. Well improved good corn and wheat land in Greenwood and Elk county, Kan. Some bottom land; also a few ranches. At your service. Write us. Brandt & Stine, Severy, Kansas.

ALFALFA AND WHEAT RANCH—480 a. half in cult., 50 a. of growing alfalfa, 60 a. of wheat all goes to buyer. Good improvements, scales. Price \$25,000 acre. Write for list. Cave Realty Co., Oakley, Kansas.

160 ACRE FARM BARGAIN 7 room house, good barn 36x50; 80 acres in cult., 30 acres choice meadow, 50 acres excellent pasture, rich soil, all tillable, near school and church, 4 miles good town. Snap at \$65 per acre. Come and see this. M. T. Spong, Fredonia, Kansas.

KANSAS—3,120 acres, 2,000 under plow, 7 sets imps., 35 miles fence stone posts, good water. Sold with crops, livestock machinery or without. Syndicate proposition and a good one. Look it over. No trade. Cut into tracts, if too large. L. C. Walbridge, Russell, Kansas.

POSSESSION NOW—Several good farms, share crops to go, one-half section, living water, 60 bottom, 4 miles out, horses, cows, implements, etc., only \$36.25 an acre. If wanting home, get illustrated list 33 real snaps before locating. Buxton Whitmer Co., Ransom, Kansas.

NESS COUNTY, KANSAS, LANDS Good wheat, alfalfa and ranch lands at bargain prices. Several excellent ranches. Write for price list, county map and literature. FLOYD & FLOYD, Ness City, Kan.

96 ACRE FARM at auction, Thursday, February 5, 1920, 6 miles east, 1 1/2 south of Valley Falls. 8 room house, good barn, new garage, other buildings, everlasting springs, 55 acres in cultivation, balance in grass. Fordson tractor, Ford touring car 1918 model, horses, cows, implements, etc. Ben Goddard, Dunavant, Kansas.

KANSAS

GOOD GRAIN AND STOCK FARM 720 acres, 6 miles from town, 220 acres in cultivation, 160 acres fine wheat, balance splendid pasture. Well improved. Price only forty dollars per acre, with good terms. Write for new land list. Justin T. Avery, Traer, Decatur County, Kan.

BANNER CORN COUNTY OF KANSAS. Norton County, Kansas, corn making 40 to 55 bushels to the acre. Good farm land selling at \$40 to \$65 per acre. Special bargain in 240 acre farm, improved, 4 miles out at \$30 per acre. Write today for bargain land list. E. E. Jeter, Land Merchant, Lenora, Kan.

115 ACRES, 3 miles Ottawa. Well improved. Large silo, etc. 35 wheat, 12 alfalfa. Nice home. Possession at once. 155 acres, 4 1/2 miles Ottawa. Well improved 25 wheat, 100 hog tight. Beautiful piece of land. Immediate possession. Write for full descriptions, booklet and list No. 456. Mansfield Land & Loan Co., Ottawa, Kan.

FOR SALE—80 acres, improved, 5 miles Ottawa; price, \$8,000, \$2,000 down, long time on balance. 320 acres, 7 miles Franklin Co. town, all good bottom, good improvements. Price \$100 per a. Inc., \$14,000, 4 yrs. 6%. If you have anything to exchange write, J. T. Frinity, with Kansas Land Company, Ottawa, Kan.

BEST BUY IN JEFFERSON COUNTY 320 acres, 8 room modern house, large barn, garage, double granary, etc. 140 acres clover and bluegrass, 12 acres alfalfa, 40 acres in corn, balance in small grain. Watered by springs, 4 miles from town on R. F. D. 40 miles from Kansas City. Price is only \$150 per acre. If you want to buy a farm of any size come and see me. Benj. J. Griffin, Valley Falls, Kan. Phone 34.

CREEK AND RIVER FARM—200 acres, 4 1/2 miles from here, 4 miles from Strawn, good 8 room house, basement under it all. Barn and sheds and fine chicken house. Young orchard. 20 acres alfalfa, 130 acres fine alfalfa land, 25 a. in wheat, 40 acres native prairie pasture, plenty of timber on creek. This is as good a farm as you can find anywhere. Price only \$150 per acre till February 1, 1920. B. R. Johnson, Hartford, Kan.

560 ACRES, 230 acres of which is good bottom land, 2 miles from Medicine Lodge, on Elm creek, 200 acres in cultivation; 80 acres in alfalfa. Good improvements, plenty of pasture and plenty of good running water. Price \$50 per acre. Terms on \$20,000. 2,000 acres of fine grass land, Ochiltree Co., Texas. On Wolf creek, 300 to 400 acres bottom land, plenty of running water, large per cent can be cultivated. This is an A No. 1 ranch. Price \$12.50 per acre. John Ferriter, Wichita, Kansas.

LYON and CHASE CO. is the place to buy farms. The best land for the money to be had anywhere. Farms from 80 to 1,440 acres. Plenty of creek and spring water, and bluestem grass. Alfalfa, wheat and corn land. Will Albin, Saffordville, Kan.

Ness County Snap 160 acres, 6 miles town, 50 acres cult., balance pasture fenced. Good improvements. House, barn, hen house, well, mill, on phone line and mail route, school across road. Best bargain in Ness county. Price \$4,500, half cost. Immediate possession. G. F. FOUQUET, RANSOM, KANSAS.

The Bargain Counter Right here at Winona is the high spot in value and the low spot in price. Come and see. Improved farms and ranches, grain, alfalfa and grass lands. We own or control our bargains. THE BROOKE LAND & TRUST COMPANY, Winona, Kansas.

80 Fine Acre Farm 3 miles Ottawa, Kan., 56 miles Kansas City, all fine tillable land; 15 acres blue grass; 25 acres wheat; 7 room house; natural gas; good barn; never failing water; County Highway; R. F. D. telephone. Possession at once. Good terms if wanted. 80 acre farm 4 miles Princeton, Kansas, 12 miles Ottawa. Brand new improvements; all fine land; price \$125 per acre; \$2500 or more cash, remainder good terms, if wanted. CASIDA & CLARK LAND CO., Ottawa, Kansas.

Coffey County Bargains 160 a., 3 ml. of Waverly, on main road, lays smooth, 40 a. wheat, 1/2 goes, 40 a. native grass, bal. for spring crops; 5-room house, new barn 36x44 ft. Plenty of water, 1 ml. to school. Price \$90 per acre. Good terms. 80 a. 5 1/2 ml. of town, 20 rods to school, lays good; 30 a. for spring crops, 30 a. good pasture, 20 a. tame grass meadow. Good house of 7 rooms, new barn 30x30 ft. Abundance of everlasting water, on main traveled road; price \$6,500. Good terms. Many other good bargains in any size tract. Write for list. Geo. M. Reynolds, Waverly, Kansas.

1800 ACRE RANCH FOR SALE Located on Cimarron river between two railroads, 8 miles to one station, 12 miles to another. About 800 acres of bottom land, shallow to water a good per cent of which is choice alfalfa land. About 140 acres natural hay meadow, cut 16 good ricks of hay this year; about 140 acres in cultivation, balance natural grass. Good one and a half story six room house; good milk house thru which water is pumped by windmill to stock tanks; granary with about 2,000 bushel capacity; good barn about 40 by 120 feet; good board corral with branding chute; new garage with cement floor. There are numerous other sheds and buildings on the place, in fact all the improvements necessary are now there. There is an apple orchard with 25 or 30 trees probably 18 inches thru, which were loaded with apples this year. There is also enough timber around the improvements to shelter all the stock the ranch will carry and furnish fuel and posts for all time to come. This is the most ideal ranch on the Cimarron. Possession April 20, 1920. Will sell on reasonable terms. Price \$20 per acre. McKINLEY & ELY, ASHLAND, KAN.

KANSAS

IMPROVED SECTION Logan Co., near town, 220 a. fine wheat, immediate possession, all smooth, sheet water. Price \$25 a., terms. Write for list. Cave Realty Co., Oakley, Kan.

240 ACRES, 8 miles from Anthony, 1 1/2 miles from elevator; tenant improvements. 25 acres in pasture, balance first class productive crop land, laying in fine neighborhood. Price \$67.50 per acre. Landlord's share of crop goes. Couch Land Company, Anthony, Kan.

ALFALFA RANCH, 1,120 acres, 6 miles town, Lane county, 100 acres fine alfalfa, 100 acres cultivation, balance good grass, never failing water, good improvements. Only \$27.50 per acre for immediate sale. Write for farm list, and Kansas map. Mansfield Investment & Realty Co., Healy, Kansas.

FOR SALE—330 acres, 4 1/2 miles of Franklin county town, 12 miles Ottawa, 250 acres in cultivation, balance pasture and mow land, spring water, 8 room house, fair barn, silo and other buildings. Price for quick sale, \$100 per acre, or might take smaller farm 80 to 100 acres. Write R. E. Tucker, of Kansas Land Company, Ottawa, Kansas.

160 ACRES, 4 1/2 MILES LAWRENCE Two miles R. R., elevator and store, 3/4 mile school, 1 1/2 miles church, 157 acres tillable, 85 acres wheat goes, 15 pasture, balance spring crop. House 6 rooms, barn 38x40, 100 ton silo. Granary 40x40, chicken house, garage. Never failing water. Land smooth. A real farm home in splendid neighborhood. Price \$155 per acre. Possession March 1, 1920. Hesford Investment & Mortgage Company, Lawrence, Kansas.

320 ACRES of land 2 miles from Olpe, Kan., large house, good double crib and large barn, improvements in good condition. 145 acres in cultivation, 100 acres of which is sowed to Kanred wheat, balance of farm in pasture. Price \$80 per acre including wheat if sold within 30 days. A good 160 acre farm, 5 miles from Olpe, Kan., 90 acres in cultivation partly in wheat. Balance in pasture. This is as good a small farm as there is in the country. Price \$65 per acre. Bradford & Hathaway, Olpe, Kansas.

320 ACRES, 1 1/2 miles good town, new rural high school, fine improvements, 8 room house, large barn, silo, etc. Plenty good water. Land lays well, 160 acres grass, balance plow. About 100 acres wheat goes. \$127.50. 480 acres, Anderson county; 6 miles to two good towns; 10 room house, full basement, good barn. Good water, land all lays well, no breaks, rock nor gravel. 300 acres good grass, balance in plow, about 50 acres wheat. Sacrifice price for quick sale \$75 acre. Possession at once. School at corner of farm. Write today for list of other good farms. Dickey Land Co., Ottawa, Kan.

ARKANSAS

WRITE TOM TETER, SHERIDAN, ARK., for bargains in good farms.

DOWELL LAND CO., Walnut Ridge, Ark. Fine corn lands, easy terms, plenty rainfall.

WRITE TOM BLODGETT, Pine Bluff, Ark., for land bargains that will double in value.

OZARK Cream-Stock Farms, Fruit Farms, Berry and Vegetable Tracts, Hunsaker, Decatur, Ark.

N. W. ARK.—Bargains in fruit, stock and grain farms; good soil, water and climate. Fredricks Realty Co., Springdale, Ark.

CHEAP LAND—Come to Arkansas for cheap land. Free list. Write, Fryor & Conard, Agents, Green Forest, Ark.

FOSTER REAL ESTATE COMPANY, Gravette, Arkansas. Leaders in farm and town property.

FREE GOVERNMENT LAND—200,000 a. in Ark. open for homesteading. Send 8c for Homesteaders Guide Book and township map of state. Farm-Home Co., Little Rock, Ark.

BUY A FARM in the great fruit and farming country of northwest Arkansas where land is cheap and terms are reasonable. For free literature and list of farms, write J. M. Doyl, Mountalnburg, Ark.

53 Acres for \$1,200 WILL BE ON NEW HIGHWAY 53 acres, only 1 1/2 to railroad station, 40 acres under cultivation, all under good fence, 3-room house and outbuildings, family orchard, good well and spring. Price only \$1,200. Send at once for copy of large farm bulletin with complete descriptions of farm bargains. STUART LAND CO., DE QUEEN, ARK.

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300,000,000 ACRES of free land in U. S. "The New Homeseeker," a 100 page book describing millions of acres of vacant public homesteads, timber mines and grazing lands. Contains township plats and illustrations. Founded on historical facts. Does not mislead. Read official warnings, eliminating crooked land agents. Tells whereabouts of government land in Arizona, New Mexico, Nevada, California, Idaho, Oregon, Montana, Washington, Utah and Old Mexico. Describes water, soil and climatic conditions, all the principal U. S. land laws. A marvelous publication, just off the press. Mailed anywhere, \$2.00. Address, The Homeseeker, Dept. 401, 3rd Floor Grant Bldg., Los Angeles, Calif.

COLORADO

BEST FARM BARGAINS in S. E. Colorado. Write or come now. Joe Habiger, Real Estate, Granada, Colo.

IRRIGATED LANDS, sunny western slope Colorado. High prices have not reached us. Address, C. W. Price, DeBeque, Colo.

SAN LUIS VALLEY imp., irrigated and non-irrigated farms, flowing artesian water, grow anything; no hot winds or blizzards; good dairy farms cheap, close to railroad; cash with terms. Box 53, Mirage, Colorado.

COLORADO

IMPROVED eastern Colorado farms for sale at bargain prices; terms; information and literature on request. Frank Sutton, Akron, Colo.

EASTERN COLORADO. Irrigated farms. Any size, ranches and upland farms. Write for list. C. A. Qulmbly, Granada, Colorado.

FEW CHOICE FARMS AND RANCHES for sale where you deal with owner and save commission. Write or call at residence. E. B. Furrow, Holyoke, Colo.

FOR SALE—Improved farms in eastern Colorado. Close to town and school. If interested write, or see. J. Youngberg, Stoneham, Colorado.

IRRIGATED small tracts and farms produce sure and paying crops. We have them at Rocky Ford, Colo. Write. Wm. C. Steele, Rocky Ford, Colorado.

220 ACRES, imp., 120 cult., bal. pasture. Plenty good water; 14 miles from town. \$22 a., \$1,000 cash, \$2,000 March 1st, balance 3 years at 6%. Lamb Realty Co., Vona, Colo.

SOUTHEASTERN COLORADO farms and ranches, any size, lowest prices, best terms, good crops, excellent climate. Send for free descriptive booklet and list. The Gregg Realty Company, Lamar, Colo.

EASTERN COLORADO and Western Kansas land. Farms, ranches and investments. Tracts of 160 to 2500 acres. Our prices from \$12.50 to \$30 per acre. Barnes & Doty, Towner, Colo.

WASHINGTON COUNTY, eastern Colorado, top producing lands. \$40 to \$80 per acre, some better, ideal climate, good water. Write us for particulars, or see us. The Co-Operative Investment Co., Otis, Colo.

213 1/2 ACRES, fine creek bottom, 3 miles from town, 14 miles Salina, improved. Close school. 100 a. wheat, 1/2 goes; 10 a. alfalfa; 20 a. pasture; balance spring ground. Price \$120 per acre. Worth \$125. Robt. Raisner, Brookville, Kansas.

SOUTHEASTERN COLORADO farms and ranches in the rich, productive lands of Logan county, Colorado. Wheat 30 bushels to acre, corn 40 bushels to acre. Land \$15 per acre up according to improvements. F. J. Graves, Springfield, Colorado.

HASWELL DISTRICT of eastern Colorado, the garden spot of the state. We own our own land and guarantee delivery. If you have never seen this district, which is largely shallow water, by all means look it over before buying elsewhere. Write us. CHARLTON-HOPWELL LAND CO., Haswell, Colorado.

FARMERS ATTENTION—Do you own land or is your farm too small and hindering your operations? If so, write for information regarding fine farm land which I own in the Bijou Valley, 50 miles east of Denver and will sell in sections and half sections at bargain prices and give liberal terms. Write the owner, John W. Baughman, Liberal, Kansas.

LANDS ARE rapidly advancing here. No other district has such a future ahead of it. A farm bought now, will be worth double in a few years. Let us show you what we do for those who buy from us. Let us show you the experience of those who have been here a few years. We sell our own lands, and can offer good farms with or without growing wheat. For further particulars write, Wagner Realty Co., Akron, Colo.

GET THE FACTS ABOUT COLORADO LANDS. Write today to the Colorado Board of Information for complete authentic information on agricultural dairying and live stock opportunities in various irrigated and non-irrigated districts of Colorado. We have land to sell, but will help you find good land at a fair price. Our "1919 Year Book" contains detailed discussion of resources, crop production, financial conditions, etc., by counties. A few copies left at 75c each to cover printing and binding cost. Send cash or money order if you want one. Room 68, State Capitol, Denver, Colo.

Best Lands. The best closest priced lands in Kiowa and Cheyenne counties, Colo. 160 to 5,000 acre tracts, raw and improved, \$17 to \$35 per acre. Best climate, soil. Do not pay three or four commissions to be brought here. Own most of what I offer. Write or come now. R. T. Cline & Sons, Brandon, Colo.

Special for Immediate Acceptance. 4,000 acres deed land, living water, 300 acres irrigated, 12,000 acres state lease, all good grazing land, offered for a short time for a minimum price, easy terms; 11 miles from good town in south central Colorado. WOLF LAND COMPANY, Yuma, Colorado. Offices at Burlington and Stratton.

IDAHO. SOUTHERN IDAHO irrigated farms, government project, cheap water, deep soil, no alkali. Martin & Son, Rupert, Idaho.

MISSISSIPPI. WRITE for free Mississippi map and land list. Land Market, Box 843, Meridian, Miss.

MISSOURI. WRITE for new list for the asking. Amoret Realty Co., Amoret, Mo.

ALL SIZED FARMS, fruit farms and timber land. Noll, Mt. View, Missouri.

LISTEN! 160 acre valley farm. \$50; 160 acre farm, \$5,000. McGrath, Mtn. View, Mo.

VALLEY FARMS—Fruit and berry farms. Write, Chambliss & Son, Anderson, Mo.

MISSOURI

FARMS—If interested in N. Central Mo. farms write, Wm. Parsley, Brookfield, Mo.

IMP. FARMS, ranches, timber lands. Exchanges. Goff Realty Co., Willow Springs, Mo.

FOR BIG FARM LIST, just out, write, Baker Investment Co., Mountain Grove, Mo.

DO YOU WANT a home in South Mo.? Write Stephens & Perry, Mountain Grove, Mo.

POOR MAN'S Chance—\$5 down, \$5 monthly, buys 40 acres productive land, near town, some timber, healthy location. Price \$200. Other bargains. Box 425-O, Carthage, Mo.

FORTY ACRES, all in cultivation, four room house, good barn, spring, on state highway, \$1,600. Houston Realty Co., Houston, Mo.

REAL BARGAINS in Mo. farms; write for illustrated booklet and list. R. L. Presson, Bolivar, Mo.

ATTENTION FARMERS—Improved farms in southwest Missouri, \$25 to \$50 per acre. Write, Frank M. Hamel, Marshfield, Mo.

FREE—All about the Ozark country, map and list of cheap lands. Durnell Land Company, Cabool, Mo.

IF YOU WANT a large or small prairie or timber farm, pure spring water, no crop failures, write J. E. Loy, Flemington, Mo.

3,700 ACRES, good timber, plenty water. \$7.50 per acre. Farms of all sizes. Douglas Co. Abst. Co., Ava, Mo.

80 ACRES, house, barn, watered, 20 bottom, close to town; price \$2,500, \$600 down; 40 acres, \$600, \$300 down. Tom King, Weaubleau, Mo.

FOR SALE—232 acre north Missouri farm, black land, lays good, good buildings, good water, close to town, Chariton county. Price right. Box 72, Colony, Kansas.

I HAVE a 400 acre stock or dairy farm to sell at a bargain. 240 acres in cultivation and 160 acres in good timber. Reason for selling, old age. John Oellien, Safe, Missouri.

626 ACRES, 325 cultivated, \$21 per acre. Five room house, barn, part rich bottom, well watered, south Missouri. This and many other farm bargains. W. E. Minton, St. Louis, Missouri.

320 ACRES, unimproved farm and ranch, 10 miles north of Mountain View, in Shannon county, Missouri. Good farm, timber and grazing land; close to school and postoffice; \$12.50 per acre; all or part cash. John A. Deering, Beatty Building, Houston, Texas.

200-Acre Missouri Money-maker in Rich farming section, near hustling R. R. town, 160 acres black loam tillage, clay subsoil, for bumper crops, balance wire fenced pasture, home-use wood. View overlooking village from house, 2 verandas, barn, corn and smoke houses, other buildings. Land all around, selling in this fine level prairie section \$75 up makes this a real bargain at \$11,000, only \$2,000 cash needed; balance easy terms. Details page 87 Strout's Catalog Farm Bargains 23 States; copy free. E. A. STROUT FARM AGENCY, 831AS New York Life Bldg., Kansas City, Mo.

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HITCHCOCK COUNTY, Nebraska, lands are the best buy in the United States today. Ask A. R. Smith, the Land Man, of Culbertson, Nebraska, about them.

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OHIO FARMS

If U are looking for a farm, write for catalog of 500 farms fully described. H. H. Masters, Agent, Cambridge, Ohio.

OKLAHOMA

203 ACRES, well improved, joins town, 3 sets improvements, will subdivide, \$75 a. M. F. Garretson, Adair, Oklahoma.

WRITE US for prices on good wheat, alfalfa and ranch land, 80 a. to 3,000 a. E. M. Dempsey, 124 1/2 West Randolph, Enid, Okla.

\$20 TO \$60 PER ACRE. Fine wheat, oats, alfalfa, corn and cotton lands. Write for free illustrated folder. E. G. Eby, Wagoner, Okla.

512 ACRES, highly imp., Vernon county, Mo. Black land, every foot in cultivation, \$100 acre. Also farms in Eastern Oklahoma. J. C. Wickham, Fryor, Okla.

GOOD GRAIN, COTTON AND STOCK FARMS. \$50 acre up. Eastern Oklahoma. New country, rapid development. Ask us. Malone & Ryan, Allen, Oklahoma.

Get This

100% profit in 5 years. The cash value of Oklahoma's five leading crops is \$553,765,000 on 14,000,000 acres only. Land values average \$50 per acre. 1,000 farms. Priced from \$20 to \$150 per acre. Oklahoma, Texas and Arkansas. Crops and increase of land sure. Buy now.

Bonded Securities Company. 702 Oil Exchange Building, Oklahoma City, Oklahoma.

Choice Alfalfa Farm. 160 acres, 7 miles west Oklahoma City. Almost level creek bottom. 50 acres growing wheat. All in cultivation. No overflow. No waste. Perpetual running water. Good roads to city. \$125 acre. Half cash. Balance long time 6%.

G. W. Colliver & Company. 109 1/2 West Grand Ave. Phone Walnut 7834. Oklahoma City, Oklahoma.

OKLAHOMA

GET MY NEW LIST of farm home bargains in Dewey and Blaine counties, Oklahoma. L. Pennington, Oakwood, Okla.

120 ACRES, 2 1/2 miles from R. R. town, this county, 1,500. All dry black bottom, 105 a. cult., bal. timber. Fair imp. Paid \$650 nuts last year. \$42.50 per a. Terms. Southern Realty Co., McAlester, Okla.

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IMPROVED QUARTER—Easy terms, 1 1/2 ml. south Guymon, Okla., 4 room house, barn, cave, windmill; 140 cult.; 90 acres wheat, 1/2 goes. Price \$8,000, \$3,000 cash, balance easy terms. Griffith & Baughman, Liberal, Kansas.

A COZY HOME, 5 1/2 miles from Watonga, on state road, R. F. D. 120 acres in cult. 100 to wheat and rye (all goes with farm), 40 acres prairie pasture, all well fenced, small frame house, good frame barn with granary, and other buildings. Young orchard, pure water, windmill and tank. A good corn and wheat farm. Possession in 30 days. Price \$12,000, half cash. Free list and map. DeFord & Cronkhite, Watonga, Okla.

TEXAS

30 ACRE FARM, Lower Rio Grande Valley. At cost if sold quick. Time to plow. Too far from home. L. Mellenbruck, San Juan, Tex.

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SOUTH DAKOTA has thousands of acres of farm lands to develop and millions to loan its settlers at low interest. It offers a wonderful opportunity to share the big farm profits. Get state bulletins of Department of Immigration, Chas. McCaffrey, Commissioner, Capitol Q-77, Pierre, S. D.

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WANT TO HEAR from party having farm for sale. Give particulars and lowest price. John J. Black, Capper St., Chippewa Falls, Wis.

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MISCELLANEOUS

BEST BET YET—\$50,000 telephone exchange (700 phones), \$37,500. No competition. Pralle Realty Co., Bremen, Kansas.

SELL YOUR PROPERTY quickly for cash, no matter where located, particulars free. Real Estate Salesman Co., 515 Brownell, Lincoln, Nebraska.

I HAVE cash buyers for salable farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

PRODUCTIVE LANDS—Crop payment on easy terms. Along the Northern Pac. Ry. in Minnesota, North Dakota, Montana, Idaho, Washington, Oregon. Free literature. Say what states interest you. L. J. Bricker, 81 Northern Pacific Ry., St. Paul, Minn.

HANDLE MORE BUSINESS? Are you getting all the business you can handle? If not get big results at small cost by running a classified ad in Capper's Weekly. The Great News Weekly of the Great West with more than a million and a quarter readers. Sample copy free for the asking. Only 8c a word each week. Send in a trial ad now while you are thinking about it. Capper's Weekly, Topeka, Kan.

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VIRGINIA

Virginia Farms and Homes. FREE CATALOG OF SPLENDID BARGAINS. R. B. CHAFFIN & CO., Inc., Richmond, Va.

Potato Growers' Conference

Potato growers and horticulturists of Kansas will find the special horticultural program to be given during Farm and Home Week most valuable and instructive. For several years a very fine apple show has been staged as part of the Farm and Home Week program, and this year there will be a judging contest by horticultural students. A display of spray machinery and chemicals will be made for the benefit of those who are not familiar with the equipment for spraying fruit trees and garden crops. Kansas potato growers have been having considerable trouble in recent years with diseases of various kinds, and this conference will be of great value to them in giving them the latest information on how to prevent and control these diseases. The horticultural pro-

gram extends thru the whole week beginning Tuesday morning, February 3, and covers every phase of horticultural and garden practice.

Winners in the Tractor Contest

(Continued from Page 10.)

In putting up alfalfa hay we were able to pull a side delivery rake with the tractor in "high," traveling 6 to 10 miles an hour, and could with this arrangement let the hay wilt just enough to shed no leaves and yet rake after four mowers. The difference in the value of alfalfa hay put up so that all the leaves are retained and that put up in the ordinary way leaving most of the leaves in the field, is enough to go far toward paying for a small tractor, especially where a considerable amount of hay is handled.

Speeds Up Stacking

We used the tractor again in stacking, working it in "forward" and "reverse" as rapidly as we could set the fork. We were able to unload the main bulk of ordinary loads in four minutes. Probably three minutes in addition were required to "clean up" in the wagon. A ton put in a good high stack every eight minutes is not very slow. We built one stack containing 55 tons, another 45; and several having about 20. Our stacker is one after its own kind as far as I have observed, and while very simple and economical, has the advantage of making stacks of great size and height. It was no trouble to build stacks 35 feet high and have them well proportioned. This, with alfalfa at present figures is an important item, for the minimum of hay is used for roofing and wasted by exposure.

One of the last noteworthy accomplishments of the tractor in the fall was in silo filling. We had to have more power than the tractor motor would supply. This we obtained by placing on an extended frame out in front of the tractor, another motor, of the automobile type, mounted for general stationary work and equipped with a governor. The arrangement was such that the main drive belt ran from the front motor to the cutter and a second short belt from the tractor motor to the front motor. This front motor had two pulleys on its drive shaft, one accommodating each belt, also a neutral gear. To start, we would crank the front motor in neutral, and it in turn started the other machinery. We could line for the belt, and back into it just as with any tractor, and when belted the weight of the main drive belt served to keep proper tension on both belts because the front motor could slide in a track back or forward but could not get out of line.

We judge an enterprise by its fruits. We filled a 300-ton silo in three days with this power and used 4 teams to haul. We did not have an engineer, waterhauler, fireman, or coal hauler. We believe we reduced ordinary expenses perceptibly. And we know the investment in motive power was minimum for the work done.

Bee Keepers' Short Course

One of the best short courses ever offered in Kansas in the handling of bees is that of the Farm and Home week program beginning Monday, February 2. There has been a great increase in the interest in bees in many sections of Kansas. Beginners will find in this beekeepers' program a splendid opportunity for learning something about this most interesting occupation. Dr. J. H. Merrill, state apiarist, who has this short course in charge, has obtained the services of some of the leading bee men of the country to give the instruction, among them being C. P. Dadant, editor of the American Bee Journal and author of a number of books on bee culture, and G. S. Demuth and E. F. Phillips, bee specialists from the United States Department of Agriculture.

Cash for Poultry Letters

We would like to get 500 letters from readers of the Kansas Farmer and Mail and Breeze telling about their experiences in raising poultry for home and market uses. For the best letter a prize of \$10 will be given, and for the second best a prize of \$5. Address all letters to the Poultry Editor, the Kansas Farmer and Mail and Breeze, Topeka, Kan.

ABERDEEN ANGUS CATTLE.

40 Aberdeen Angus Cattle

will be sold in connection with my closing out farm sale. The general farm sale including horses, implements, White Leghorn chickens and some Household goods will be held in forenoon. The Angus cattle sell at 1.30 p. m.,

Chanute, Kan. Tuesday, Feb. 10

Three 2 yr. old bulls including the herd bull, Clement's Rambler 3rd, a show prospect. 2 yearling bulls.

5 bull calves 8 to 10 mo. old. 4 cows from 8 to 10 yrs. old. 9 cows from 3 to 7 yrs. old. 2 cows with heifer calves at foot.

Four 2 yr. old heifers, bred. 5 heifers 1 to 2 years old. 6 heifer calves 8 to 10 months old.

Everything of breeding age is bred and considered safe in calf. Every cow past 2 years old produced and raised a calf the past season.

Sale at farm 5 miles west of Chanute. For catalog write mentioning this paper,

Alex Spong Chanute, Kansas
Wm. Godby and others, Aucls.

Special Angus Offering

30 registered young cows bred to show bulls. 15 three-year-old heifers bred. 35 yearling heifers. Young bulls serviceable ages. A few two-year-olds.

SUTTON FARM, RUSSELL, KANSAS

RED POLLED CATTLE.

FORT LARNED RANCH

200 HEAD OF REGISTERED RED POLL CATTLE

A number of choice one and two-year-old bulls and heifers from one to three years old.

E. E. FRIZELL & SONS, FRIZELL, KAN.

Milk-Butter-Beef RED POLLED

We can now furnish a few young bulls from large, thick-fleshed cows, yielding 9,000 to 13,000 pounds of milk per year. One of our bulls will increase the production of your herd.

20th Century Stock Farm, Quinter, Kansas

COBURN FARM RED POLLS

Red Poll Cattle—7 Bulls, 10 to 15 months old, also weaned bull calves and a few heifers, calves up to 2 years old. 50 head in herd.

Mahlon Greenmiller, Pomona, Kansas, (Franklin Co.)

Red Polled Cattle

U. S. accredited herd. Bulls from 8 to 15 months old; big, lusty fellows that will make ton sires. Best of quality, type and breeding.

-W. F. SCHWAB, FULTON, MISSOURI

Red Polls

Coming 3-year-old bull and 2 bull calves. Well bred good individuals.

C. Walter Sander, R. 2, Box 9, Stockton, Kan.

RED POLLS. Choice young bulls and heifers.

Write for prices and descriptions.

Chas. Morrison & Son, Phillipsburg, Kansas.

FOSTER'S RED POLLED CATTLE

Choice young bulls, priced reasonable.

C. E. Foster, R. 4, Eldorado, Kansas

GALLOWAY CATTLE.

Jno. P. Reilly & Sons

Quality Galloways

For sale—10 bulls, coming two years old, 15 bull calves, six to eight months. 60 females to select from, 6 months old heifers to young cows. Address

Jno. P. Reilly & Sons, Emmett, Kan. 7 miles north of St. Marys, main line U. P.

REGISTERED GALLOWAYS. Bulls, cows or heifers. Fashion Plate, Silver Lake, Kan.

REGISTERED GALLOWAY BULLS for sale. Walter Hill, Hope, Kansas.

HEREFORD CATTLE

Blue Ribbon Stock Farm HEREFORDS

200 cows, heifers and bulls—200. Chief herd sire, Don Balboa 14th 596021 by Don Carlos, a bull with over 40 Gudgeon & Simpson crosses. Mated with 60 two-year-old heifers sired by Sir Dare 417529 by Paragon 12th. We have what you want and the prices are in line.

Lee Bros., Harveyville, Kan. Wabaunsee County

PLEASANT VIEW STOCK FARM

Herefords, Percherons, Durocs

For sale. Five bulls from 10 to 12 months old, by Domineer by Domino. A nice string bull calves and six bred cows. A nice young stallion. Address,

Mora E. Gideon, Emmett, Kan. (Pottawatomie county)

Anxiety and Fairfax HEREFORDS

Females bred to sons of Bright Stanway and Perfection Fairfax. Herd header bulls ready for service. Open heifers. Write today to

J. R. GOODMAN, WHITE CITY, KAN.

HEREFORD COW BARGAINS

Twenty 5-year-old bred cows at \$200 per head. A few young bulls at \$85 to \$125 per head. All registered. Prices for immediate sale.

Fred O. Peterson, R. 5, Lawrence, Kan.

Discriminating Hereford Buyers We Offer NOW

12 coming yearling bulls, Columbus. Anxiety strains. Bred character and proper conformation. Unpampered but in better than pasture condition. 7 registered, 5 unregistered, but equally well bred. All high class farm bulls.

If you want one or more of the 12 yearling bulls write now to W. C. Cummings, Hesston, Kan.

Percherons—Jacks—Herefords

10 head big registered Percheron mares, all blacks, the ton kind. 2 jacks coming 3 and 2 years, blacks with mealy points, extra large bone and good style. 8 registered Hereford bulls, 3-year-old, 2-year-olds, and yearlings; low down, heavy type, dark colors and good markings.

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WHEN WRITING TO ADVERTISERS MENTION KANSAS FARMER AND MAIL AND BREEZE.

Feed the Young Bull

Corn Crib Cross and Inheritance Go Together

BY GEORGE C. WHEELER

GOOD FEEDING is essential to success with improved livestock. The results from liberal feeding are so pronounced that many good feeders credit the "corn crib cross" with being the chief factor in livestock improvement, because even poorly bred animals often reach unusual development in the hands of a good feeder, one who supplies an abundance of feed of the proper kind and is generally a good caretaker. This is simply arguing that environment is of greater practical value in the development of an animal than heredity. Those taking the other side maintain that heredity is the primary factor and environment, which includes feeding, care and the conditions under which the animals are kept, is of secondary importance.

The owner of a very ordinary looking bull, plainly of inferior individuality, is often heard to remark that he has a great pedigree and can be depended on to breed well in spite of the fact that he was stunted as a calf and never had a chance. Of course every close student of breeding knows that an animal's inheritance is complete at the time of conception. If it fails to become what it should be by right of inheritance it can be charged rightly to the failure to supply the conditions necessary for it to grow out to its fullest possibilities. But inheritance does not work with machine-like precision. Brothers and sisters of the same identical blood lines do not inherit the same possibilities. Inheritance is, after all chiefly a matter of potential possibilities.

Advantages of Purebreds
The man who buys a young, undeveloped bull of a certain line of breeding, knows that the animal has far greater possibilities by right of inheritance than a bull of inferior or scrub breeding. He has a right to expect the animal to develop into an individual at least approximating in his qualities and characteristics those of his ancestors. But if he takes him home and gives him scrub care he never will know whether he has a sire of real merit, or at least not until he has had him long enough to grow out some of his offspring; and the man who has so little interest in giving a highly bred bull a chance to develop his latent possibilities is not likely to give his offspring a better chance.

With beef cattle there is absolutely no means of knowing whether a bull has inherited desirable beefing qualities except by giving the animal the care and feed essential to developing the qualities desired in market cattle. If the animal proves himself to be a hard keeper, requiring a long period to come to maturity and more than a fair allowance of feed to keep him in reasonable condition, he is not likely to transmit good beef qualities to his calves. The most successful breeders of purebred cattle recognize the necessity for growing out their young animals and keeping them in good condition. Only by so doing can they demonstrate to prospective buyers and the public generally the possibilities they have been able to put into their breeding herds. But even among breeders we find a disposition to economize on feed and withhold from young stock the environment for which they are bred. In breeders' meetings we hear talk of the necessity for making more steers in purebred herds, the idea being that a closer culling should be practiced and fewer animals kept for breeding purposes.

Save the Good Sires
In view of the great need for more purebred sires at the head of small producing herds, is it not a shame to lose for breeding purposes well bred young bulls, placed in the cull class simply because their owners have withheld the feed and care demanded by animals of high breeding? The scrub animal is simply the result of natural selection in nature's effort to adapt itself to adverse conditions. If we wish animals that can get along with a minimum of feed and put up with poor shelter or none at all the scrub will fill the bill. Highly bred livestock came from artificial conditions, and

cannot render the service for which it has been bred unless the conditions are met. Sometimes the beginner with improved livestock is disappointed because his purebred animals seem to require more feed than the scrub. In beef cattle the chief claim for merit of well bred animals is their capacity to consume large quantities of feed and from it grow a carcass superior in quality and size to that of the scrub. Under the inferior feeding and general environment to which the scrub has adapted itself, the well bred animals will make a poor showing in comparison.

Give Inheritance a Chance
No more important lesson can be learned by the livestock man than the absolute dependence of the well bred animal upon good feeding and suitable care. The "corn crib cross" and inheritance go hand in hand. It is time wasted to argue as to their relative importance. The man who buys a well bred young bull at a public sale or on the farm of a breeder of good cattle makes a serious mistake if he takes the animal home and turns him out with a bunch of stock cattle to "rough it." Instead of having a good purebred beef sire for the head of his herd he will have what is sometimes called a "purebred scrub." He may transmit good qualities which he does not himself possess, but there is no means of knowing whether he inherited these qualities or not, and it is a poor way to practice livestock improvement. Purebred animals do not require pampering, altho they must be given better conditions than those which have produced the scrub. For the young bull an open shed is the ideal shelter, with perfect freedom to exercise in an adjoining yard. Exercise is a very important factor in keeping breeding animals of any kind in vigorous, thrifty condition. It is not necessary to keep breeding bulls in barns during the winter in Kansas. The young, undeveloped bull must have plenty of good roughage, including alfalfa, clover or cowpea hay and in addition a small allowance of grain, enough to keep him growing. Robert Hazlett, the well known Kansas Hereford breeder, in speaking of the care given young bulls on his farm, says that they plan to keep them in thrifty condition, not striving to make them fat, but on the contrary to produce real development by feeding for flesh, bone and size. In his practice, many young bulls being developed at all times, they are put in separate yards, a few in each lot when 4 or 5 months old, and tied in an adjoining "bull barn" for grain feeding. They are in these open lots practically all the time except when they are being fed grain. On this farm the herd bulls, after they are practically mature, when from 24 to 30 months old, are fed a very light grain ration with alfalfa hay, prairie hay and cane fodder. Each bull has a separate lot and an open shed. They never are kept in barns and are not kept fat, but in good, thrifty condition.

Exercise is Necessary
When a bull is kept in a dark, dirty stall without exercise from the time he is a calf, which is, perhaps, more commonly practiced with dairy bred bulls than with beef bulls, it is not to be wondered at that he becomes cross and morose. Bulls, so handled, become weakened in their breeding powers and often impotent when scarcely more than mature. Too often bulls so handled become useless just about the time their first offspring are beginning to show the value of their sire as a breeding animal. If you have bought a promising young purebred bull and then given him no chance to develop and prove his inheritance, do not rise up and condemn purebred livestock and charge the breeder with selling you an inferior animal, but rather make a study of your livestock methods and see if you have not failed to realize the absolute necessity for giving purebred animals something better than scrub care and feeding, if you would expect them to make money for you.

Big Corn Run Approaching

Sharp Declines Occur In Wheat; Cottonseed Lower

BY SANDERS SOSLAND

SURFACE conditions in the corn market are bullish, but when one goes below the surface there is much to give comfort to the bears. Speculative operators call it a two-sided market, with those bullishly inclined competing with the bear element in obtaining control of the trade. Neither have been particularly successful, which is indicated by the fact that quotations have fluctuated within a very narrow range, about 6 cents a bushel, for more than a month. In the past week the bulls gained temporary leadership, but the market is not in a safe position technically to allow a maintenance of an "upper hand" by those contending that values must advance.

And it's all because of the extremely light corn movement. Summed up in a few words, the situation confronting the "bull" members of the trade is that they cannot force values too high because of an impending enormous movement of corn to market; the bear element cannot force values down to any extent because of the extremely light stocks of the coarse grain at terminal markets and the small movement from the interior. It is probable that values will continue to fluctuate within a narrow range until shipments of corn from the interior reach liberal proportions.

When the arrivals of the coarse grain will reach a volume which reflects the enormous crop still is a doubtful issue. The trade has been waiting since early in September for a corn movement, and, while it is seldom that receipts are heavy until January and often February, the early maturity and heavy yield were expected to bring about a big movement earlier than normal. But only a comparatively small increase was witnessed during January. The trade is inquiring quite generally whether February will tell the story, or whether heavy receipts will be delayed until March. Some are even becoming concerned over the possibility of no important movement on the crop. This, however, is remote, and is employed by bullish market operators in an effort to strengthen their position. February, at least the latter part of the month, should mark the opening of the corn movement on a heavy scale.

Evidence of an approaching heavy corn movement is contained in the recent eager offers of spot grain by Ne-

braska shippers at a slight discount under current carlot prices on the Kansas City market. Apparently cars are becoming free in Nebraska, for, without such a situation, country shippers would not be willing to sell corn for immediate shipment, already loaded, at a discount of one to two cents under prevailing prices. The interior interests see the heavy run approaching, and, fearing a break in prices, are seeking to contract for the sale of their grain around the current market. Still another influence which strengthens the belief that February will witness a heavy movement is that

Should Purchase Corn Soon

Be prepared to buy or contract for your requirements of corn soon. A heavy February movement may force prices down and values may reach the bottom late in the month or in March. The trade is bullish on corn for spring and summer months, expecting a sharp rebound after the peak of the movement is witnessed. If feeding grades of oats decline in sympathy with corn, the minor cereal also will be on a favorable basis for purchases. While wheat may decline further, the present market warrants holding grain by growers. The bread cereal is expected to score a sharp rebound before another crop is available.

Large quantities of renters' corn change hands before March 1, much of this moving to market. The sale of renters' corn always is a factor in the heavy movement around March 1. Also, country advices indicate cars are becoming freer, but an offsetting influence is the recent unfavorable weather in the important growing areas.

Carlot values the past week followed an irregular course, early advances giving way to a net decline of 1 to 3 cents a bushel. The range of sales at the close of the week was from \$1.38 to \$1.53. The cheapest grades of mixed corn were particularly weak, and offerings found a very slow sale. Demand from feeders was light, and no marked improvement is anticipated until receipts become heavy. Liberal orders now are held by dealers, but as many are for later shipment an effort will be made to obtain the grain at a reduced price. Many sections of the country which produced only small crops of corn and other feed grains will soon have consumed their own yields and then will be forced to turn to markets for their requirements. Such demand usually develops in February and March.

Railroads Embargo Shipments

The speculative market followed an upward trend. Higher prices for hogs, the disappointing corn movement and unfavorable weather conditions, stimulating feeding activity and at the same time reducing the country shipments, were bullish factors. Congestion of transportation in the East, particularly at seaboard points, forced railroads to embargo shipments of corn and other grains for export or for domestic use in the East. This, of course, was a bearish factor. Another bearish influence was the further advance in rediscount rates by the Federal Reserve banks. With many banks urging customers to reduce their loans, which increases selling activity on markets, this phase of the trade is commanding unusual attention, though speculative operators in corn have largely overlooked this factor. Gains during the week amounted to about 2 cents, the May delivery in Kansas City closing around \$1.36, and the July option at \$1.33.

About six weeks ago the writer urged farmers who would require red seed oats to make purchases immediately, offerings selling around 75 cents a bushel at the time. An advance to \$1 a-bushel was predicted, based on the

SHORTHORN CATTLE.

SHORTHORN CATTLE.

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250 show cattle competing for \$5,000 in prizes will be sold at auction at the Third National Shorthorn Congress

CHICAGO, ILLINOIS, FEBRUARY 17, 18, 19



Are you in need of a high class herd bull or females of the best breeding and individuality? If so, do not miss this opportunity.

Meetings and banquets addressed by men of national reputation are features of the week's program. No other event in the entire year touches the Shorthorn interests in as many localities. You are cordially invited to attend. For catalogs address Secretary F. W. Harding.

American Shorthorn Breeders' Association

13 Dexter Park Ave., Chicago, Ill.

1886—Tomson Shorthorns—1920

Headquarters for Herd Bulls

We offer a large number of extra good bulls that are ready for service. They are some of the champion Village Marshal by Cumberland Marshal; Beaver Creek Sultan, a grandson of Whitehall Sultan; Gregg's Villager, one of the great sons of Villager; Imp. Newton Champion, Imp. Lawton Tommy and Diamond Baron.

They are of the most fashionable strains out of imported and home bred dams of the Augusts, Marigold, Jilt, Victoria, Roan Lady, Lavender, Orange Blossom, Duchess of Gloster, Sunnyblink and other very select tribes. They are nearly all roans and of extra good individuality. Come and see them.

TOMSON BROS.

Carbondale, Kansas or Dover, Kansas
E. E. Station Wakarusa on Main line of Santa Fe
E. E. Station Willard on Main line of Rock Island

Amcoats Shorthorns

Scotch and Scotch Tops. Some choice females to sell. Bulls ready for service: Six, two pure Scotch, four Scotch topped.

S. B. Amcoats, Clay Center, Kan.
Visitors met at Rock Island or Union Pacific Depots.

SHORTHORN HERD FOR SALE

I must reduce my herd and will sell worth the money: 25 cows and heifers, 30 calves, 6 one and two year old bulls, 1 Scotch herd bull. Special price on entire herd.
FRANK H. YEAGER, BAZAAR, KAN.

SCOTCH and SCOTCH TOPS

Five yearling bulls, three pure Scotch, two Scotch topped.
Six spring bull calves, pure Scotch and Scotch topped.
Reds, whites, roans. Write for full descriptions and prices.
E. F. FLANAGAN, CHAPMAN, KANSAS
Dickinson County

Bulls Bulls Bulls

8 two-year-old bulls, by Secret's Sultan and Master Butterfly 5th, 12 yearling bulls. Reds and roans.
Can ship over Mo. P., U. P., Rock Island.
W. F. BLEAM & SONS, Bloomington, Kan.

PEARL SHORTHORNS

Bulls, Scotch and Scotch topped, six to 18 months, for sale. Reds and roans. Can ship over Rock Island, Santa Fe, Missouri Pacific and Union Pacific.
C. W. TAYLOR, ABILENE, KANSAS
DICKINSON COUNTY.

New Buttergask Shorthorns

For sale—Bulls, Scotch and Scotch topped, ready for service. Also bred cows.
MEALL BROS., CAWKER CITY, KANSAS
Mitchell County

HUNT BROS.' SHORTHORNS

We have some good young bulls for sale, from 6 to 20 months old. Also some cows, heifers and calves. Write your wants.
HUNT BROS., BLUE RAPIDS, KANSAS

Shorthorn Cattle

For Sale—Five young Scotch bulls and ten head of females, bred or calves at foot.
H. H. HOLMES, R. F. D. 28, Topeka, Kan.

CEDAR HEIGHTS SHORTHORNS

Five bulls for sale, pure Scotch, splendid individuals. Ages 12 to 20 months. Farm joins Topeka on the west.
HARRY T. FORBES, R. 8, Topeka, Kan.

Park Place Shorthorns

SHORTHORN BULLS, herd header prospects and rugged young fellows for the farmer. SHORTHORN FEMALES, foundation stock for the breeder and others suited to the farmer's needs. If you want cows, heifers or bulls, one to a carload, we can please you. Every animal guaranteed a breeder. Health certificates furnished. Write me when you will call.



Park E. Salter, Wichita, Kansas
Fourth National Bank Bldg.

SHORTHORN

Bulls for Sale

4—Scotch Bulls—4

Some herd bull material here. A few good Scotch topped bulls. All good individuals. Bred right and priced right.

C. H. White, Burlington, Kansas.

SHORTHORN AUCTION

Sale at Grandview Stock Farm, one mile east and three and a half miles north of

Beverly, Kansas

Wednesday, February 11, 1920

(Lincoln County)

(Lincoln Branch U. P.)

Included is Valiant's Heir, six years old. 14 young bulls, 11 months to two years old. Reds and roans and sired by Valiant's Heir and the great white bull, Silver King. Low blocky fellows. Also nine cows, some with calves at foot, others to calve soon. Everything registered. Will meet morning train at Beverly. Write for information.

E. M. Phillips & Sons, Beverly, Kan.

PROSPECT PARK SHORTHORNS

1 red Shorthorn bull 29 months old; 1 white, 2 roan and 4 red Shorthorn bulls 10 to 16 months old.
J. H. TAYLOR & SONS, CHAPMAN, KAN.

PLEASANT VIEW STOCK FARM SHORTHORNS

A pure Scotch bull, 12 mo. old, by Orange Cumberland. Dark red. Also a few Scotch topped cows and heifers. M. R. Peterson, Troy, Kan., Doniphan Co.

GROSNIK FARM SHORTHORNS

Good husky bull at a low price. Herd headed by Color Bearer, grandson of Avondale. O. E. R. Schulz, Ellsworth, Kansas.

SHORTHORN CATTLE.

Salt Creek Valley Shorthorn Cattle

Pioneer Republic County Herd
Established in 1878

For Sale: A splendid two year old Scotch bull, solid red, wt. at maturity 2500 lbs. Also a fine Scotch youngster and 10 Scotch tops. Ages from six to 16 months.

E. A. Cory & Sons, Talmo, Kan.

Milking Shorthorns

(Of the Best Bates Breeding)
We have bred them exclusively for 20 years and find that if you want beef and milk under the same hide you certainly can get it from the Bates bred Shorthorn. Bulls for sale. Write for descriptive list.
M. M. Healy & Son, Route 1, Muscatine, Ia.

Scotch and Scotch Topped

Serviceable ages. Reds, roans and white. Some herd bull material. Visitors met at U. P. or Rock Island trains.
Jacob Nelson, Broughton, Kan. (Clay Co.)

Saline Valley Shorthorns For Sale

Registered bulls, all reds, 6 to 20 months old. For descriptions and prices write O. O. Runyan, Ogallah, Kan.

POLLED SHORTHORNS.

Registered Polled Shorthorn Bulls and Shorthorn Heifers

For sale: 7 to 14 months old. All by a son of Intense Sultan, tuberculin tested. On government accredited herd list. Farm 3/4 mile south of Washington, Kansas.

M. Z. DUSTON, WASHINGTON, KANSAS.

10 Polled SHORTHORN Bulls

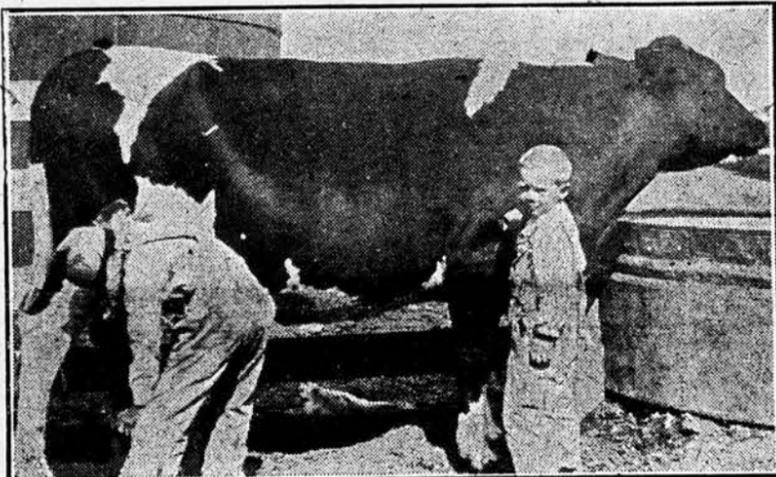
Big husky reds and roans 12 to 20 mos. old. Priced to sell. Can spare a few females.
C. M. HOWARD, HAMMOND, KANSAS.

Holstein-Friesians In Auction

An offering of the highest quality made possible because of close culling and the retaining of only production Holsteins.

Sale Near Town

Nortonville, Kan., Thursday, Feb. 12



"Tony," a beautiful Holstein cow in the Meyer herd, and two of Mr. Meyer's young sons learning the dairy business. "Tony" goes in the sale.

Here is the line up.

8 registered cows, some fresh sale day. 4 coming two year old registered heifers bred. 1 two year old reg. bull and one coming year old bull. 10 coming year old high grade heifers. 24 high grade cows, all bred to a registered bull.

This is a small herd of registered and high grade Holsteins sold strictly on their merits. Not a speculator's sale but an auction of dairy cattle that are in their every day-clothes and a working herd.

Auctioneers—C. M. Crews, Topeka, Kan.; McCullough and O'Brien, Tonganoxie, Kan.; and Frank Reagan.

W. J. O'Brien, Sale Manager, Tonganoxie, Kan.

For catalogs address either the sales manager or

J. W. MEYER, Owner, Nortonville, Kansas

Catalogs ready to mail right now. J. W. Johnson, fieldman, Capper Farm Press. NOTE—Nortonville is easily reached via Topeka from the south or Atchison from the north.

A Son of Canary Paul Fobes Homestead from a 23-pound granddaughter of Canary Paul Fobes Homestead

He is $\frac{3}{4}$ white, a perfect individual, just past a year old and ready for service. He has a 23-pound dam, a 32-pound sister, a 25-pound granddam, 49 A. R. O. sisters, a brother that was grand champion at the 1915 National Dairy Show, a brother that sired the youngest cow in the world to make 1,000 pounds of butter in a year. He is just the kind of a bull you need. Price and pedigree upon application. **STUBBS FARM CO., Mark Abildgaard, Mgr., Mulvane, Kan.**

HOLSTEIN CATTLE.

Persistency In Production

Is one of the most desirable qualities a dairy animal can have. Vanderkamp Segis Pontiac is our herd sire. His dam is one of less than 20 cows in the world to produce over 30 pounds of butter in 4 consecutive lactation periods. Twenty-three of his nearest dams average over 27 pounds of butter in 7 days. We have several young bulls to offer sired by this remarkable bull. Prices \$100 and up. **COLLINS FARM CO., Sabetha, Kansas.**

Nemaha Valley Stock Farm

Registered Holstein-Friesians. One of the first government accredited herds in Kansas and one of the largest in the list. Young bulls for sale by Pontiac Beauty de Kol Segis 139642. His dam, as a 3 year old, made nearly 29 lbs. in 7 days and 114.63 lbs. butter and 2587.9 lbs. milk in one month. His grand-sires are King Segis and King of the Pontiacs. Address **H. D. Burger, Proprietor, Seneca, Kansas**

HOLSTEINS

20 head dairy herd of Holsteins for sale. 5 are registered, includes coming 3-year-old bull, grandson of King Segis. A real dairy herd priced reasonable. **SHEA BROTHERS, Blaine, Kansas**

High Grade Holstein Heifers

Special prices for 30 days on 15 cows and heifers; large, good colored Holstein grades none over 3 years old; most will freshen before spring to service of our registered bull. **L. H. PAUL & SON, Mildred, Kansas.**

CHOICE HIGHLY-BRED HOLSTEINS

Calves; 12 heifers and 3 bulls, 6 to 8 weeks old, nicely marked, from heavy producing dams, \$25 each. Safe delivery guaranteed. **Fernwood Farms, Wauwatosa, Wis.**

HOLSTEIN AND GUERNSEY CALVES 31-32 lbs pure, 7 weeks old, beautifully marked, \$25 each, crated for shipment anywhere. Bonds accepted. **Edgewood Farms, Whitewater, Wisconsin**

GUERNSEY CATTLE.

For Sale Reg. Guernsey Cow

7 yrs. old, in milk and rebred; a heavy producer and excellent type; price \$350. Reg. heifer, coming 3 yrs. old, bred; this heifer is from above cow, price \$250. Both are extra well bred. Four high grade Guernsey cows, just fresh; 2 extra heavy producing Jersey cows and 7 high grade Guernsey heifers. One registered and one high grade Guernsey bull yearlings. For photos and descriptions write. **DR. E. G. L. HARBOUR, Box 113, Lawrence, Kan.**

JERSEY CATTLE.

Hilcroft Farms Jerseys headed by Queen's Fairy Boy, pronounced the best bred Jersey bull in Missouri, a Register of Meritson of Raleigh's Fairy Boy, the greatest bull ever imported, 54 tested daughters, 86 tested granddaughters and 34 producing sons. Choice bullocks for sale. Reference Bradstreet. **M. L. GOLLADAY, PROP., HOLDEN, MO.**

REGISTERED JERSEYS FOR SALE

"Hood Farm Breeding." My herd bull Royal Missal's Torono, also three choice bulls by him, ready for service; a few females. Have rented my farm and want to sell. **S. S. SMITH, CLAY CENTER, KANSAS**

Pure Bred Jersey Cattle

Registered, and in the Government Accredited Herd List. Our herd is strong in the blood of Oxford Lad, sire of 46, and 22 sons with producing daughters. We have for sale at present a few select bulls ready for service. Kindly write us your wants. **J. B. PORTER & SONS, MAYETTA, KAN.**

Two Registered Jersey Bulls

for sale; yearlings; Hood Farm and Owl breeding. **R. O. McKEE, Marysville, Kan.**

Registered Jerseys For Sale

Bulls or cows. **C. E. Cochran, Kincaid, Kan.**

GRAND CHAMPION YOUNG JERSEY BULL

Write for price, picture, pedigree. **A. H. Knoepfel, Colony, Kansas.**

REGISTERED JERSEY BULL CALVES,

sired by Oakland's Sultan 2nd, \$50. **PERCY LILL, MT. HOPE, KANSAS.**

AYRSHIRE CATTLE.

Linndale Farm Ayrshires

We have for sale seven grade Ayrshire heifers bred to freshen next fall. Also three grade heifer calves.

Our bull calf offerings are the best we have ever had, they are all out of A. R. cows or cows now on test and are sired by one of our herd bulls who are both sons of World record cows. Write for prices and descriptions. **JOHN LINN & SON, MANHATTAN, KANSAS**

CAMPBELL'S AYRSHIRES

Young Ayrshires, both sex, bulls ready for service, heifers bred or open. Finlayston and Armour strains. **ROBERT P. CAMPBELL, ATTICA, KAN.**

fact that an acute shortage of the grain prevailed, also by the activity of elevators in accumulating the grain. Red oats sold at \$1.01 a bushel in Kansas City last week, a new record price, and still further advances are anticipated. Seed oats command a sharp premium over feeding grades, having established most of the margin in the past week as a result of gains of 8 to 10 cents a bushel. White and mixed oats closed unchanged to 2 cents higher, with sales up to 90 cents. The market is unusually strong, being independent of corn. May oats in Kansas City closed around \$2.34 cents, a gain of about 2½ cents a bushel. Some export business was done, and domestic inquiry is good. A break in corn might bring about a temporary recession on the minor cereal.

Flour Demand Light

Erratic action in the wheat market continues, and promises to remain for some time yet. Values have declined to a basis which should discourage further marketing by growers until an upward tendency is resumed. Many look for the break in wheat to continue until prices are around \$2.50 a bushel for the better grades in Kansas City. This is probable, but watch out for a sharp upward tendency of prices after that level is reached. The \$4-bulls on wheat still feel safe in their position, and attribute the decline to eagerness of spring wheat millers to obtain a considerable portion of their requirements at a discount. Demand for flour is light and millers of the Northwest can withhold purchases for a time without difficulty. But they will soon resume buying on a large scale. It is good policy for growers to withhold offerings until prices are again at \$3 a bushel in Kansas City, though sales around this level are advisable. In the past week hard winter and dark hard wheat sold down 11 to 20 cents a bushel, and 8 to 15 cents on red winter. The wheat surplus in Kansas, after de-

ducting mill requirements for the remainder of the crop year, is placed at less than 5 million bushels by one authority, an abnormally small amount.

Cottonseed cake and meal display extreme weakness, and small recessions already have occurred. For the 43 per cent grade, the market is holding around \$77.50 a ton in Kansas City. Much cake and meal is in transit, and unless marked improvement develops in demand, distress offerings will be available. Linseed meal also is easy around \$84 to \$85 a ton for carlots in Kansas City, for spot shipment, and about \$5 a ton discount for March shipment.

Bran Holds Steady

Colder temperatures and storms in some districts stimulated demand for bran and prices were forced up to around \$41 a ton, sacked, Kansas City. But feeders are not buying more freely, the changed weather affecting more the sentiment among speculative interests. Bran for February shipment is around \$40 to \$40.50 a ton, and March is around \$40. Gray shorts show practically no change, around \$45 to \$47 being the general market, with little inquiry reported. Demand from hog producers should develop soon.

The enormous movement of hay from the West is virtually above the capacity of Kansas City's team tracks, the daily arrivals exceeding 300 cars. The better grades of alfalfa, sought by dairymen and other feeders, maintained strength in face of the heavy run, while cheaper grades bought largely by millers were easy and about \$1 lower. Strength in prairie resulted from better stockyards and feeding demands. A broad inquiry prevails for tame hay from the Southeast, and Kansas City territory is working shipments in that direction to advantage over Iowa and Ohio dealers. Timothy is around a top of \$29 a ton, and prairie around \$22.50 for choice.

Strength Rules Hog Trade

Low Supplies and Good Demand Improve Market

BY SAMUEL SOSLAND

AS THE month of January closes, with a more favorable showing on hogs than the trade at large expected, many are asking about February. Will the markets of February also show improvement in hog prices? This is a popular question. If precedent is a guide, then some improvement should be scored in hogs in February. In the last ten years, eight have witnessed a higher average on

respectively, in other years have been as follows: 1916, \$7.91 and \$7.04; 1915, \$6.66 and \$6.82, this being one of the years when February was lower; 1914, \$8.43 and \$8.03; 1913, \$7.94 and \$7.29; 1912, \$6.09 and \$6.06; 1911, \$7.38 and \$7.81; 1910, \$6.10 and \$5.88.

Before attempting to analyze some of the conditions surrounding the hog market as it enters a new month, it is well to note that March recorded advances in prices of hogs as compared with February in nine out of the past 10 years. The present, in other words, is a normal period of advances in the hog trade.

Considerable attention probably will be paid to the annual estimate of the supply of hogs on farms which the Department of Agriculture is scheduled to issue today. This estimate is generally expected to show a decrease as compared with the opening of 1919, when the number of hogs on farms was placed at 75,587,000 head, the largest number in history. For the opening of 1918 the estimate showed a total of 70,978,000 head. One statistician has estimated a decrease at the opening of 1920 as compared with a year ago of 5 million head. If the official estimate is fully as bullish, it will have the effect of increasing confidence in the probability of higher prices.

Season for Gains on Hogs

When February opens hog markets will enter a period which usually witnesses advances in prices. The trade is confident that hogs will advance in the coming month, and there is reason for even more bullishness for March. Fat cattle markets are as disappointing as expected, South Texas grass steers will soon move and compete with other offerings going to packers. Lambs have reached the predicted \$20-mark, and prices are still strong.

Labor Buys Freely

Labor Buys Freely

Demand conditions in the provision market are favorable to the feeders of Kansas and other states. Labor is more settled and is earning very high wages. One provision trade authority recently commented encouragingly on the reports from butchers in cities that some housewives are buying meats, principally pork products, in lots which cost \$8 to \$10 at a time on their Saturday shopping rounds. When, in fact, has labor been better able to pay well for pork products? Besides, the export outgo is very much heavier than during October, when shipments dropped off, the recent weekly shipments having been around 60 million pounds or more, this being in excess of the weekly average for all of 1919. It should encourage hog feeders to note

hogs in Kansas City in February than in the month of January, while two years passed with lower prices on the second month—as compared with the opening month. So many new factors are operating in the market that precedent may be upset, but conditions as a whole are more favorable to higher prices.

A glance at the records in price changes on hogs in February as compared with January is interesting. A year ago, when the United States Food Administration was in control of prices, the February average on hogs in Kansas City was \$17.26 compared with \$17.20 in January. In 1918, the February average was \$16.52 against \$16.16 in January. In 1917 the sharp bulge was recorded in the last 10 years, the February average of \$12.10 comparing with \$10.66 in January. The February and January averages, re-

that such a weekly total is being reported in the export movement, but at the same time they must not forget that foreign exchange rates have declined further to new low levels and that when Europe's needs are not so pressing, she will buy less than at present. For the immediate future the European demand situation is, however, encouraging. Of course, it would be far better if foreign exchange rates were not so depressed.

Danish Butter to New York

In connection with the export situation, it is not amiss to refer to the recent report from New York of the arrival there of Danish butter. Europe is hungry, yet Denmark sends butter to New York! The reason is that the hungry millions in Europe cannot pay for the food, so the Danes have sent some of their butter to this country. This has a bearing on the European situation, reflecting the effect of the low purchasing power of the Old World. Sentiment in hogs would be pointing today to another market as high as the tops of 1919 if Europe's purchasing power was not impaired.

Receipts of hogs at the principal markets of the country for January fell off from the total of a year ago, the decrease at Kansas City, Chicago, Omaha, St. Louis, St. Joseph, Sioux City, St. Paul, Indianapolis, Buffalo, Cleveland and Pittsburg being about 500,000 head as compared with the record arrivals of 4,110,000 in January, 1919, and it is probable that February will also show a decrease. The Kansas City movement for January will show a decrease of about 100,000 head from the arrivals of 440,000 a year ago when the official figures are compiled. There is every indication that the February arrivals will drop from the total of 314,000 for the month a year ago on this market.

On the Kansas City market last week hog prices rose moderately, closing with a top of \$15.65, the highest figure of the winter but still \$1.10 lower than a year ago. The gain in prices at Kansas City last week was about 40 cents. Competition from shipping interests in Kansas City and on other markets was one of the bullish influences. There was activity in stock hogs, with sales between \$13.50 and \$15.75, the latter figure again showing a premium over fat hogs. Immune stock hogs were quoted up to \$17.50.

Cattle Trade Disappointing

Disappointment continues to mark the trade in cattle. Many short-feds are being sold on the steer market in Kansas City and Chicago at prices no higher than the original cost. Yet many feeders who have not yet had this experience are seemingly content to continue blind so far as this situation is concerned and to purchase stockers and feeders at comparatively high prices. The bidding against packers for short-fed cattle continues on the part of feeders. The trade is again hearing the prediction that when the present period of liquidation ends prices will advance. But there is ahead for the latter part of February and for March and April an extensive movement of cattle from South Texas, where grass has been so good that stock will move to markets for slaughter earlier than usual. South Texas has many cattle which were shipped to its pastures from Oklahoma, and these will enlarge the early run of grassers. Their effect will tell particularly on the cheaper grades of cattle, but the influence of this movement will be to offset decreases in arrivals from other sections.

Cattle prices at Kansas City last week were irregular, with weakness prevailing. The top was only \$15.50 for steers, this price being paid for two loads averaging 1,350 pounds. The bulk of the short-fed steers weighing 1,000 to 1,250 pounds went to packers at \$11.50 to \$13. Kansas City and Chicago both reported short-fed steers predominating in the receipts. Steers weighing 800 to 1,000 pounds went to packers at \$9.75 to \$11.50. Even at Chicago it is stated that it now takes "a very good steer to bring \$14 to \$15." Feeder buyers paid \$12 to \$12.50 for short-fed steers to go back for a further finish. The feeder market was quoted largely between \$10 and \$12, with common grades as low as \$8.50. Stockers were quoted at \$6.25 to \$11, with the better grades in best

Ptacek's Holstein Dispersal Sale

at A. D. Martin Sale Barn on West 6th Avenue
Emporia, Kansas, Wednesday, February 4

22 cows milking. 26 heavy with calf, some of which will be fresh by sale day. 1 coming 3-year-old purebred bull.

This sale of females numbering about 50 head is beyond a doubt the greatest opportunity ever offered in Kansas to secure females of the right sort for milk production. With production, individual merit and with absolute health they make up this wonderful offering. Address all communications to

A. L. Ptacek, Emporia, Kansas

Remember February 4, Holsteins, Emporia, Kansas.

Wood & Crouch, Auctioneers.

E. H. Reece, Clerk.

demand. A disposition is noted to await lower prices in view of the action of fat cattle. The cattle receipts are smaller in numbers than a year ago and average lighter in weight, but it appears that they are more than ample for the country's needs. Butcher cattle showed a little better tone, with fair to good fat cows at \$8.50 to \$11 and canners down to \$5.25. Stock cows and heifers ruled between \$5.50 and \$9; stock calves at \$6 to \$11.25. Veal calves were quoted between \$6.50 and \$16.50, the better 120 to 200-pound offerings selling at the top prices.

Lambs Go to \$20

A Kansas feeder, A. J. Parnell, of Lawrence, last week carried off the honor of selling the first lambs at \$20, a new record January price and the top predicted for the market in these columns. Mr. Parnell sold 263 head, averaging 76 pounds, at \$20. They were a part of 4,200 head purchased last October, when they weighed 58 pounds and averaged \$11.95 in cost. The general market was 25 to 50 cents higher, with few ewes up to \$12, wethers up to \$14 and good breeding ewes at \$13.50 to \$14, the latter appearing cheap.

Big Profits from Poultry

The Kansas Farmer and the Mail and Breeze desires to get several hundred letters from its readers telling about their success with poultry. Do you hatch with hens or with incubators? What do you do with your surplus fowls? Where and how do you market your eggs? Did you make or lose money last year? What was your most profitable year? What success have you had in using brooders? What kinds of poultry houses have you had and how could they be made better and more satisfactory? What feeds do you use? These and many other similar topics are open to your selection. All letters should reach us on or before February 1. Address the Poultry Editor, the Kansas Farmer and Mail and Breeze, Topeka, Kan.

Sheep on Intensive Farms

Sheep formerly were regarded as animals adapted only to extensive farming operations, to be handled in sparsely settled communities where there was an abundance of free range. In those days sheep were grown largely for the wool produced. Sheep decreased in numbers as the country became more thickly settled. They were not regarded as farm animals but as range animals. The times have changed and now sheep are coming back, and this time as truly dual purpose animals producing both meat and wool. As grown in the small farm flock mutton is the primary product and the wool produced is largely velvet.

Sheep will produce more marketable meat from rough feed alone than any

Holsteins at Auction

42 head of high grade cows and heifers, well marked, T. B. tested, mostly young and right in every way.

Sale at farm 1-2 mi. north, 1 mi. west of Country Club Lawrence, Kan., Monday, Feb. 9th

A Bunch of Money Makers

15 head, part fresh by sale day, balance to freshen in February. Nine that freshened in the fall, all good milkers. 11 nicely marked heifers, almost yearlings. Seven fall heifer calves, nice ones.

Reason for selling—Have sold my farm.

I have raised Holsteins and milked them for 34 years. If you want cows for quality you better attend this sale.

Also 10 horses, farm machinery, harness, feed. It is a clean sweep sale.

Free conveyance from Eldridge Hotel to farm and return sale day.

F. D. Wiggins, owner, Lawrence, Kan.

Auctioneers—Stone and Thomas.

The Kind You Can Afford To Buy High Grade Holstein Cows and Heifers

At the farm, six miles south and one and a half miles west of

Abilene, Kan., Wed., February 11

37 Cows ranging from 3 to 5 years old. This is a choice lot of cows which we are proud to put into a sale ring. Come look them over—they speak for themselves. They are from a reliable herd, noted for their production records. This herd stands as one of the leading herds in the Dickinson County Cow Testing Association—cows that have butter records up to 70 lbs. in 30 days. Every producing cow has been tested and milk and butter records will be furnished on day of sale. Most of these are giving a good flow of milk at present, freshening in the fall and through the winter.

20 Choice Heifers—Some bred and others still open. This is a fine string of heifers from some of our high producing cows.

Health Condition. These cattle have been tuberculin tested and will be sold subject to 60 days re-test. They are in the best of condition to go thru the remainder of the season.

This is an offering of high quality Holsteins, high grade cows and heifers from one of the best herds in Dickinson county. Write for information. Address,

D. S. Engle & Sons, Abilene, Kan.

Auctioneers—Jas. T. McCulloch, Clay Center, Kan. E. L. Hoffman, Abilene, J. G. Engle, Abilene.
J. W. Johnson, fieldman, Copper Farm Press

HORSES AND JACK STOCK.

HORSES AND JACK STOCK.

Closing Out Sale

Tuesday, February 17th

At Our Barn in Circleville, Jackson Co., Kansas

Registered Jacks, Jennets and Registered Percheron Horses and Mares.

NINE REGISTERED JACKS

Including Mammoth Glenn No. 4455, our herd Jack, 15 $\frac{1}{4}$ hands Standard, 35 in. ears, 10 in. bone. He topped the big sales in 1915 when we bought him.

The other Jacks are all his colts from 14 $\frac{1}{2}$ to 15 $\frac{1}{4}$ hands Standard.

EIGHT JENNETS

The big rugged kind. All are bred to Mammoth Glenn. Sarbord, an aged Imported Stallion. Percheron Romy, a two year old Percheron Stud, a good one by Sarbord. Ruth and Kate, Percheron brood mares, registered and their mare colts. May and June.

This stock will go to the highest bidder regardless of price. Will also sell our breeding barn and lots. Barn 66 by 34 ft. Has 10 box stalls, granary, and room for 100 tons of hay. My son has moved on his farm, and I am getting too old to look after them. Catalogs ready to mail. Write for yours now. Address

M. H. Roller & Son, Circleville, Jackson Co., Kansas

Auctioneer, C. Pool. J. W. Johnson, Fieldman, Capper Farm Press.

NOTE—Parties coming from the northwest via central branch should come to Whiting and change to Rock Island for Holton. Autos meet everyone there. Those coming the evening before stay all night at Holton.



other farm animal. The lambs come to maturity early and can be marketed with a minimum of grain feeding. Sheep are admirably adapted to intensive farming, and here in Kansas many a farmer is adding a small flock of breeding ewes to his livestock equipment. Men who exhibited sheep at our state fairs reported that every surplus breeding animal was sold long before the fair was over.

Cattle Prices to Advance

The coming of spring should bring forth interesting developments in the cow and steer situation. Last fall thousands of cattle from Kansas pastures, which in ordinary years would have been sent to market, were shipped back to the Southwest ranges. As a result of the great drouth the large holding herds of the Northwest were depleted at the same time.

Now, with the green grass season but a few months away, the Northwest is asking, "How about yearling steers?" At the same time Kansas pasture men are asking, "How about aged steers for our summer pastures?" The answer to these questions always has been before, "Look to the great Southwest."

But can that be the answer this year? It is doubtful whether many cattle that were in Kansas last summer, and are in the Southwest now, will be returned to pasture this summer. Grass is good in the Southwest. Cotton oil mills are near at hand. The come-back steers are taking on flesh

to the breed, and in that sense is not a breeder of purebred stock, but he is distributing the valuable qualities of the purebred over a large number of animals and is most assuredly increasing the market value of the stock he is producing. That means more profit, for the quality animal consumes the same feed as the scrub. It costs no more when fed to the good animal than when fed to the poor one, but when marketed in the form of the superior animal its value is greatly enhanced. It is folly to use anything but a purebred sire in producing market stock.

Percheron Profits

An interesting story of profits to be derived from a few good Percherons comes from an Iowa farmer. Twelve years ago he stocked his farm with four Percheron mares, two imported weanling fillies and one pair of medium sized geldings. The total outlay for horses at that time was \$2,185. No expenditures have been made since and three of the original animals are still in service on the farm. Two and one-half years after the original start, two of the less desirable mares were replaced by younger stock raised on the farm without additional cash outlay.

This farmer's policy has been to maintain just enough brood mares in addition to a pair of geldings to do the farm work and to breed the mares to the best stallion available. At the present time he has six brood mares, two geldings and two colts on hand.

Bargains In DRAFT STALLIONS

Our horse barns have been torn down to make way for city residences. We have a few high-class Belgian, Percheron and Shire stallions for sale right. We offer special inducements to dealers who can handle them all. Now is the time to push the draft stallion business. Horses were never so scarce.

Woods Bros. Co., Lincoln, Neb.
A. P. Coon, Manager

Jacks, Jennets and Registered Standardbreds

At Public Auction, Thursday, February 5, 1920

16 Head of Good Jennets; 2 Jacks, 5 years old; 3 young Jacks. Stallion, Symbol Don 43946 by Symboler 19869; dam Avella. Mare Tracey Goldenar by King Goldenar; dam Viola. 8 good young mares and geldings; 3 yearling mules, 8 head of cattle. Some good hogs and sheep.
Sale to be held at the farm 3 miles southwest of Mildred or 5 $\frac{1}{2}$ miles north and one mile west of Moran.

GEO. W. SIDERS, R. 2, MORAN, KANSAS

20 Big, Registered Black Jacks

Ages from 2 to 8 years. Height from 15 to 16 hands. Can show more bone and weight than anybody. In October we shipped a carload of the finest big registered Jacks we could find in Tennessee to our farms. They are acclimated now and ready to make good. We will sell at a sacrifice our herd of state fair prize winning Jennets on account of no pasture. They are bred to our 16 hand show Jack. Must sell this stock this season. We can ship on the Santa Fe, Missouri Pacific or Frisco. Address, J. P. Malone, Lyons, Kan., (new location) or M. H. Malone, Chase, Kan. Will meet trains at Lyons or Chase.



BELGIANS

From the Home of Farceur, the undefeated grand champion. A choice selection of stallions from rising 2 to 5 years old. A few good mares safe in foal to Farceur. Youngsters of both sexes by the grand champion. Our community has more good Belgians than any other like area in the world. Make us a visit.
C. G. GOOD, OGDEN, IOWA



EWING BROS. PERCHERONS AND SHORTHORNS

Some extra good stallions and mares. Meknes 106640 (106084) in service. Village Knight 1398231 herd header. Stock for sale.

EWING BROS.
1438 12th St., Great Bend, Kansas
R. 1, Pawnee Rock, Kansas

Mammoth Jacks, Percheron Stallions and Mares

A lot of big boned Jacks, 3 to 5 years old, weight up to 1200 pounds, 15 to 16 hands. Also a fine lot of Percheron stallions, blacks and greys, weight up to 2400 pounds. A lot of large mares, 2 and 4 year olds, showing colts. Will sell one or a carload. All stock guaranteed.
Al. E. Smith, R. 1, Lawrence, Kansas.
40 miles west of Kansas City.



Pleasant View Stock Farm

2 good big Jacks that get good mules and my French Draft stallion. Investigate if you want profitable Jacks and stallion. M. R. Peterson, Troy, Kan., Doniphan Co.

Five Registered Percheron Stallions
for sale. 1 coming 6 years; 2 coming 4 years; 2 weanlings. All blacks. F. J. Bruns, Nortonville, Kan.

Use Shire Horses

For farm power and profit. BRED SHIRE HORSES. They are in demand. Good grade Shires are selling between \$200 and \$300. Shire mares prove to be good workers and excellent mothers. They will work steady and at the same time raise profitable colts.
For booklet on Shires write W. G. Lynch, Secretary, American Shire Horse Association, Tonica, Illinois.

Jacks and Jennets

15 large mammoth black Jacks for sale, ages from 2 to 6 years; large, heavy boned. Special prices for early sales. Twenty good Jennets for sale. Come and see me.
Phil Walker, Moline, Elk County, Kansas

JACK AND PERCHERON

For sale or trade. Might exchange for young mules. Reg. No. Jack, black, white points, heavy bone, extra good individual. Purebred Percheron stallion, coal black, 8 years old, 1850 lbs., an extra good one.
W. S. HOAG, IONIA, KANSAS

Percherons—Belgians—Shires

State fair prize-winning stallions and registered mares bred to Champion stallion for sale. Also extra heavy black Mammoth Jacks.
Fred Chandler, Rt. 7, Chariton, Ia.



Coburn Farm Percherons

Percheron Mares and Stallions—all blacks. Mares, yearlings up to mature ages. Stallions, yearlings, two-year-olds and one extra 6-year-old, a ton horse. Two-year-olds weighing 1,800.
Mahlon Greenmiller, Pomona, Kansas, (Franklin Co.)

TO CLOSE PARTNERSHIP

Will sell our Percheron stallion and mammoth Jack. Both registered, large, young. Write for particulars. J. W. Yeoman, Barclay, Kan.

HOW TO MAKE HOG BUSINESS BETTER

"Livestock Service, Capper Farm Press:

"We have had a good fall in the hog business. We soon found that as soon as we began to advertise in your two papers (Oklahoma Farmer and Kansas Farmer and Mail and Breeze) that we did not have enough hogs to supply our wants. We had a great number of inquiries from Kansas, Oklahoma, Texas, New Mexico, Colorado and Arkansas. We could have sold five times as many hogs as we did if we could have spared them, but we had decided to hold a bred sow sale and had to hold them for our sale. I believe it never looked better for the hog men; look for breeding stock to be in great demand in the near future. In our own county, (Marion) there is a great scarcity of sows.

"We found Mr. J. T. Hunter, your fieldman, a very pleasant man to deal with. His advice is of the best."

B. W. CONYERS,
Breeder of Duroc Jerseys.
Marion, Kan., January 24, 1920.

and rangemen say they will go to market in the spring, if they do not represent too great a loss; if they break even so much the better. A great many parts of the Southwest report good calf-crop prospects, a few good yearling, no twos, threes, or aged steers. The Northwest with reduced freight rates, as an attempt to relieve drouth conditions, are feeding more cake than ever before. But they are feeding it to the breeding herds, not steers. So with fewer pasture lease contracts than ever before at this season Kansas pasture men are asking, "How about steers for the coming grass?"

In the same way the Northwest is asking for yearlings and two's to put on the ranges, now under deep snow, which carry the promise of a great grass season ahead. Texas had a good calf crop last year. In the effort to ease off the debts of three years' drouth Texas sent 90 per cent of her calf crop to market as veal. The same is true, to a lesser extent, of the other states of the Southwest. The indications for a great grass year in these same states is better than in many years; they are short of cattle; and the frequent expression there is, "This year, we finish our few yearlings at home."

Out of the Northwest and Middle-West comes the question "Where?" From the Southwest comes the answer "Where?" And those who are interested are waiting for spring to solve the problem as to where the cattle will come from that will be needed in the West and Northwest to convert the grass into beef and hard cash.

Grading Up the Herd

By using a purebred sire of good individuality it is possible in eight generations to obliterate almost the influence of the scrub foundation stock. The man who uses a high class purebred sire may not be adding anything

The total sales during the past 12-year period amounted to \$8,835. All colts have been sold under 2 years old and four of them were sold under 1 year old. During the 12 years, two mares have died and one colt was crippled and of little value.

As an indication of the value of a good sire, two colts were sold when 1 year old in succeeding years from the same mare. Both were sired by imported sires; the colts were equally well grown and in good condition at the time of sale. One sold for \$350, the other for \$1,000. This farmer estimates that the total sales for colts from this herd might easily have exceeded \$10,000 if a good sire for mating the mares had been available during the earlier years.

American Trotter to Italy

The last name to be added to the ever-growing list of fast American trotters sold for export is that of the black stallion Binland 2:03 $\frac{1}{4}$. With the exception of Cresceus 2:02 $\frac{1}{4}$, Binland is by far the fastest trotting stallion that has been exported. It will be remembered that Cresceus was sold to Russia long after he had passed the prime of life. Binland, on the other hand, is now but 7 years old and has been trotting to greater records with each race. Binland was bred at Springfield, O., being by Binjola 2:17 $\frac{1}{4}$, a son of Bingen 2:06 $\frac{1}{4}$, while his dam was Alice Wren by Ashland Wilkes 2:17 $\frac{1}{4}$. Binland's new home

Wanted 225 Choice Shoats
weighing 60 to 80 lbs. Answer at once and fully describe. RICHARDS & SONS, SUPERIOR, NEB.

HORSES AND JACK STOCK.

Purebred Shire Stallion For Sale
7 years old. W. H. Poppelreiter, Bushton, Kan.

DARK GREY PERCHERON STALLION
Coming 3, will weigh over a ton at maturity. Imported sire and dam, well broke to work. Price \$100.
J. T. Mowrer, Lost Springs, Kansas

SHEEP.

FOR SALE



A bunch of registered Shropshire rams, ready for service; priced worth the money.
Howard Chandler, Charlton, Ia.

CHESTER WHITE HOGS.



I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—*More Money From Hogs.*
G. S. BENJAMIN, R. F. D. 1, Fortland, Michigan

For Sale Chester Whites Most Popular Blood Lines

Few choice last spring boars also few last September boars sired by son of Wm. A. Miss Lenora 4th, both grand champions. Also will sell few bred gilts, Wm. A. blood, bred to son of Wildwood Prince Jr. The offspring will represent the two most popular blood lines of Chester White breeding of today. Write
E. M. Reckards, 817 Lincoln St., Topeka, Kan.

Chester Whites
Extra good bred sows for sale; also growthy open gilts and spring boars. Choice weanling pigs, pairs and trios, no akin. Nebraska Breeders Sales Co., Lincoln, Neb.

Herd Boar Material

10 September boars by Don Tip Top and Don Combination. I want to move them in the next 30 days.
ARTHUR MOSSE, LEAVENWORTH, KAN.
Kansas Herd Chester White Hogs.

PRINCE TIP TOP CHESTER WHITES

The big kind that have proven their worth. We can fill your wants for anything in better Chesters. Prince Tip Top heads the herd.
HENRY MURR, TONGANOXIE, KANSAS

CHESTER WHITES Choice fall boar pigs, and a few bred gilts. E. E. SMILEY, PERTH, KANSAS.

CHESTER WHITE BOARS AND GILTS For sale. Sired by Bob Tip Top. Best of breeding. W. H. Lynch, Neosho Rapids, Kan.

O. I. C. HOGS.

Breed The Best THE WORLD NEEDS LARGE FAT HOGS

Why lose money breeding and feeding scrub hogs? Two of our O. I. C. Hogs. Weighed 2806 Pounds. We are the most extensive breeders and shippers of pure bred hogs in the world. Write today for the true story of the real O. I. C. Hogs. All foreign shipments U. S. Government Inspected. We have bred the O. I. C. Hogs since 1868 and have never lost a hog with cholera or any other contagious disease.

Originators of the Famous O. I. C. Hogs

WRITE TODAY—FOR FREE BOOK "The Hog from Birth to Sale"
THE L. B. SILVER CO.
R. 606 SALEM, OHIO

40 O. I. C. PIGS, BOARS AND SOWS

HARRY W. HAYNES, GRANTVILLE, KAN. FOR QUICK SALE AT A BARGAIN, 1 registered O. I. C. boar 9 months old, a fine individual. Frank A. Vopat, Lucas, Kansas.

JULY O. I. C.'S EITHER SEX Verg Curtis, Larned, Kansas

O. I. C. BRED AND OPEN GILTS, priced to sell. E. S. Robertson, Republic, Missouri.

HAMPSHIRE HOGS.

Whiteway HAMPSHIRE On Approval. Special short time prices on bred sows and gilts. Popular breeding. Special fall pig offer. F. B. Wempe, Frankfort, Kan. (Marshall County)

Large Type Hampshires

Have a few choice bred gilts and some fall pigs of either sex. All sired by the great wonder boar, WEMPE'S KID #4363. Pedigrees furnished.
ROBERT WEMPE, R. 2, SENECA, KANSAS

HAMPSHIRE Extra good bred sows for sale; also growthy open gilts and spring boars. Choice weanling pigs, pairs or trios, no akin. Nebraska Breeders Sales Co., Lincoln, Neb.

MESSINGER BOY HAMPSHIRE 20 registered and immuned hogs. Write WALTER SHAW, R. 6, WICHITA, KANSAS

Hampshires—Spotted Polands Boars of both breeds, ready for service, \$30 to \$50. Also bred sows and gilts of both breeds.
C. W. WEISENBAUM, ALTAMONT, KAN.

SPOTTED POLAND CHINA HOGS.

Big Boned Spotted Poland Chinas

Bred and raised by a breeder of 35 years experience. A strong line of gilts, either bred or open, especially selected from my large herd. They are beauties, registered and ready to ship to you at attractive prices. Address
W. M. HUNT, OSAWATOMIE, KANSAS

will be at Milan, Italy, and the reported price paid is in the neighborhood of \$15,000.

Fodder or Mock Silage

BY A. L. HAECKER

Silage made from corn in shock or stack, where the plant is thoroly dry or cured, is generally known as fodder or mock silage. It may or may not contain the ears but is distinguished from other silage by being put up when dry.

Let it be known first of all that such silage is not as good or as nutritious as silage made from corn while matured but still green. Fodder silage has a feeding value which is greater than dry fodder. It is also more succulent than dry feed and is eaten without any waste. Convenience in feeding and the fact that it is a better food makes it worth while for a farmer to put up such silage if he is not able to have silage made at the proper period.

On many farms there is but one silo and perhaps a need for two or three silos, while there is sufficient corn to fill this number. In such cases where the corn is put in shock the silo can be profitably refilled. The scarcity of hay and forage with prevailing high prices make it especially desirable this year to fill all available silage space.

The making of fodder silage is more difficult than putting up silage at the proper stage. When the corn is thoroly dry, as it is in the shock, it will require about as much water as there is fodder; in other words, a ton of dry fodder will require about a ton of water the less amounts can be used. The best way to add the water is by using a hose, either 1 inch or 3/4 inch, turning into the blower. If this does not add enough the fodder may be thoroughly sprinkled before cutting, or after each load some water can be added to the fodder in the silo. Where water is put on the fodder in the silo, care should be used to spray or sprinkle the surface so that all parts will receive about the same amount. Where insufficient moisture is added the silage will be inclined to mold. There is little danger of adding too much water.

There are a large number of farmers in various parts of the country who each year refill their silos with dry fodder, in many cases the ears being removed from the stalks. They have been successful in this operation and in most cases are convinced that the labor and time expended is well paid for by producing some excellent feed from which they can obtain satisfactory feeding results. It is generally advised by those making such silage that it should be done before the first of March and the earlier, the better the silage. This, of course, would be easy to explain as all forage tends to deteriorate with age, loses moisture and nutriment and contains a larger amount of fiber or indigestible material. Where silos are filled the second time it generally means that a large number of animals are fed and the first silage is fed out some time during the fall and early winter, which would mean that the refilling would come during the months of January and February. At this time of the year it is more easy to obtain help and little difficulty is experienced in making such silage unless the weather be severely cold or the fodder covered with snow. In conclusion it may safely be said that fodder silage can be profitably put up tho it is not as good as silage made from green corn.

Does Feed Grinding Pay?

BY JOHN EVVARD

Shall we grind grain for our livestock? This question has been asked thousands of times. Some general pointers in regard to the grinding of grain as worked out experimentally and in practice are suggested here.

Ear corn and broken ear corn are used successfully in practice for the fattening of cattle older than calves. The general practice, which seems sane and logical, is to feed ear and broken corn until the cattle begin to shell the corn themselves; then it may be well to shell it.

The grinding of corn is not generally practiced unless there are no hogs to follow, then it is in order. Corn and cob meal may be used instead of the ordinary grain because under some con-

45 Good Poland China Hogs

comprise the Ross & Vincent Bred Sow and Gilt Offering
Sterling, Kan., Wed., Feb. 11

8 yearlings and two year olds, 7 fall yearlings and 30 spring gilts. This will be the best line up of bred sows and gilts ever offered by Ross & Vincent.

Note the wide variety of good sires

Spring yearlings and two year olds sired by: Grandmaster, Giant Bob, Halvor Timm, Morton's Giant, Big Bone Bob, Capt. Gerstdale Jones, Col. Jack, and Ferguson's Big Orphan.

Fall yearlings sired by: Big Jones, Storey's A Wonder, and Model Wonder. Spring gilts sired by: Fairfield Giant, Buster King, Big Wonder Buster, Caldwell's King Jumbo, Sterling Buster, Sterling Timm and Model Wonder.

The offering is bred to Sterling Buster, one of the best sons of the \$10,200 Wonder Buster. Sterling Timm by the champion Big Timm, and Timm's Orphan by Ferguson's Big Orphan.

The wide variety of sires represented offers to the buyer who is careful and particular an opportunity to select a sow or gilt carrying almost any blood line he prefers. If he is not particular as to the blood line he may be assured that he cannot go wrong in selecting a bred sow or gilt out of this offering because the sows and gilts are good individuals sired by good boars and bred to good boars.

A special attraction of the sale will be a Col. Jack spring gilt bred to Sterling Buster, by Wonder Buster. Col. Jack and Wonder Buster each sold recently for \$10,200 apiece. Write today for a catalog.

Ross & Vincent, Sterling, Kansas

J. T. Hunter will represent the Capper Farm Press.

Glenwood Farm's Poland Chinas

Offered in our 14th annual sale in the new \$20,000 heated sale pavilion at Paola, Kansas, Saturday, February 14th

50 HEAD

15 big, tried sows, 35 large spring gilts, the result of our 25 years breeding for large litters. These are the "make good" kind for farmers and breeders. By such sires as King Wonder 2nd by Big Bob Wonder, Wonder Joe by Giant Joe, Model Big Jones by Big Jones, Giant Big Ben, Buster Giant and Equality Bob—by Bob's Equal by Bridge's Bob Wonder.

The 15 sows have raised big litters of good pigs for us. They are bred to Equality Bob and Timm's Orange. Among the attractions are 15 large spring gilts by Equality Bob and bred to Glenwood Chancellor by The Chancellor. Several good gilts by The Chancellor, Giant Bob, Model Big Jones and Buster Giant; all bred for early litters and safe. This is the best offering we have ever sold.

P. L. Ware & Son, Paola, Kan., will consign 10 large spring and fall gilts of very fashionable breeding.

Remember the sale will be held at Paola, Kan. There are three good rail connections. The catalogs are ready and will be sent for the asking. Please mention this paper when writing.

C. S. Nevius & Sons, Chiles, Kan.

Auctioneers—Cols. R. L. Harriman and H. M. Justice. O. W. Devine will represent Kansas Farmer and Mail and Breeze.

Spotted Polands to the Front

Come to our bred sow sales Feb. 18 and March 17 if you are interested in the old fashioned, long bodied, Spotted Poland Chinas, the kind with big bone, big spots, and big litters. All vaccinated and recorded. We can give you either National or Standard breeding. All sows in the first sale are for March farrow. The second sale for April farrow. You can buy fall gilts, spring gilts, or tried sows, at your own price. Come and see the fun.



Henry Field Seed Co.,

Shenandoah, Iowa

September and October Spotted Poland China boars at reduced prices. All bred sows and gilts sold. 30 days special on boar pigs.
Carl F. Smith, Riley, Kansas

SPOTTED POLAND CHINA GILTS Registered, large, good flesh and bone.
Earl J. Matthews, Clearwater, Kansas

CHOICE REGISTERED SPOTTED POLAND BOAR 22-months-old, for sale. Honest Abe strain. C. O. BARR, Diamond Springs, Kan.

SPOTTED POLAND BOARS Ready for service. \$25; September pigs, \$15.
T. L. Curtis, Dunlap, Kansas

Otto A. Gloe's True Merit Polands

will appeal to every man who wants to grow bigger and better Polands. An especially strong offering from this herd will be sold at my farm 2½ miles west of

Martel, Nebraska, Tuesday, February 17, 1920

55 Top Females—5 sows; 30 gilts; 10 fall gilts; and 10 winter gilts.

The gilts are sired by Cloverdale, Gloe's Long Model, Martel Expansion, Gloe's Liberty Jones, Big Paul and Timm's Image.

The offering is bred to Gloe's Liberty Jones by Imperial Buster; Giant Big Price, an outstanding boar of the right type; and **A SON OF BIG BONE BOB.**

This is the sale for the farmer or breeder: The best of blood for the breeder; the best of hog type for the farmer. Get your catalog today, mentioning this paper.

Col. Ben Ridgley, Auctioneer.
J. C. Lamb represents the Capper Farm Press.



Big, high, long, deep-sided gilts with full hams and standing on the best of bone and feet.

OTTO A. GLOE, MARTEL, NEBRASKA

Poland China Farmers and Breeders

An offering of 40 bred sows and gilts, combining splendid size with quality.

Sale at the fair grounds sale pavilion
Concordia, Kan., Saturday, Feb. 14

7 tried sows, as good as we are keeping. Four fall yearlings and good ones, granddaughters of Big Bob Wonder. 28 spring gilts that have been well grown and carefully handled. They are mostly by Monarch 2nd by Big Monarch and out of sows by Timm 3rd, full brother to Fessy's Timm. Others by Henry Expansion, litter mate to Big Gun, Expansion C, who is a litter mate to Panorama by Expansion. The entire offering bred to Big Monarch, Progressive Prospect, Model Giant and Orange Bud and Monarch 2nd.

An offering we can guarantee to please you. Orders to buy should be sent in our care to J. W. Johnson, Concordia, Kan. Catalogs ready. Address either

R. B. Donham, Talmo, Kansas
or Carl Jansen & Son, Belleville, Kansas

Auctioneers—Jas. T. McCulloch, Clay Center, Kan., and others.
J. W. Johnson, fieldman, Capper Farm Press.

Real Attractions

will feature the Poland bred sow sale of Henry Koch to be held at
Edina, Missouri, February 18th

50
Carefully
Selected
Females

Five tried sows that have been good producers; 25 large fall yearlings; 18 choice spring gilts; 2 spring boars. 15 gilts are sired by Missouri Jumbo and bred to White Oak Wonder or Surprise Wonder. 8 choice gilts are by Koch's Jumbo.

Among the greatest attractions are—Nos. 1, 2 and 3, they are litter mates to Koch's Jumbo, one of my chief herd boars; No. 6, 7, 8, 9, 10 and 11 in the catalog are by Oak Wood Jumbo and are exceptionally good. This is the best offering I have ever sold and I am anxious for you to receive my catalog giving full information concerning the sale offering and the herd from which they are drawn. Send for one today, mentioning this paper, and come to my sale.

HENRY KOCH, EDINA, MISSOURI

Auctioneers—Cols. Will G. Lockridge and Fred Groff.
O. W. Devine represents The Capper Farm Press.



Poland China Pigs

at \$20 and \$25 each. Large type, best blood, thrifty, well marked. S. M. BEASON, COLLYER, KANSAS.

Purebred Poland Sows and Gilts

bred for early March litters. Also fall pigs of either sex. A. W. Howell, Macksville, Kan.

BECKER'S POLAND CHINAS

For sale. Few bred gilts, also fall pigs. J. H. Becker, R. 7, Newton, Kansas.

ditions it requires less labor to make the corn and cob meal than it does to shell and grind the corn. Remember, however, that the cob is fibrous and bulky, and may well be omitted at the finish, cornmeal being substituted. Very young calves may be started on ground grain, but even with them it is surprising how quickly they will learn to eat shelled corn.

For hogs ear corn is the best all around preparation. Be sure to use ear or shelled corn only for growing pigs, and for maintaining sows, and boars. There is a saving of some corn in grinding for heavy fattening hogs weighing more than 250 pounds, and for heavy fattening sows.

Corn and cob meal is entirely out of place in swine fattening, and the only field of usefulness it has is in maintenance, especially with old sows. Even then ear or shelled corn is just as good, in fact better, counting the cost.

There are some indications that it might be best to start out on shelled and ear corn, then toward the finish when the hogs are very fat, finish on

both shelled and ground corn with some ear corn. In other words give the hogs a chance to choose between the three.

The soaking of grains has not proved advantageous except with older, heavier, fatter swine, altho, generally speaking, wetting the grain may cause an increased consumption, and is in order in fitting show stock oftentimes when extreme finish is wanted.

Barley, wheat, rye and other hard grains that pass thru undigested to a large extent when fed whole, may be ground for all classes of swine.

For lambs, ear, broken, or whole and shelled corn are the best forms. This is for fattening lambs. Corn and cob meal is better than ground grain but ear corn is more economical than either. It is a good plan to start out on broken and ear corn, then change largely to shelled, and finally at the finish add some ground grain to the ration.

For old ewes that have good teeth, whole or broken ear corn should give good satisfaction. It will hardly pay to grind it but if the ewes' teeth are unfit for grinding, it will be well to do the grinding for them.

The Old Ranch Dog

Faithful and kind is his loving heart,
Soft the light in his eyes of brown,
Ever ready to do his part,
In the toil and stress of the day's hard round.

Off in the morning without command,
To gather the kine for the milking yard,
Content if the stroke of his master's hand
Is kindly laid on his silent "pard."

Over the prairie's wind-swept breast,
Rounding the cattle with stately mien,
Listening oft for the quiet behest,
Of his master's voice thru the pelting rain.

Guarding the sheep from coyotes bold,
In the still, soft nights of our prairie land,
'Till the first faint streaks of the day unfold,
To warn all foes from the timid band.

Old ranch dog, what a friend untold,
You are to me thru each toilsome day,
Guarding my life, my home, my gold,
In the loving care of your quiet dog way.

Faithful heart 'neath your shaggy hair,
Kind soft eyes beaming love on me,
Sweet to my life is your friendship rare,
Kind and tender my words shall be.

Come you close to the warm fireside,
Old ranch dog, with your coat of brown,
Love so faithful, and true, and tried,
In this grey old world I have rarely found.
—Dakota Farmer.

The Barber Pole

While George Ade, the slang man, was spending a holiday at Palm Beach he sauntered into a barber shop and got shaved. The argonaut tells the story. When he had finished the barber handed him a tag for 65 cents. Ade regarded it thoughtfully. Then, turning to the barber, he asked: "Do you happen to know the significance of that red and white-striped pole in front of your shop?" "Yes, sir," said the barber. "You see, in olden times, barbers were surgeons as well as tonorial artists. When a man had to be bled, he came to a barber." "And we still get bled," retorted Ade as he paid the check, adding, "whatever you do, don't take down that pole."

THE LIVESTOCK SERVICE

of the Capper Farm Press

Founded on four great papers, each excelling in prestige with the farmers and stockmen of its territory, the four covering, respectively, the states of Kansas, Nebraska, Missouri and Oklahoma and adjacent sections of adjoining states.

FOR BUYERS: When livestock of any kind is wanted, look thru our advertisements and write those breeders who seem likely to have what you want, always mentioning this paper. Write this department direct at any time, describing the livestock desired and we will be glad to help you locate it.

FOR SELLERS: Those who have livestock for sale, will find that advertising thru one or more papers of the Capper Farm Press is the most businesslike and effective means of locating buyers. Ask this department for any desired information, on the subject of livestock selling, always giving number and description of animals for sale. If help is wanted in the preparation of advertising copy, give such other information as can be used to attract the interest of prospective buyers. Such matters as the time of year, cost of feed, condition and value of animals and time available for selling, should be considered in deciding how to advertise. You may need only a three line advertisement or it may be to your best interest to use a full page. This paper may afford you ample service or you may need the whole Capper Farm Press. Give us full particulars and you will get honest and competent advice.

It is a good idea to keep in touch with your territory manager as much as possible. His judgment, experience and constant travel and observation always will prove valuable to you. Inquiries and instructions to headquarters can be addressed:

Livestock Service of the Capper Farm Press, Topeka, Kan.
T. W. MORSE, DIRECTOR AND LIVESTOCK EDITOR

OFFICE AND TERRITORY MANAGERS:

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J. Cook Lamb, Nebraska, 3417 T St., Lincoln, Neb.
O. Wayne Devine, Missouri, 300 Graphic Arts Bldg., Kansas City, Mo.
J. Park Bennett, Missouri, 300 Graphic Arts Bldg., Kansas City, Mo.
S. T. Morse, E. Okla., S. E. Kan., and S. W. Mo., 517 West 3rd St., Joplin, Mo.
H. P. Steele, Iowa and N. E. Neb., 203 Farnam Bldg., Omaha, Neb.

POLAND CHINA HOGS

Profitable Poland Gilts

at Public Auction in Sale Pavilion
Le Mars, Iowa
Saturday, Feb. 7

40 Head of Good Useful Gilts
 sired by good boars and bred to two promising young boars, one a son of Omaha, Henry Dorr's noted boar, and the other by a son of Big Timm and out of a daughter of The Guardsman, and he is a litter brother to the noted Clansman. The gilts are all good business gilts and will make money for the man who buys them. Write for catalog to

Geo. Sitzman, Kingsley, Ia.
 H. P. Steele will represent the Kansas Farmer and Mail and Breeze.

The Deming Ranch Polands

Sows and gilts bred for March and April litters. As good as they grow. Bred to Big Bob's Jumbo, Big Jones Again, The Dividend and Kansas Guardsman.
THE DEMING RANCH, OSWEGO, KAN.
 H. O. Sheldon, Supt. Swine Dept.

POLAND CHINA BRED SOWS AND GILTS

also fall pigs. We won 49 premiums at the state and county fairs on our 1919 show herd. We show our breeding hogs and breed our show hogs. Satisfaction or money back.
PLAINVIEW HOG AND SEED FARM,
 Frank J. Rist, Prop., Humboldt, Neb.

HILL'S BIG TYPE BRED GILTS

Poland China spring gilts sired by our new 1,000 pound herd boar, King Joe 2d and from big, well bred sows, safe in pig for March and April farrow, to Hill's Col. Jack a wonderful prospect by the \$10,200 Col. Jack and from a \$575 Big Timm sow.
 High kind at low prices: good gilts at \$65; choice at \$80. Immuned and guaranteed to please.
W. H. HILL, MILO, KANSAS

40 Big Type Poland China

Bred sows, 25 bred to Nebraska Evolution by the \$25,200 Evolution. Others bred to Giant Again, High-backed Timm and Ring Sensation by the 1204-pound Big Sensation. Write at once for prices and information. Several high class boars.
HERMAN SCHMALE, DE WITT, NEBRASKA.

Boars For Sale at Private Treaty

Choice grandsons of Caldwell's Big Bob (grand champion of world) sired by Black Bob Wonder and by King Bob. Piggid in March, April and May. Immunized.
W. C. HALL, COFFEYVILLE, KANSAS

Choice Young Boars

out of sows by Fessy's Timm and Arkell's Big Timm. These boars are by a good son of Eclipse Model and a King Again, a 1,200 pound hog. All immune.
Ans. Arkell, R. D. 4, Junction City, Kansas



Poland Chinas
 Extra good bred sows for sale; also growing open gilts and spring boars. Choice weanling pigs, pairs and trios, no akin.
Nebraska Breeders Sales Co., Lincoln, Neb.

Big Type Polands

Have some very choice young boars for sale. Can also spare a few more gilts. Most of the pigs are by Captain Bob.
Frank L. Downie, R. 4, Hutchinson, Kansas

75 Big Type Poland China Fall Pigs

Can furnish pairs or trios not akin. The best of breeding. A few tried sows and gilts. Some good boars. Immuned and guaranteed in every way.
ED SHEEHY, HUME, MISSOURI.

Big Black Polands

Spring boars that are heavy boned and have plenty of length \$35 to \$40. Good, growing fall boars that are ready to ship \$20. All stock registered.
E. M. WAYDE, R. 2, BURLINGTON, KAN.

POLAND CHINA BRED SOWS

One tried sow, two fall yearlings, some top gilts, all safe with pig to farrow in March. Priced to sell.
T. CROWL, BARNARD, KANSAS

Big, Growthy Poland Gilts

Bred to the 1200-pound A Longfellow and A Wonder Hercules. **JAMES NELSON, R. 1, Jamestown, Kan.**

Public Sales of Livestock

- Holsteins.**
 Feb. 4—A. L. Ptacek, Emporia, Kan.
 Feb. 5-6—A. S. Neale, Manhattan, Kan.
 Feb. 9—F. D. Wiggins, Lawrence, Kan.
 Feb. 10—R. C. Smith, Sedgwick, Kan.
 Feb. 11—D. S. Engle & Sons, Abilene, Kan.
 Feb. 12—J. W. Meyer, Nortonville, Kan.
 Feb. 17-18—Iowa, Nebraska, Kansas combination sale, Dwight Williams, Mgr., Omaha, Neb.
 Feb. 24-25-26—Tri-State Holstein Show and Sale, Omaha, Neb.
 Feb. 24—Edw. L. Hutchins & Sons, Salina, Kan.
 Mar. 19—C. E. Pearce at So. Omaha, Neb. Dwight Williams, Sale Mgr.
 Mch. 25-26—Annual sale Holstein-Friesian Association of Kansas at Topeka. W. H. Mott, Sales Mgr., Herington, Kan.
- Hereford Cattle.**
 Feb. 3—Seever & Sons, Smith Center, Kan.
 Feb. 7—W. L. Bowman, Ness City, Kan. Sale at Hutchinson.
- Shorthorn Cattle.**
 Feb. 11—E. M. Phillips & Sons, Beverly, Kan.
 Mar. 16—Edw. F. Gehley, Orleans, Neb.
 Mar. 25—Eastern Kansas Shorthorn Breeders' Assn., Ottawa, Kan., F. J. Robbins, Sale Mgr., Ottawa, Kan.
 Mar. 30—J. P. Ray & Sons, Lewis, Kan.
 Mch. 31-Apr. 1—Central Shorthorn Breeders' Ass'n. Sale at Kansas City, Mo.
 Apr. 28—Sumner County Assn., W. A. Bays, Co. Agt., Mgr., Wellington, Kan.
 Apr. 28—Northwest Kansas Shorthorn Breeders' Ass'n.; Sale at Concordia. E. A. Corey, Sales Mgr., Talmo, Kan.
- Polled Shorthorn Cattle.**
 Mch. 2—T. M. Willson, Lebanon, Kan.
- Angus**
 Feb. 10—Alex Spong, Chanute, Kan.
- Red Polled Cattle.**
 Feb. 10—R. C. Smith, Sedgwick, Kan.
- Percheron.**
 Feb. 12—H. R. Cowdery, Lyons, Kan.
 Feb. 17—M. H. Roller, Circleville, Kan.
 Feb. 23—D. E. Gill, Attica, Kan.
- Jacks.**
 Feb. 12—H. R. Cowdery, Lyons, Kan.
 Feb. 16—G. C. Roan, La Plata, Mo.
 Feb. 17—M. H. Roller, Circleville, Kan.
 Feb. 23—D. E. Gill, Attica, Kan.
 Mar. 18—H. T. Hineman & Sons, Dighton, Kan.
- Poland China Hogs.**
 Feb. 3—E. L. Dolan, Platte City, Mo.
 Feb. 3—Cain, Cassell and Forbes & Son, Republican City, Neb.
 Feb. 4—O. E. Wade, Rising City, Neb. Sale at David City.
 Feb. 4—Clarence Dean, Weston, Mo., at Dearborn, Mo.
 Feb. 4—Wm. McCurdy, Tobias, Neb.
 Feb. 5—Thomas F. Walker & Son, Alexandria, Neb.
 Feb. 5—Frank J. Rist, Humboldt, Neb.
 Feb. 5—Adams & Mason, Gypsum, Kan.
 Feb. 6—Willis & Blough, Emporia, Kan.
 Feb. 6—O. O. Jones and Peter J. Tisserat, York, Neb.
 Feb. 7—Geo. Seltzmann, Kingsley, Iowa.
 Feb. 7—H. E. Myers, Gardner, Kan.
 Feb. 10—A. J. Erhart & Sons, Oregon, Mo.
 Feb. 11—Ross & Vincent, Sterling, Kan.
 Feb. 12—F. Olivier & Sons, Danville, Kan. Sale at Harper.
 Feb. 14—C. S. Nevius & Sons, Chiles, Kan.
 Feb. 14—R. B. Donham, Talmo, at Concordia, Kan.
 Feb. 14—W. D. McClelland & Sons, Blair, Kan.
 Feb. 17—Otto Gloe, Martel, Neb.
 Feb. 18—Henry Koch, Edina, Mo.
 Feb. 20—Isaac F. Tyson, Harrisonville, Mo.
 Feb. 21—W. A. Prewett, Asherville, Kan.
 Feb. 21—Stafford County Assn., E. J. Wanderscheid, Seward, Kan., Mgr.
 Feb. 25—Harry Wales, Peculiar, Mo.
 Feb. 27—C. B. Schrader, Clifton, Kan. Sale at Clay Center, Kan.
 Mch. 2—T. M. Willson, Lebanon, Kan.
 Mch. 5—Willis & Blough, Emporia, Kan.
 Apr. 28—Fred G. Laptad, Lawrence, Kan.
- Spotted Poland China Hogs.**
 Feb. 18—Mantl Hog Farms, Shenandoah, Ia.
 Mch. 17—Mantl Hog Farms, Shenandoah, Ia.
- Duroc Jersey Hogs.**
 Feb. 3—Col. Jesse Howell, Herkimer, Kan.
 Feb. 4—A. J. Turinsky, Barnes, Kan.
 Feb. 5—Rolla C. Brownlee, Holden, Mo.
 Feb. 5—John W. Jones, Minneapolis, Kan., at Salina, Kan.
 Feb. 6—Kansas Breeders' Association, Manhattan, Kan. Roy E. Gwin, Mgr., Morrowville, Kan.
 Feb. 7—O. E. Harmon, Fairmont, Neb.
 Feb. 9—J. R. Breed, Hydro, Okla.
 Feb. 9—A. Russell, Geneva, Neb.
 Feb. 10—R. C. Smith, Sedgwick, Kan.
 Feb. 10—L. Humes, Glen Elder, Kan.
 Feb. 11—John Peford, Saffordville, Kan.
 Feb. 11—W. A. Dugan, Coln, Ia.
 Feb. 12—W. T. Otey, Winfield, Kan.
 Feb. 12—W. T. McBride, Parker, Kan.
 Feb. 13—Theison Bros., Osmond, Neb.
 Feb. 13—Zink Stock Farm, Turon, Kan.
 Feb. 14—G. M. Shepherd, Lyons, Kansas.
 Feb. 16—John C. Simon, Humboldt, Neb.
 Feb. 16—Wilcoxon & Porter, Bowling Green, Mo.
 Feb. 17—E. H. Carpenter, Fontanelle, Neb.
 Feb. 18—Wooddell & Danner, Winfield, Kan.
 Feb. 18—Fern J. Moser, Sabetha, Kan.
 Feb. 19—Gwin Bros., Morrowville, Kan., at Washington, Kan.
 Feb. 20—Isaac F. Tyson, Harrisonville, Mo.
 Feb. 20—B. W. Conyers, Marlon, Kan.
 Feb. 21—H. W. Flook and Chas. Pedigo, Stanley, Kan.
 Feb. 21—B. R. Anderson, McPherson, Kan.
 Feb. 21—W. L. Fogo, Burr Oak, Kan.
 Feb. 23—John Loomis, Emporia, Kan.
 Feb. 24—Gordon & Hamilton, Horton, Kan.
 Feb. 25—Kempin Bros. and W. Hilbert, Corning, Kan.
 Feb. 25—J. R. Grover, Sentinel, Okla.
 Feb. 26—John W. Jones, Minneapolis, Kan., at Concordia, Kan.
 Feb. 26—Adolph Anderson, Davenport, Neb.
 Feb. 28—C. W. Johnston, Red Cloud, Neb.
 Apr. 17—Rule & Woodlief, Ottawa, Kan.
 Apr. 28—Fred G. Laptad, Lawrence, Kan.
 Apr. 29—Sisco & Doerschlag, Topeka, Kan., at Fair Grounds.
- Hampshire Hogs.**
 Feb. 25—Geo. W. Ela, Valley Falls, Kan.
 Mch. 2—Whitaker & Darby, Miami, Mo. Sale at Marshall, Mo.
 Mar. 3—C. I. Ward, Cameron, Mo.
- Sheep.**
 Feb. 7—O. E. Harmon, Fairmont, Neb.

ADAMS & MASON ANNUAL SALE

Advanced Big Type Poland Chinas

Kansas breeders and farmers are cordially invited to be our guests on this occasion. Sale in comfortable pavilion in

Gypsum, Kan., Thursday, Feb. 5

40 head carefully grown and handled for this sale and the best selections from our two herds. The toppest lot we ever sold at auction. Of the fall yearlings there are six by Giant Bob, the first prize aged boar, Kansas State Fair last fall. They are bred to Big Oakland. Four by Wonder Timm bred to Giant Bob. The 15 tried sows are actual attractions to make the sale the greatest success possible. The First prize gilts at Topeka last fall bred to Big Buster. The spring gilts are of the very highest quality and represent the most fashionable breeding. The catalog is interesting. Write for it now. Address,

Adams & Mason, Gypsum, Kan.

Auctioneers: J. C. Price, W. C. Curphey, J. W. Johnson, fieldman, Capper Farm Press. Note:—Trains from Salina in the forenoon and return after the sale to Salina in the evening. Mention Kansas Farmer and Mail and Breeze when asking for catalog.

Willis & Blough's Big Poland Chinas

in comfortable quarters at our new farm joining town.

Emporia, Kan., Friday, Feb. 6

40 good ones in this sale—8 tried sows, 10 fall gilts, balance spring gilts.

Buster Over, by Giant Buster and the Indiana champion.

Spring gilts and fall gilts of wonderful quality by this great champion and breeding boar mated to Paragon, a yearling son of Orphan's Big Joe.

The kind that always make money.

Two spring yearlings by Henry McGath's noted Gathsdale Jones, dam Orphan Mollie, bred to BUSTER OVER.

The wonderful spring yearling ADA TIMM by Walter's Jumbo Timm bred to BUSTER OVER.

Five great fall yearlings by the World's Champion Caldwell's Big Bob. Two bred to Buster Over, three to Paragon.

We have selected only the kind that we believe will meet with your approval and make you money. For catalogs address,

WILLIS & BLOUGH, EMPORIA, KANSAS

Auctioneer—J. C. Price. J. W. Johnson, Fieldman, Capper Farm Press.

W. D. McClelland & Sons Poland Sale

A Choice lot of Polands to be sold at farm one-half mile west

Blair, Kansas

Saturday, February 14

15 large tried sows. All raised litters last spring that averaged nine pigs to each sow,

14 spring yearling sows. 19 spring gilts.

20 head bred to our herd boar YANKEE BOY.

10 head bred to LONG BIG JOE.

The balance to BIG BONE BOB, Model Big Timm and McClelland's Big Jones. We are selling the best lot we have ever sold and we want you to send for our catalog and come to our sale. O. W. Devine will represent this paper at sale.

W. D. McCLELLAND & SONS, Blair, Kansas

Auctioneer, J. C. Price.

Farms 4 miles east of Troy, Kan., 16 miles west St. Joe. J. W. Johnson will represent The Capper Farm Press.

Our New Home Sale

will offer Polands so superior as to be convincing proof that

A. J. Erhart & Sons

stands for the same high standard of Poland type, blood and utility in Missouri as it has for so many years in Kansas. This first sale from our new farm will be held at

Oregon, Mo., Tuesday, February 10

45 Bred Sows and Gilts

10 yearlings and tried sows, 20 fall and winter gilts and 15 spring gilts—of the best type. Bred for early March litter to this

Great Trio of Herd Boars

Tantalizer

Juvenator

By Cook's Liberty Bond, dam by Surprise Prospect By Liberator out of Melba by W's Giant by Dishers Giant.

Big Sensation

by Smooth Big Bone, dam Big Maid by Big Wonder; weight 1204 pounds.

Here are some real attractions:—6 fall gilts by Big Bob, (one bred to Big Sensation, 2 to Juvenator and 3 to Tantalizer); 4 fall gilts by Halford's Imperator; 4 gilts by Big Sensation out of Big Millie, the undefeated aged sow; one Bloemendahl's Big Chief sow, the dam of our 3rd prize futurity litter of 1919, the best brood sow on the farm; a litter mate to Erhart's Big Chief one of the best breeding boars in our herd; a yearling show sow by Erhart's Big Chief out of a King Wonder dam, she was 2nd prize yearling at Kansas State Fair, 1919; 2 gilts by Wonder Buster the boar that sold for \$10,200 last fall; and 2 choice gilts by Erhart's Big Chief bred to Big Sensation for March litters.

This is the Best Lot of Sows and Gilts We Ever Sold

Arrange to attend this sale, it will pay you in real hog education even if you don't buy. You will want to study the catalog so send for one now mentioning this paper, please.

A. J. Erhart & Sons, Oregon, Mo.

Auctioneers—Cols. J. C. Price and Babb. O. W. Devine will represent The Capper Farm Press

Pioneer Herd's Greatest Sale

will be held in the new sale pavilion at

Harper, Kansas, Thursday, February 12

50 Bred Sows and Gilts

25 sows representing such sires as Big Bob Wonder, Giant Buster, Walter's Jumbo Timm, Long Big Bone, and A Wonderful King; 8 fall yearlings by Logan's Price and Olivier's Big Timm; 17 spring gilts by the grand champion Black Buster, the 1st prize Columbus Wonder and Big Bob Wonder. These great females are bred to these outstanding herd boars

Black Buster Columbus Wonder Clan's Fashion

Among the Attractions are Buster's Chieftess A by Giant Buster; Bob's Quality Lady by Big Bob Wonder; Polly Wonder, A's Choice and Long Queen 1st by A Wonderful King; these are real producing sows and the dams of our show herd. 4 outstanding Black Buster gilts, 2 of which are out of the \$1000 Golden Lady and both are state fair winners; these four gilts are bred to Columbus Wonder and Clansman's Fashion. The entire offering is immuned. Send for the catalog, mentioning the Kansas Farmer and Mail and Breeze, addressing

F. Olivier & Sons, Danville, Kan.

Cols. Price and Burgess, auctioneers. J. T. Hunter represents The Capper Farm Press.

Sale Reports

Breeding Stock Sells Higher at Denver

In the auction sales of breeding cattle at the Denver Livestock Show, just closed, the 95 Herefords sold averaged about \$976.50. For purpose of comparison, however, the Hereford men show that about \$1,400 per head was averaged on 50 cattle out of the 95. The Shorthorn offering of about 50 head averaged about \$400. The top of the Shorthorn auction was \$1,010, but little higher than the average on the 95 Herefords. It was pointed out that the 50 top Herefords and the 50 Shorthorns brought nearly \$95,000, or an average \$100 per head higher than similar numbers have made in any previous sales at Denver. The top prices of the Hereford sales were \$7,500 for a bull and \$7,300 for a bull calf.

Don Versaw's Shorthorn Sale

Don L. Versaw, Bloomington, Neb., had an ideal day for his Shorthorn sale held at Franklin, Neb., January 16. There was a good-sized crowd in attendance. The sale was conducted by Col. A. W. Cies, Chillicothe, Mo., in a most capable manner. There were no big prices paid, the cattle selling at a very even range of prices. Below is a representative list of the sales:

Lot No.	Name	Price
1	C. P. Thompson, Bloomington, Neb.	\$125.00
2	C. E. James, Franklin	285.00
3	H. Frhling, Franklin	105.00
4	Paul E. Versaw, Bloomington	175.00
7	J. D. Dyer, Franklin	110.00
11	Chas. L. Johnson, Bloomington	182.50
12	J. Hawkins, Franklin	150.00
13	Walter Anderson, Hildreth	125.00
14	C. D. Gardner, Bloomington	275.00
16	J. W. Paul, Franklin	132.50
17	J. G. Hawkins, Franklin	110.00
19	Walter Anderson	125.00
20	Earl Versaw, Bloomington	145.00
21	J. C. Dyer, Franklin	170.00
25	Wessel & Son, Bloomington	135.00
26	C. L. Johnson, Bloomington	142.50
27	F. J. Cain, Beaver City	130.00
28	C. D. Gardner	150.00
30	Walter Anderson	120.00
31	H. C. Versaw, Bloomington	150.00

Heater's Duroc Sale

The sows that sold in the H. T. Heater sale, Eustis, Neb., were a commendable offering. On the whole the sows and gilts were of attractive breeding and well grown out, showing that Mr. Heater knows well how to produce animals of quality and worth. The crowd was not extra large. The roads were such that many wanting to attend were unable to. This is Mr. Heater's first sale and he was well pleased with the prices received, his average being near \$100. These sows were bred to two very commendable boars, Choice Pathfinder and Western Sensation. Below is a representative list of sales:

Lot No.	Name	Price
1	J. H. Still, Eustis, Neb.	\$85.00
3	Frank Westfall, Smithfield, Neb.	105.00
4	J. H. Still, Eustis, Neb.	77.50
5	F. W. Bolkman, Eustis, Neb.	90.00
6	Lee Everstron, Eustis, Neb.	82.50
8	Babe Heater, Eustis, Neb.	102.50
9	Andrew Gerken, Eustis, Neb.	80.00
10	Oscar Lehman, Eustis, Neb.	80.00
11	Fred Drucker, Eustis, Neb.	90.00
14	Art Moore, Bartley, Neb.	125.00
15	Bob Oldenberg, Eustis, Neb.	85.00
16	Bob Oldenberg	92.50
16	J. H. Still, Eustis, Neb.	147.50
22	Freddie Drucker, Eustis, Neb.	122.50
20	Ray Stubblefield, Eustis, Neb.	92.50
25	Art Moore, Bartley, Neb.	120.00
26	Art Stombauch, Eustis, Neb.	100.00
22	L. B. Stevens, Elwood, Neb.	182.00
27	Bob Oldenberg, Eustis, Neb.	107.50
29	Bob Oldenberg	85.00
35	R. B. Murray, Elwood, Neb.	80.00
28	Artley Maywood, Eustis, Neb.	170.00
30	Art Stombauch, Eustis, Neb.	72.50

Mosse's Big Chester White Sale

38 bred sows and gilts.....\$4,745.00
Average128.25

The above average is the best ever made for Chester White bred sows in the state. While it was considered a good sale the facts are that it should have been much better. The offering warranted an average considerably above this. Anyway, it was very satisfactory and Mr. Mosse felt good over the result of his sale. Big Type Chester White hogs were appreciated. The evening of the sale Mr. Mosse gave the visitors a banquet at the National hotel and there was lots of speech making and a general good time. The evening of the sale Mr. Mosse and J. H. McAnaw, who sold in the circuit at Cameron, Mo., the day following gave another banquet to Chester White folks at the Coats house in Kansas City. Below are some of the buyers at Mr. Mosse's sale:

Lot No.	Name	Price
1	Henry Murr, Tonganoxie, Kan.	\$355.00
1 (a)	Dan Wilcox, Cameron, Mo.	170.00
2	W. P. Doolittle, Cameron, Mo.	220.00
3	Henry Murr	250.00
4	Fred Walter, Stewartville, Mo.	135.00
5	J. H. McAnaw, Cameron, Mo.	150.00
7	Wm. McConnell, Bonner Springs, Kan.	110.00
8	Ed. Reckards, Topeka, Kan.	200.00
9	W. H. Etter, Gallatin, Mo.	115.00
10	E. Humphrey, Dearborn, Mo.	115.00
11	Earl Cox, Bundy, Mo.	125.00
13	J. H. Lamer, Weston, Mo.	100.00
14	J. H. Lamer, Weston, Mo.	225.00
15	W. H. Etter, Maryville, Mo.	145.00
16	John Turner, Monrovia, Kan.	105.00
17	L. C. Rees, Prescott, Ia.	105.00
Extra	F. B. Goodspeed, Maryville, Mo.	135.00
18	J. H. McAnaw	140.00
20	Cameron Pig Club, Cameron, Mo.	120.00
21	E. S. Woods, Atlanta, Mo.	100.00
26	Claud B. Thompson, Hume, Mo.	137.50
33	W. A. Hurst, Fredonia, Kan.	265.00

Caldwell's Polands to Ten States.

Practically a \$400 average was made on the public sale offering of Poland China hogs sold January 20 by Fred B. Caldwell, Topeka, Kan. This was not a high average, a level that insures and hedges from the extreme prices being reported from many sales. The transactions had the appearance of genuineness and were made on a level that insures profits to buyers who exercise average care and ability. Moreover, they represent a good profit to Mr. Caldwell. The exact average on the 47 bred sows and gilts was reported as \$396.70. A big crowd of buyers and intending buyers attended the sale, representing many states and when the sale was over the offering had been distributed to buyers from Kansas, Missouri, Oklahoma, Texas, Nebraska, Iowa, Illinois, South Dakota, Indiana and Ohio. Kansas, of course, being the heaviest buyer. Bidding was brisk, and quite general, although necessarily there were many bidders who did not succeed in buying the animals they had

selected. The competition was about evenly divided for sows bred to the two great herd boars, Col. Bob, the grand champion of two state fairs and second at the National Swine Show, and The Jayhawker, a very promising show prospect for 1920. The offering was a practical lot of big type sows that sold on their merits. The top price was \$1,200, paid for Liberty Girl, the 1918 junior champion at the National Swine Show. She went to John Bunten, Danville, Ind., while F. Olivier & Sons, Danville, Kan., bought her litter sister, junior champion at the Ohio state fair in 1918, for \$1,000. Following is a list of representative sales:

Royal Giantess, E. T. Hall, Kirksville, Mo.	\$1,075
Liberty Girl, John Bunten, Danville, Ind.	1,200
Miami Girl, F. Olivier & Son, Danville, Kan.	1,000
Rosebud 1st, D. A. Malene, Galva, Ill.	625
Jones Wonder Beauty, Ray Bros. & Arnold, McKinney, Tex.	575
Bob's Beauty 3d, John R. Turnbull, Elmer, Mo.	450
Zelma Belle, R. A. Welch, Red Oak, Okla.	875
Zelma Wonder, C. B. Schrader, Clinton, Kan.	600
Alberta Lee, Ray Bronville, Arnold, Kan.	675
Miss Bob Knox, Harvey & Cunningham, Prosper, Tex.	375
Miss Bob Knox 3d, Ray Bros. & Arnold	470
Victory Belle, John D. Henry, Leocompton, Kan.	500
Orphan Girl, C. S. Nevius & Sons, Chiles, Kan.	300
Lady Josephine, O. G. Sargent, St. Francis, Mo.	425
Bobina Bess, C. T. Tumer, Emporia, Kan.	400
Bobina Belle, Dubach Bros., Wathena, Kan.	275
Giantess Bonnie Frank Bakule, Topeka, Kan.	275
High Queen 1st, Geo. Moncrief, Canadian, Tex.	400
Lady Bobette, Dave Smith, Pawnee City, Neb.	425
Defender Girl, J. W. McHenry, Elyria, O.	350
Augusta A, Frank Bakule	350
Bob's Model A, H. E. Myers, Gardner, Kan.	575
Bob's Victory, R. A. Coupe & Son, Falls City, Neb.	350
Victory Belle, L. H. Steed, Hampton, Ia.	300
Queen Wonder 1st, C. C. Caldwell, Okaloosa, Ia.	185
Queen Wonder 2d, J. W. & H. Ferguson, Topeka, Kan.	150
Jeanette 1st, Geo. Honeycutt, Blue Rapids, Kan.	280
Jeanette 2d, Hutchins & Montgomery, White Star, Ind.	245
Jeanette 3d, Jap T. Allee, Leeton, Mo.	250
Jeanette 4th, J. E. Larkin, Topeka, Kan.	245
Irma Defender, A. T. Coffman, Marion, S. D.	260
Expansive Belle, O. A. Herbert, Peabody, Kan.	260
Expansive Belle, W. F. Long, Burton, Kan.	225
Rose Model 1st, A. D. Sherdon, Corral, Kan.	200
Rose Model 2d, Jap T. Allen	250
Mollie Golden, W. R. Hurst, Seminole, Okla.	250
King's Lady, J. Lockenhaur, Belmont, Kan.	250
King's Lady B, O. E. Cooley, Newtown, Mo.	175

Fat Steer Auction at Denver

Of nearly 100 lots of prize winning fat and feeding cattle sold at auction during the recent Denver show the 20 sales of fat steers listed below, have been selected as of most interest to our readers. The lots, as sold to the highest bidder, ranged from single animals to cut lots, the lots listed here all are single animals. The price per hundred pounds is given in each case. Note that they range on the prize winners listed herewith, from \$19 up to \$40 per hundred.

Nebraska Agricultural College, Lincoln, Neb., champion grade steer to Brown Palace Hotel, Denver, \$40.
Kansas Agricultural College, Manhattan, Kan., first prize Hereford yearling to Swift & Co., \$21.
Kansas Agricultural College, Manhattan, Kan., first prize junior yearling Shorthorn to Swift & Co., \$23.50.
D. D. Barr & Son, Sanford, Colo., Angus champion junior yearling to Swift & Co., \$29.
Nebraska Agricultural College, Lincoln, Neb., Shorthorn first prize senior yearling to Colorado Packing Co., \$21.
J. D. Canary, Denver, Colo., first prize junior yearling Hereford to Coffin Packing Co., \$25.
D. D. Barr & Son, Sanford, Colo., champion Angus steer to Swift & Co., \$21.50.
Kansas Agricultural College, Manhattan, Kan., third prize Angus yearling to Armour & Co., \$21.50.
Hereford Corporation of Wyoming, Cheyenne, Wyo., Hereford junior yearling to Armour & Co., \$21.
Nebraska Agricultural College, Lincoln, Neb., second prize Angus yearling to Swift & Co., \$26.50.
Nebraska Agricultural College, Lincoln, Neb., second prize grade Shorthorn to Swift & Co., \$35.
Nebraska Agricultural College, Lincoln, Neb., third prize junior yearling to Armour & Co., \$23.
D. D. Barr & Son, Sanford, Colo., Angus second prize junior yearling to Swift & Co., \$25.
D. D. Barr & Son, Sanford, Colo., Angus fourth prize junior yearling to Swift & Co., \$24.
F. F. Cuykendall, Roggen, Colo., fifth prize Hereford calf to Armour & Co., \$19.
D. D. Barr & Son, Sanford, Colo., Angus calf, second prize, to Swift & Co., \$25.50.
Nebraska Agricultural College, Lincoln, Neb., fourth prize Hereford junior yearling to Armour & Co., \$25.50.
Nebraska Agricultural College, Lincoln, Neb., third prize Angus calf to Armour & Co., \$27.
Nebraska Agricultural College, Lincoln, Neb., first prize yearling Galloway to Armour & Co., \$22.
Nebraska Agricultural College, Lincoln, Neb., second prize Shorthorn junior calf to Raymond Packing Co., Denver, \$27.
Nebraska Agricultural College, Lincoln, Neb., first prize senior Hereford calf to Swift & Co., \$27.

Henry Murr's Chester Whites

40 sows and gilts.....\$4,650.00
Average116.15

Monday, January 19, Henry Murr sold Chester White bred sows and gilts for the above prices. The offering was extra good and was fully appreciated by both local and away-from-home buyers. It was Murr's fourth annual sale. It was

Tip Top day" and the great show and breeding boar came in for lots of praise and was a big factor in making the sale a success. The sale was held in Tongonoxie. Below is a list of some of the buyers:

Table with 2 columns: Lot No. and Price. Lists buyers and their respective prices for various lots.

Field Notes

BY JOHN W. JOHNSON

T. M. Willson, Lebanon, Kan., Smith county has changed his Polled Shorthorn public sale date from February 24 to Tuesday, March 2. He will sell a draft from his Polled Shorthorn herd and a draft of bred sows and gilts from his well known Poland China herd.—Advertisement.

E. M. Phillips & Son, Beverly, Kan., will sell registered Shorthorn cattle at auction at their farm near Beverly, Kan., Lincoln county, February 11. The sale is advertised in this issue of the Kansas Farmer and Mail and Breeze. Look up the advertisement and write them.—Advertisement.

F. D. Wiggins, Lawrence, Kan., is making a clean sweep sale at his farm near Lawrence, Monday, February 9. In this sale he is closing out a herd of high grade Holsteins that are the real working kind. Look up his advertisement in this issue of the Kansas Farmer and Mail and Breeze.—Advertisement.

Kempin Bros. and W. M. Hilbert, Corning, Kan., Nemaha county, will sell Duroc Jerseys at Corning, Wednesday, February 25. In this sale they will sell 40 head bred to King Sensation I Am and Proud Pathfinder. It is going to be a real offering and the advertisement of this sale will appear soon. It is following the Gordon & Hamilton sale at Horton and you can attend both sales very nicely.—Advertisement.

E. M. Reckards, Topeka, Kan., is advertising Chester White bred gilts in this issue of Kansas Farmer and Mail and Breeze. They will farrow in March and April. Mr. Reckards purchased in the Arthur Mosse sale at Leavenworth last week the first prize gilt of the Missouri state fair 1919. She is bred to Don Big Joe and is due to farrow in April. Look up Mr. Reckards' advertisement.—Advertisement.

The A. S. Neale Holstein-Friesian dispersion sale at Manhattan, Kan., is next Thursday and Friday, February 5 and 6. The sale will commence in the forenoon of each day and will be held in the big modern barn that Mr. Neale built two years ago, just across the Kansas River bridge east of town. Headquarters at the Gillette hotel in Manhattan. Remember this dispersion of 150 head of females is the greatest sale ever held this far west.—Advertisement.

B. R. Anderson, McPherson, Kan., will sell 50 Duroc Jersey bred sows in his annual bred sow sale at McPherson, Kan., February 21. It will be the greatest offering of Royal Grand Wonder sows he has ever made. They will be bred to two great boars, Royal Sensation and Royal Pathfinder. You can ask him for the catalog any time. The sale will be advertised in the next two issues of the Kansas Farmer and Mail and Breeze.—Advertisement.

Jacob Nelson, Broughton, Kan., Clay county, starts his Shorthorn advertisement in this issue of the Kansas Farmer and Mail and Breeze. He is offering some Scotch bulls, reds, roans and white and a few Scotch topped bulls. All are of good quality and will be priced right. One beautiful white fellow is out of Gypsy Maid, a cow bought of Tomson Bros. and by Armour Dale. Two other Scotch calves are equally as well bred. The Scotch tops are choice. Write for descriptions and prices.—Advertisement.

L. L. Humes, Glen Elder, and W. W. Jones, Beloit, both Mitchell county Duroc Jersey breeders are holding a bred sow and gilt sale at Glen Elder, Kan., Tuesday, February 10. They will sell 50 head, selections from both herds. Both herds are strong in the breeding of the famous sire, Orion Cherry King and this offering of 50 head is exceptionally strong in this breeding. The sale will be held in a sale pavilion in town and the catalogs are ready to mail right now. Better write at once to either L. L. Humes, Glen Elder, Kan., or W. W. Jones, Beloit, Kan.—Advertisement.

Mora E. Gideon, Emmett, Kan., Pottawatomie county is well known, especially to Kansas Farmer and Mail and Breeze readers, as a breeder of Hereford cattle, Furcherson horses and Duroc Jersey hogs. He would like to sell a fine young stallion or two and still has a few Hereford bulls, some choice young heifers for sale, also some bred gilts. Write him right now if you are in the market for either. Feed is a little short with him and he wants to make some sales in time to save feed. Look up his advertisement that appears the year round in the Kansas Farmer and Mail and Breeze.—Advertisement.

Jones Sells Durocs.

John W. Jones, Minneapolis, Kan., sells Duroc Jerseys at Salina, Kan., Thursday, February 5. The sale was advertised in the last two issues of the Kansas Farmer and Mail and Breeze. It will be held next Thursday in a comfortable sale pavilion on South 5th street and the Planters Hotel, one of the best in the city, has been designated as headquarters for those in attendance. There will be 50 bred sows and gilts in the sale and there is simply nothing better to be had either as individuals or in most fashionable blood lines. You prob-

ably have already received the catalog. If not you have time to get it by acting at once. Come anyway, there will be plenty of catalogs at the sale. The sale is the day before the big Kansas Duroc Jersey Breeders' association sale at Manhattan on Friday, February 6. You can attend both sales conveniently.—Advertisement.

Ptacek's Holstein Dispersion

Production, individual merit and absolute health are the qualities featuring in the Holstein Dispersion sale to be held by A. L. Ptacek, Emporia, Kan., February 4. There will be 50 cows sold, 22 of them giving milk and 26 heavy with calf some of which will be fresh sale day. Here will be a great opportunity to start the foundation for a good Holstein herd. For detailed information, get in communication with A. L. Ptacek, Emporia, Kan., mentioning this paper in your correspondence.—Advertisement.

D. S. Engle's Holsteins.

D. S. Engle & Son's big high grade Holstein sale of cows and heifers at the farm six miles south and two miles west of Abilene, Kan., Wednesday, February 11, will be a great place for Kansas dairymen to be if they want real producing cows. This herd is a member of the Dickinson county pioneer cow testing association and records for butter and milk will be furnished sale day. The advertisement appears in this issue of the Kansas Farmer and Mail and Breeze. Look it up and come to the sale. The farm is not far from Abilene. Go there and you will be taken to the farm in an auto.—Advertisement.

Big Duroc Offering.

Col. Jesse Howell, Herkimer, Kan., Marshall county sells Duroc Jerseys (70 head) February 3 at the farm seven miles north of Herkimer, on the Grand Island and four miles west of Marietta, on the Blue Valley branch of the Union Pacific. The farm is 10 miles northwest of Marysville. Col. Howell is well known as a breeder and exhibitor of Duroc Jerseys and one of the best breeders in the west. This sale is a dispersal and every animal goes, including the five herd boars. A splendid lot of bred sows and gilts are in this big sale. There is no more careful, reliable and painstaking breeder anywhere than Col. Howell and this is an important fact that you should not overlook. The sale is next Tuesday.—Advertisement.

Association Sale.

Roy E. Gwin, association sale manager for the big Kansas Duroc Jersey Breeders' association sale at Manhattan, Friday, February 6, is delighted with the great offering he has secured from 20 of the leading breeders of Kansas for this big sale. There will be 50 bred sows and gilts in the sale and they are good ones. The day before the sale a competent judge will "judge" them and place them in the show ring. The advertisement of this sale appeared in the last two issues of Kansas Farmer and Mail and Breeze. You still have time to get the catalog by writing at once but you will be delighted with the splendid offering if you go and get the catalog after you get there. John W. Jones sells a splendid offering at Salina the day before. You can attend the Jones sale at Salina and come to Manhattan on a morning train for the big association sale.—Advertisement.

Durocs Sell Fairly Well.

Sisco & Doerschlag, Topeka, Kan.; Searle & Searle, Tecumseh, Kan., and H. A. Johnson, Perry, Kan., held a combination sale of Duroc Jersey bred sows and gilts at the sale pavilion, Topeka, last Thursday. The sale was well attended by both farmers and breeders. The offering was good but most of it was young gilts. About 50 head sold for an average of \$61 and while it was not as large as it should have been, considering the way bred gilts are selling over the country, still, it was considered very fair. Another sale of Duroc Jersey boars and gilts will be held at the same place April 29. This will be an offering of top boars and gilts from the fall crops of pigs from several herds and about 50 or 60 head will be sold. It will be a good place to select your herd boar or buy a few gilts that you can grow out during the summer on pasture and a little feed and breed in the fall for winter or spring litters. Remember the date, April 29.—Advertisement.

Willis and Blough Polands

Willis & Blough, Emporia, Kan., sell 40 Poland Chinas at their new location near Emporia, Friday, February 6. Nothing better will go through a sale ring this winter, either individually or in correct breeding. This is a strong statement but I think it is true that the offering is one of great value and Kansas Poland China breeders should take notice that this Kansas firm will sell a great offering on the above date. You can spend more money by going to the northern sales but it is doubtful if you can get the same values for money invested as in this sale. The advertisement appears in this issue of the Kansas Farmer and Mail and Breeze. You can attend the Adams & Mason sale at Gypsum on the day before very conveniently. Both offerings are of great merit and deserve your consideration before you go farther away to pay more money for Poland Chinas not as good in any particular. The sale is next Friday at Emporia, Kan.—Advertisement.

Adams and Mason's Great Offering.

Adams & Mason, Gypsum, Kan., Saline county, sell Poland Chinas at that place, next Thursday, February 5. The sale will be held in town in one of the best arranged sale pavilions you ever saw. The offering of 40 bred sows and gilts constitute an offering of great merit and is a real place to buy Poland Chinas of fashionable and up-to-date breeding. You can buy the kind in this sale that would sell for several times as much as they will sell for here if bought in a northern sale where the great averages are made. Don't miss this sale if you want real individuals and very popular breeding. The sale is the day before the Willis & Blough sale at Emporia and you can reach Emporia from Gypsum very conveniently the next morning. These are two splendid offerings right here in Kansas and prices are not likely to range very high. Both offerings are splendid individuals and of the most popular breeding. The sale is next Thursday and the Willis & Blough sale at Emporia the day following.—Advertisement.

Large, Smooth Polands.

R. B. Donham, Talmo, Kan., Republic county, and Carl Jansen & Son, Belleville, Kan., are breeders of large, smooth Poland

Breeding and Individuality

combined are found in the great Durocs selected for

WOODDELL AND DANNERS' BRED SOW SALE

Winfield, Kansas, February 18th

40 SOWS sired or bred to the following great boars of the breed—

Chief's Wonder; Chief's King (junior champion of Kansas 1919); Pathfinder Jr.; Orion King's Illustrator; Z's Orion Cherry; I Am Great Wonder; and Orion Cherry Joe 3rd.

This offering will appeal to the real hog sense of any breeder or farmer. They are good sows and gilts, well bred, well grown, bred to great boars and ready to make money for you.

Write today for the catalog mentioning this paper and addressing either

G. B. Wooddell or T. F. Danner Winfield, Kansas

Auctioneers—Snyder, Hoover and Huston. J. T. Hunter will represent The Capper Farm Press.

Wilcoxon & Porter's BRED SOW SALE

Bowling Green, Mo., Feb. 16

- 50—Splendid Individuals. The Best of the Breed. 25—Big Rugged, Stretchy, High Backed Tried Sows. 10—Head Big Type Fall and Spring Yearling Gilts. 15—Of the Breed's Most Popular Bred Spring Gilts. 10—Granddaughters of Great Wonder I Am, All Real Attractions.

Daughters of Cherry Chief's Pride, Great Wonder, Top Sensation, Big Cherry King Orion, Great Wonder Jr., Great Sensation, Pathfinder, Great Wonder's Giant, Sensation Climax, Jack's Friend and Orion Cherry King's Friend.

They will be bred to Orion Cherry King's Friend, Cherry Chief's Pride, Peter Pan and Greater Orion Sensation.

Some Great Attractions

I believe that Wilcoxon & Porter will sell some of the biggest attractions to go through a sale ring in 1920. They will sell a daughter of "Great Wonder" that is hard to fault. The entire offering is of a caliber rarely seen in any sale and bred, as they will be, to "Orion Cherry King's Friend," they should prove great investments. Most people with a boar like "Orion Cherry King's Friend," would be blowing their heads off about him. I do not believe a greater sire of the "Orion Cherry King" family lives today. He is putting the stretch, bone and quality into his get as few boars are able to do. It is mighty good foundation stuff to place in your herd. Signed O. W. DEVINE.

The offering is immune. WRITE FOR CATALOG. Send your mail orders to O. Wayne Devine if you cannot attend the sale. We guarantee he will please you.

WILCOXEN & PORTER, Bowling Green, Mo. Col. F. M. Holtzinger, Auctioneer.

DUROC JERSEY HOGS



Duroc Jerseys

Extra good bred sows for sale; also growthy open gilts and spring boars. Choice weanling pigs, pairs and trios, no akin. Nebraska Breeders Sales Co., Lincoln, Neb.

WOOD'S DUROCS

Spring pigs, both sexes. Great Wonder strain; registered; immuned, double treatment; satisfaction guaranteed. W. A. WOOD, ELMDALE, KANSAS

Duroc Sows for Capper Boys

and you! Dandies, safe in pig to Bonnie Orion 322955. Get choice by ordering now. Write today for free circular. Searle & Searle, R. 15, Tecumseh, Kansas

MUELLER'S DUROCS

A fancy lot of spring boars and gilts for sale. Sired by Unecda King's Col and from splendid dams. Priced to sell. GEO. W. MUELLER, R. 4, ST. JOHN, KAN.

WOODDELL'S DUROCS

21 spring boars, 1 yearling boar, nearly all of them sired by Chief's Wonder, the boar that is breeding champions. These are good type boars, and am pricing them at farmer's prices in order to make room for my fall pigs. Write, wire or come for prices. G. B. WOODDELL, WINFIELD, KANSAS.

DUROC JERSEY HOGS

Woody's Durocs

Bred Gilts of March and April farrow sired by Pathfinders, Orions and Creators. Bred to Climax Sensation for March farrow. Extra good ones at \$50 and \$60. A few fall yearlings and tried sows at \$70. July pigs at \$20, all immune. Extra good.

HENRY WOODY, BARNARD, KANSAS Lincoln County

Boars and Bred Gilts

Sired by Cherry King Orion, Reed's Gano, Potentate's Orion. Dams by Pathfinder, King the Col. and Crimson Wonder. Immuned. Priced to sell. JOHN A. REED & SONS, LYONS, KANSAS

Fulks' Large Type Durocs

Sired by Unecda High Orion and Nebraska Col. Chief. Boars and gilts of March and April farrow. Immuned and guaranteed to please. Some real herd boar prospects. Bred sows after January 1. W. H. FULKS, TURON, KANSAS

Choice March Boars \$40 to \$50

Choice March gilts, bred and safe in pig, \$65 each. 130 Sept. pigs, pairs and trios not akin, \$30 each. All stock guaranteed immune. D. O. BANCROFT, OSBORNE, KANSAS.

A Good Big Boned Duroc Boar

Farrowed March 10, 1918, for sale. Sire, Orion Illustrator 2nd; dam Gano's Golden Maid. LEO FOSHA, RILEY, KANSAS

Mitchell County Duroc Jersey Herds

L. L. Humes, Glen Elder, Kan., and W. W. Jones, Beloit, Kan.,

both going deep into their herds for select individuals to make this sale one of the good western sales of the winter. Sale in town, at

Glen Elder, Kan., Tuesday, February 10th

The offering will consist of 50 head, tried sows, fall and spring gilts and fall boars and gilts and a yearling boar or two of real breeding and individually right.

Calculator 285287 is an intensely bred Orion Cherry King by Orion's Highland King and out of Orion's Maud by Fear's Orion Cherry King. There will be 15 tried sows with fine litters at side sired by this great sire. There will be a string of fall pigs, dandies, sired by High Orion Cherry King, Monarch Disturber and King Col. All gilts are bred to Calculator.

W. W. Jones Consignment: Two gilts, farrowed March 15 by King Col. 6th, bred to Orion's Sensation. Another King Col. 6th gilts, Feb. farrow, Dam, Joe's Cherry Lady, bred to Orion's Sensation. One March gilt, by Watt's Orion bred to Orion Sensation. Another by Watt's Orion, bred to Orion Sensation. Orion Sensation was sired by Jones's Sensation Wonder, dam, Joe Orion Cherry King by Orion Cherry King.

Note that both offerings are strong in Orion Cherry King Breeding. Catalogs ready to mail. Address, either L. L. Humes, Glen Elder, Kan., or W. W. Jones, Beloit, Kan.

L. L. Humes, Glen Elder, Kan., or W. W. Jones, Beloit, Kan.

Orders to buy should be sent to J. W. Johnson of the Capper Farm Press in care of either party. Auctioneers: Will Myers, Beloit, Kan.; Jas. T. McCulloch, Clay Center, Kan.

McBride's Durocs

Bred Right—Grown Right

50 Head Choice Sows and Gilts

The Kind Needed in Kansas Herds and on Kansas Farms, go in My Bred Sow Sale at

Parker, Kan., Feb. 12th

5 Tried Sows, 10 Fall Yearlings. 35 Spring Gilts bred to H & B's Pathfinder by Pathfinder and Echo Sensation by Great Sensation. Among them are Illustrator Queen by Premier Illustrator out of Golden Queen the 37th by Gold Medal the 2nd. Orion Queen by Crimson Orion King by Orion Cherry King. Illustrator Beauty by Premier Illustrator. Long Wonder Beauty by Chief Wonder the 2nd and others of equal breeding and individuality. Four choice fall boars. 2 Pathfinders and 2 Sensations will also be sold. For catalog giving full information write

W. T. McBride, Parker, Kan.

Col. Homer Rule, Auctioneer. S. T. Morse, Fieldman.

Bred Durocs

We will sell 50 head of popularly bred Duroc sows and gilts on February 20. Send your name now to be put on our mailing list for catalog. Please mention this paper.

B. W. CONYERS, R. 7, MARION, KAN.

200 Big Bred Duroc Gilts

Buy bone and bred big. Get the gilts, pay for them afterwards. Pedigrees recorded. Written guarantee they are immune and in farrow.

F. C. Crocker, Box B, Filley, Neb.



TIMBER HILL STOCK FARM

Big, smooth Duroc bred gilts and fall pigs. Gilts by Valley King the Col. (actual weight 360 pounds) and Pathfinder Enuuff by Pathfinder Chief 2nd; bred to Orion's King and Pal's Orion. These are the big, stretchy kind. Write for illustrated circular. Breeders of Durocs for 25 years.

Lant Bros., Dennis, Kansas

Duroc Jersey Bred Sows and Gilts

For sale, sired by Valley Col. and Golden Orion; bred to the good boar Orion Pathfinder for March farrow. Priced reasonable and satisfaction guaranteed.

C. W. McCLASKEY, GIRARD, KANSAS.

Chinas that will be sure to please breeders and farmers who are looking for big Poland Chinas that still have quality and finish. They will hold a joint sale at the fair grounds, Concordia, Kan., Saturday, February 14. In this sale they will sell 40 lots consisting of seven tried sows, four fall yearlings and 28 spring gilts that will please the most exacting. The breeding of old Expansion, Big Bob Wonder, Big Timm and a number of other prominent Poland China families will be found in this catalog. It is one of the real good offerings to be made in Kansas this winter. Concordia is on the Central branch of the Missouri Pacific, Belleville-Junction City branch of the Union Pacific, Strong City-Superior branch of the Santa Fe and has good hotels. You will not be disappointed in this offering of big prolific Poland Chinas if you come. The catalog is ready to mail. Write to either R. B. Donham, Talmo, Kan., or to Carl Jansen & Son, Belleville, Kan.—Advertisement.

Holstein Sale at Nortonville

J. W. Meyer, Nortonville, Kan., is advertising his Holstein sale in this issue of the Kansas Farmer and Mail and Breeze. Mr. Meyer will be remembered as the breeder that held the good sale of Holsteins at his farm just north of Nortonville, two years ago. He has now bought a nice farm near Valley Falls where he will move in the spring and where he will not have the facilities for caring for his herd of registered Holsteins. For that reason he is making this sale. His advertisement gives the line up for the sale and you will note that about half of the offering is registered cattle, all but two females. There is a bull two years old and one about a year old. The rest of the offering besides the pure bred are very choice high grade cows and heifers. Mr. Meyer is a real dairyman and has never had time for anything in the Holstein line that was not chuck full of production. That is the cheapest kind as Mr. Meyer figures it and you will agree with him in that. If you are at all interested in the best in dairy cows, both purebreds and high grades write for the catalog which is now ready to mail. W. J. O'Brien, well known over eastern Kansas as a Holstein expert has been engaged to manage the sale. Look up the advertisement in this issue.—Advertisement.

Jack and Percheron Dispersion

M. H. Roller, Circleville, Kan., Jackson county is the veteran jack and jennet breeder in Kansas, at least. He is a native of Kentucky where they grow the good ones and has been in the jack breeding business at Circleville, for more than 40 years. Of more recent years his son has been associated with him in the business but has now moved on his own farm and Mr. Roller, who has made plenty of money out of the business feels like retiring. On Tuesday, February 17 at his breeding establishment joining Circleville he will sell at auction a choice lot of jacks, jennets and Percheron stallions and mares. It is a fine little breeding plant for sale by one of the best known and most reliable jack and Percheron breeders in the west. It is an ideal place to buy something worth the money and secure the best at bargain, very likely. The catalogs are ready to mail and you should ask for one now to be sure to get it in plenty of time. Those from the territory that makes it necessary to come over the central branch should come to Whiting and change to the Rock Island. Come to Holton and stay all night if necessary and you will be taken to Circleville and returned by auto. Look up the advertisement in this issue of Kansas Farmer and Mail and Breeze.—Advertisement.

Big Duroc Sale at Sabetha.

In this issue of the Kansas Farmer and Mail and Breeze will be found the advertisement of F. J. Moser's coming annual bred sow sale at Sabetha, Kan., Wednesday, February 18. In this sale Mr. Moser will sell 60 head and it will without question eclipse any sale offering ever made by this breeder of Duroc Jerseys, known all over the country because of the sensational buys he has made and because of the good ones he has shipped out from his breeding farm just north of Sabetha. In this sale Joe King Orion, the great breeding boar for which Mr. Moser paid \$7,500, will be the outstanding feature because of the fact that he is bred to so many of the great sows in the sale. Big Lizzie 2nd (Big Liz) is listed in the catalog and it is absolutely true that she is just in her prime and that she is not being sold for a single fault but purely as

an attraction. She is bred to Joe King Orion. Kern's Choice Lady is another and is the highest priced Duroc Jersey sow ever shipped to Kansas. Mr. Moser gave \$1,500 for her and she, too, is selling merely as an attraction. In this manner I could continue telling of the good ones that Fern is putting in but the catalog tells the story much better than I and is free for the asking. Write for it today and plan to attend the sale. Remember 60 head go in the sale. It is the day before Gwin Bros. sell at Washington, Kan.—Advertisement.

Superb Duroc Offering.

Gwin Bros., Morrowville, Kan., Washington county will sell 50 Duroc Jersey bred sows and gilts in the big sale pavilion at Washington, Kan., Thursday, February 19. In this sale they will sell a grand lot of bred sows and gilts with all the breeding in the world and the kind that is sure to make good for either breeders or farmers. It has been the custom often in the past to insist that breeders buy the kind that Gwin will sell on the 19th but I think this is a great mistake as farmers always profit by the purchase of this class of sows. The great ancestry back of them only makes it the easier to make them prove profitable on the farm. Kansas breeders who expect to add something new to their herd this winter and who are in the market for a few extra large, smooth and well bred sows bred to one of the best boars in the west should write at once for Gwin Bros. catalog. John's Orion is the great boar at the head of the herd and High Orion Sensation is the sensational son of the World's 1919 champion, Great Orion's Sensation. If I would take this entire page and then the next one I could not begin to tell you all the facts about this great sale. The catalog is ready to mail and free for the asking. Write for it right now and you will get it in a day or so. Mention Kansas Farmer and Mail and Breeze when you write.—Advertisement.

BY J. COOK LAMB

Herman Schmale, De Witt, Neb., is pricing for quick sale 40 Big Type Polands. 25 of these are bred to Nebraska Evolution by the \$25,200 Evolution and the others are bred to Giant Again, High-backed Timm and Ring Sensation by the 1,204 pound Big Sensation. The boars are of the high class order, all ready for service. Mr. Schmale cheerfully answers all inquiries concerning these Polands and invites your correspondence for information. Please tell Mr. Schmale where you saw his advertisement.—Advertisement.

Offering of Big Polands.

The offering of 55 strictly big type Polands to be sold by Otto A. Gloe, Martel, Neb., February 17, should appeal to the farmer and breeder. These sows are all top females sired by Cloverdale, Gloe's Long Model, Martel Expansion, Liberty Jones, Big Paul and Timm's Image, and bred to Gloe's Liberty Jones by Gloe's Liberty Jones and Giant Big Price. Arrange to attend this sale and write early for your catalog to Otto A. Gloe, Martel, Neb., mentioning this paper.—Advertisement.

Sows Sell Mated to Federal Colonel.

E. H. Carpenter, Fontanelle, Neb., will sell on February 17, 50 bred sows including many of the popular blood lines of the breed. The entire offering will be bred to Federal Colonel, the wonderful boar purchased from the Indian School, Genoa, Neb., for the sum of \$5,000. He has great bone and body, measuring 44 inches high and 81 inches long. If you want to strengthen your herd get some of these great sows. Watch for further details about the sale in the Capper papers and get your name on the list early for catalog.—Advertisement.

Attend Two Sales One Day.

John Simon and Robert Steele, both of Humboldt, Neb., have so arranged their bred sow Duroc sales, February 16, that you may attend both the same day; the former in the afternoon, the latter in the evening. Mr. Simon will sell 50 big, prolific sows and gilts. The spring gilts of March farrow will tip the scales at 400 pounds, just in ordinary breeding condition. As special attractions Mr. Simon is selling a Junior Big Bone Giant sow bred to Simon's Top Orion; a Smooth Giant sow bred to Lawndale Disturber; two outstanding King Orion sows; a fall gilt by King's Wonder and a Great Orion spring gilt selling open. The offering is bred largely to Simon's Top Orion, a son of Great Orion by High Orion. For full particulars about the offering get a catalog by writing to John C. Simon, Humboldt, Neb., mentioning this paper.—Advertisement.

BY J. T. HUNTER

Wooddell & Danner's Duroc Offering.

Breeding and individuality can both be found in the Wooddell & Danner bred sow sale to be held at Winfield, Kan., February 18. This list of 40 head has been specially selected for this sale with a view of making good for their new owners. They are either bred to or sired by such Duroc history-making boars as Chief's Wonder; Chief's King; Junior champion of Kansas 1919; Pathfinder Jr.; I Am Great Wonder and Orion Cherry Joe 3rd. Keep this important Duroc event well in mind and plan to be there February 18. Please mention this paper when writing for your catalog to either G. B. Wooddell or T. F. Danner, Winfield, Kan.

Herefords Extraordinary

The best lot of Herefords, all bred by one firm, ever sold in Kansas invites your inspection at the State Fair Grounds, Hutchinson, Kan., on Saturday, February 7 when they will be sold at public auction. These are a representative lot of 70 head, carefully picked from the herd of W. L. Bowman and Company, Ness City, Kan. The mere mention of an offering from the Bowman herd is sufficient to awaken the interest of lovers of good Herefords, for they know the Bowman type, the Bowman breeding, and the Bowman ruggedness are worth the grace the herds of the most exacting. The 30 heifers are decidedly the best ever offered by this noted firm; they are of the famous 5th and Lawrence Fairfax blood and all safe in calf to Imported Shucknall March arch and Lawrence Fairfax. The 25 cows are a thick-fleshed, heavy boned lot, a number of them with calf at foot. They are by such sires as Generous 5th, Theodore, Avimore (the \$31,000 grand champion of strong Anxiety breeding and are in calf or have calf at foot by Generous 5th, Imported Shucknall March and Lawrence Fairfax. Special features of the sale are a daughter of the \$31,000 International grand champion, Ardmore, and a daughter

of the renowned Perfection Fairfax. Each has a calf at foot and is rebred to Imported Shucknall Monarch. The 15 bulls are rugged, hardy fellows, in the pink of breeding condition. When making plans for future additions to your herd, it will be well to remember that in this sale is the last opportunity to secure Generous 5th cows and heifers. Write at once for the catalog to W. I. Bowman and Co., Ness City, Kan., and please don't forget to mention this paper.—Advertisement.

Wonderful Duroc Opportunities

One of the best Duroc circuits of Kansas this season will begin with the R. C. Smith sale, Sedgwick, Kan., February 10. 44 bred sows and three boars will comprise this offering. The females are bred to Great Orion 4th, an outstanding son of 1918 world's grand champion, Great Orion, and carry the blood of such noted sires as Pathfinder, Golden Model, and King the Col. On the same day Mr. Smith will disperse his Holstein herd in order to devote all of his time to Durocs. Look for the description of the Holsteins in his advertisement in this issue. The second day of the circuit is claimed by J. W. Pefford, Saffordville, Kan., who will offer 50 big type sows of the King Orion Cherry, Illustrator's Orion 2d, Pathfinder, Uneeda High Orion, King's Col Again and Great Wonder breeding, bred to the great show boar, Model Ally; General Pathfinder and Illustrator 3rd. The scene shifts on the third day to Zink Stock Farms, Turon, Kan., where 48 head specially selected from the Zink herd of prize-winners will be sold. This wonderful bunch of sows are rich in the blood of Pathfinder, Crimson Model, Illustrator, King of Orion Cheries, and King's Colonel and will be bred to Uneeda High Orion, a son of the 1919 grand champion Great Orion Sensation; Victory Sensation 3rd and a son of the mighty Pathfinder. The crowd will go on the last day of the circuit to Lyons, Kan., where A. M. Shepherd's offering will consist of the get of three wonderful sires, viz, Shepherd's Orion Sensation, Pathfinder Jr. and Greatest Orion. The entire 48 head are sired by such prize-winning boars as Great Wonder Model, King's Col. I Am and Pathfinder Jr., Greatest Orion and High Orion. Even if you are not in the market for Durocs, a tour of this circuit will be both interesting and educational as one seldom has an opportunity to see such a great array of breeding Durocs offered in public auction. Keep the dates well in mind and get a separate catalog of each offering. Please be kind enough to mention this paper in your correspondence.—Advertisement.

BY O. WAYNE DEVINE

Poland Offering at Edina.

Henry Koch, Edina, Mo., is anxious for you to have the catalog containing full information about his offering of 50 females which he carefully selected for his sale, February 18. These 50 females are sired by Missouri Jumbo and are bred either to White Oak Wonder or Surprise Wonder, Mr. Koch's herd boars. Send your name today for the catalog and plan to attend the sale. Please mention the Kansas Farmer and Mail and Breeze in your correspondence.—Advertisement.

Ward Sells March 3.

C. I. Ward, Cameron, Mo., has announced March 3 for his annual Hampshire bred sow sale. On this date he will offer 40 head of carefully selected sows and fall yearling pigs. They will be bred to the grand champion boar, General Pershing. This boar was grand champion at three state fairs, 1919, and is one of the best boars in the west. The offering of sows is a high class lot and should interest farmers and breeders who want some new blood in their herds. The catalogs are interesting and are ready to mail. Send for one today, mentioning this paper.—Advertisement.

Berkshires That Win.

F. A. Harris & Sons, Lamine, Mo., have announced February 26 for their annual sale of choice bred sows and gilts. On this date they will offer to the public 50 head of tried sows and spring and fall yearling gilts bred to five great boars, Handsome Duke 17, Handsome Duke 18, Handsome Duke 30, Baron Premier 145th and Ravinia's Dorothy's Epochal, all grand champion and first prize winners at the following fairs 1919: Iowa, Nebraska, Kansas, Oklahoma, Texas, Louisiana and the Topeka State fair. At these fairs the Harris herd won 73 first prizes, 62 seconds, 23 fourths, 22 championships and 15 grand championships. This is a splendid show record for a herd of hogs of any breed in one year. Baron Premier is sired by the same boar as the grand champion at the National Swine Show, 1919. The catalogs are ready to mail. They are brim full of information about the Harris farm and herd. Mr. Harris has bred Berkshires on the same farm near Lamine, Mo., for over thirty years and now has some sows in the herd that are 12 years old and still producing. Don't forget to be at Lamine, Mo., on February 26. Lamine is near Booneville on the Missouri Pacific. Mention this paper when writing for catalog.—Advertisement.

Big Type Durocs.

Wilcoxon and Porter, the well known breeders of the big type Duroc Jerseys, residing Green, Pike county, Missouri, have announced February 16 for their annual bred sow sale. On this date they will offer 50 head of the best tried sows and fall yearling pigs that will be sold in any sale this spring. The writer has carefully inspected the offering and he finds 30 head of large bred sows, all showing that they have raised good litters and showing safe for an early spring litter. Out of the 30 head of bred sows there are 27 or 28 head that would be prizes for any farmer or breeder to buy. They are large, smooth, well boned, have good feet, good arched backs and are the real Duroc type that grow big and easy feeders. One sow is by old Pathfinder; two by Pathfinder's Giant; one by Great Wonder; two by Peter Pan; 10 head by Cherry Chief Pride; one by Joe's Orion 2d and two by Great Wonder Giant. The real attractions of the sale are 10 granddaughters of Great Wonder I Am. Standing prospects that any breeder would be pleased to see in his herd. The catalog is now ready to mail out. It is interesting to read and we would urge all those interested in this breed of hogs to send at once for it. Kindly mention this paper.—Advertisement.

BY H. P. STEELE

Pathfinder-Aviator Durocs.

At Coin, Ia., on February 11, W. A. Dugan, one of the established breeders of Durocs

Pathfinder — Aviator DUROCS

**A choice offering of great females, combining these two popular bloodlines
Coin, Iowa, Wednesday, February 11th, 1920**

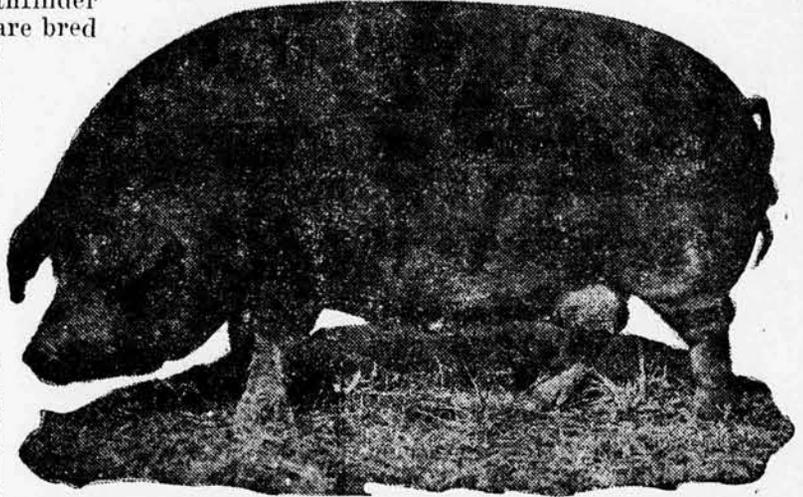
38 Spring Gilts sired by Pathfinder Chief and Illustrator Orion. They are bred to Aviator's Comet and Burke's Orion.

5 Tried Sows, one a daughter of Pathfinder and bred to Aviator's Comet, the others bred to Pathfinder Chief.

The entire herd has been immuned with the double treatment. The offering is in good breeding condition and will prove money makers.

Read what H. P. Steele thinks of the boars featured in this sale in his fieldnote in this issue. If you cannot attend the sale send your bids to him in my care and I will guarantee that you will be satisfied with his selections.

Catalog will be mailed on request. Address, mentioning this paper,



W. A. DUGAN, COIN, IOWA

YOU NEED FEDERAL COLONEL BLOOD

The only opportunity you will have to purchase females bred to this great boar, (purchased from the Indian School for \$5,000) will be in the sale at

HOOPER, NEBRASKA, TUESDAY, FEBRUARY 17

50-HEAD-50

10 Tried Sows; 20 January Gilts; 20 Spring Gilts.

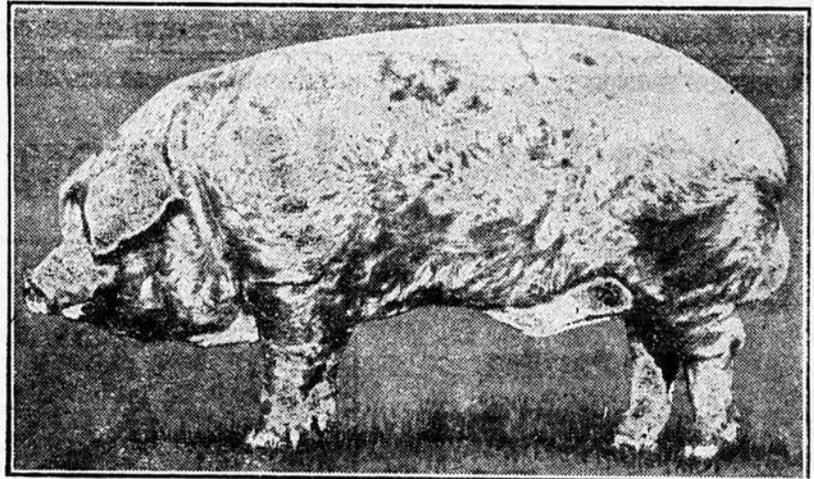
They carry the most desirable blood of the breed and the entire offering is bred to

Federal Colonel

He now stands 44 inches high and 81 inches long.

Write for the catalog of this opportunity sale today, mentioning this paper, to

Col. A. W. Thompson, Auct.
J. C. Lamb and Roy E. Fisher
will represent The Capper
Farm Press.



Federal Colonel—the boar whose blood will strengthen your herd.

E. H. Carpenter, Fontanelle, Neb.

Moser's "All Star" Duroc Jersey Sale

New sale pavilion

Sabetha, Kan., Wednesday, Feb. 18

60 Head of Just Good Ones

26 proven brood sows, not a common one in the lot. Eight fall yearlings, 26 spring gilts.

Now listen to this: "I am selling sows in this sale that no breeder likes to part with but to make it the offering that I am determined it shall be, the best anywhere in the West, I am putting them in." Kern's Choice Lady (1535), the highest priced sow that ever came to Kansas and bred to Joe King Orion. Big Lizzie 2nd, largest Proud Col. sow living and the sow that cleared \$4,000 for Mr. Moser on her 1917 litter. Bred to Joe King Orion. Proud Bess, top of W. M. Putman's 1917 sale. Bred to Joe King Orion. Four others from one to three years old by Great Sensation, 2 by old Pathfinder, 2 by Smooth Giant bred to Joe King Orion. Spring gilts by Great Pathfinder, Great Sensation, Great Orion, Jack's Orion King 2nd, Giant Perfection, Gold Finder, Golden Wonder, and American Top Col.



Fern Moser—"It's a new litter by Joe King Orion."

Remember that Joe King Orion, the Premier boar, is mated to the choicest sows of the breed in this offering. For catalogs address,

F. J. MOSER, SABETHA, KANSAS

Orders to buy should be sent to J. W. Johnson of the Capper Farm Press in my care to Sabetha, Kansas. Auctioneers—Putman and Holsinger.

NOTE—Advertisers like to know where you saw their advertisement. Mention Kansas Farmer and Mail and Breeze when writing for catalog.

Big, Prolific Duroc Sows

is the best description of the offering to be sold by

John Simon, Humboldt, Neb., Feb. 16

20 Tried Sows and Fall Gilts. 30 Spring Gilts.

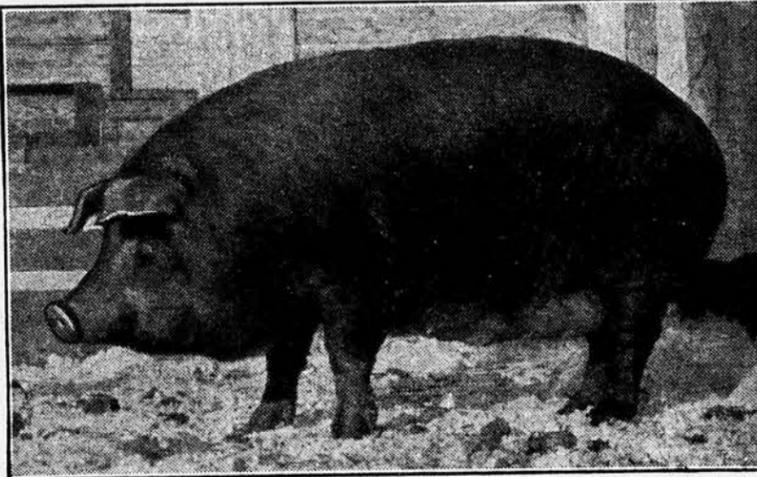
Big Type? Yes!!

Many of our spring gilts will weigh 400 pounds by sale day. More quality and size than we ever sold in one sale before.

Among the Attractions—A Junior Big Bone Giant sow (the dam of the top boar pig in our fall sale) bred to Simon's Top Orion; a smooth Giant sow bred for an early litter to Lawndale Disturber; a Great Orion Sensation spring gilt sells open; 2 extra good King Orion sows (litter mates to the top sow in our last year's sale); a fall gilt by King's Wonder (full sister to our 1918 show herd); Latta's Rose 4th, the dam of Lawndale Disturber and Disturber of Sterling sells bred to Simon's Top Orion.

The sale will be held at the farm which is 1/2 mile from the hotel and depot. You want the catalog. Send for it today mentioning this paper.

Cols. Putman and Shaver, Auctioneers. **JOHN SIMON, HUMBOLDT, NEB.**
J. C. Lamb represents The Capper Farm Press.



One of the 50 great Duroc females in the Sale.

Gwin Bros. of Morrowville, Kansas

Bred Sow Sale

Sale Pavilion

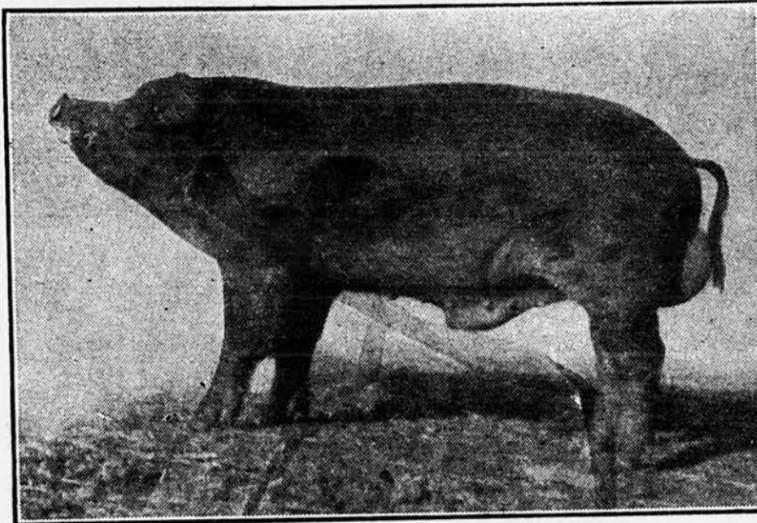
Washington, Kan.

Thursday, Feb. 19

Duroc Jerseys that have a right to demand your most careful attention.

50 HEAD 20 Proven Sows, 15 Fall Gilts, 15 Spring Gilts

The offering was sired by such boars as Pathfinder, Orion Cherry King, Cherry King Orion, The King, Joe Orion 5th, Ideal Pathfinder, Grand Wonder 6th, and a fine string by



High Orion Sensation, the sensational spring boar sired by the 1919 World's champion, Great Orion's Sensation, mated with a great string of daughters of John's Orion.

JOHN'S ORION Famous over the east for the champion and grand championships he won and as a sire of winners. He is now making new history, having sired more outstanding litters in 1919 than any boar in the West.

We would like to send you our catalog if you are at all interested in Duroc Jerseys of this class. They are ready to mail. Address,

GWIN BROS., MORROWVILLE, KANSAS

Orders to buy should be addressed to J. W. Johnson, fieldman for the Capper Farm Press, in our care at Washington, Kan. Auctioneers—W. M. Putman, Tecumseh, Neb.; Jas. T. McCulloch, Clay Center, Kan.

J. W. Johnson, Fieldman, Capper Farm Press.
NOTE—Advertisers like to know where you saw their advertisement. Mention Kansas Farmer and Mail and Breeze when you ask Gwin Bros. for their catalog.

McComas Durocs

Spring Boars All Sold. Have some fine fall boars by sons of Sensation and Pathfinder, out of sows sired by champions. Herd boar prospects. The rugged kind for farmers. All immune.
W. D. McCOMAS, Box 455, WICHITA, KAN.

BRED DUROC SOWS

of Orion breeding and bred to high class boars. Prices reasonable.
R. F. WELLS, FORMOSO, KANSAS

Attention Pig Club Boys!

Get prices on my Duroc gilts bred for April farrow. Also 2 good boars. Carl Thomas, Offerle, Kansas.

DUROC JERSEY BRED SOWS

Three tried sows, some toppy gilts and all bred to two of the leading boars of the state for March farrow. Priced to sell. FRED CROWL, Barnard, Kan.

Pleasant View Stock Farm

Duroc Jerseys. Bred sows and gilts at private sale. Mostly by a splendid grandson of Orion Cherry King. M. R. Peterson, Troy, Kan., Doniphan Co.

DUROC JERSEY bred gilts. Bred for March and April farrow, to Joe Orion Cherry King 2nd and First Quality boars with size and quality. R. T. & W. J. Garrett, Steele City, Neb.

Big Type Boars

Pathfinders. Colonels, Orion Cherry Kings
And other popular Big Type strains from big mature sows. Immature. Priced to sell.
G. M. SHEPHERD, LYONS, KANSAS

Replogle's Durocs

Spring boars; registered and immunized; Orion, Illustrators and Colonel bloodlines. Gilts and fall pigs of same breeding. Satisfaction guaranteed.
SID REPLOGLE, Cottonwood Falls, Kansas.

in Southwest Iowa, will sell a lot of 38 gilts and five tried sows from his herd of business Durocs. The gilts of this offering are the kind that Mr. Dugan has always raised the proper type and properly fed. They are sired by his great herd boars, Pathfinder Chief, a great son of Pathfinder, and Illustrators Orion. One need not comment on the breeding of these boars, for their blood is well known, and regarding their individual quality, one need only to say that their bloodlines tell the story, for they are all that one would expect from such blood as they carry. They have proven the best of sires, had they not they would not be retained in Mr. Dugan's herd. Most of the gilts are bred to Aviator Comet, a splendid son of Aviator that should prove an excellent cross on the breeding that is in these gilts. Of the tried sows, one is a daughter of the great Pathfinder, and is bred to Aviator Comet, the others are bred to Pathfinder Chief. If you want good breeding coupled with good Durocs, do not fail to get some of Mr. Dugan's sows. If you cannot attend the sale write me in his care and I will be glad to look after your interests. Mention this paper in writing him for catalogs.—Advertisement.

BY S. T. MORSE

A. W. Howell, Macksville, Kan., is offering purebred Poland sows and gilts bred for early March litters. In addition to these good females he has fall pigs of either sex. Write him, mentioning this paper.—Advertisement.

Lant Bros., Dennis, Kan., are offering some extra values in bred gilts and fall pigs. Lant Bros. have been breeding Durocs for 25 years, and have one of the best herds in the west. Best blood lines and choice individuals is what they offer. You will not be disappointed if you buy here.—Advertisement.

C. M. Howard, Hammond, Kan., has some extra good Polled Shorthorn bulls for sale, big rugged, thick fleshed fellows, reds and roans. These bulls are sired by the Sultan bred bull, Forrest Sultan, by Sultan's Creed, and out of 21st Miami Victoria by Linwood Favorite. Mr. Hammond can spare a few females. Anyone interested in Polled Shorthorns should write him at once for particulars. You will be well pleased with both the cattle and the price.—Advertisement.

Bull Bargains.

If you are in need of a Shorthorn bull see the advertisement in this issue of C. M. White, Burlington, Kan. Mr. White has some pure Scotch bulls ready for service. These bulls are good enough to head purebred herds and are priced right. He also has some extra good Scotch topped bulls at farmers prices. Look up his advertisement in this issue and write him your wants.—Advertisement.

Aberdeen Angus Will Sell.

Forty Aberdeen Angus cattle will be sold in connection with the closing out farm sale of Alex Spong, Chanute, Kan., February 19. Five bulls will sell, three 2-year-olds and two yearlings, including the Spong herd bull, Clement's Rambler 3rd, a real show prospect. The female offering includes cows with calf at foot, cows and heifers showing heavy with calf, yearling heifers and heifer calves. The farm sale of horses, implements, Leghorn chickens, etc., will be held in the forenoon and the cattle sale will begin at 1:30 P. M. Write for catalog of this big sale to Alex Spong, Chanute, Kan., mentioning this paper.—Advertisement.

McBride's Duroc Sale.

Remember the bred sow sale to be held at Parker, Kan., February 12, by W. T. McBride. This will be a fine offering. Good individuals, sows and gilts that are desirable from every stand point with stretch and lots of quality. Such sows as Illustrators Queen by Premier Illustrators Orion Queen by Crimson Orion King by Orion Cherry King, Long Wonder Beauty by Chief Wonder, the 2nd and many other great sows will sell. The catalog gives breeding and description of each individual in this great offering. Write at once for the catalog. Address W. T. McBride, Parker, Kan.—Advertisement.

Last Call McBride's Duroc Sale.

Don't forget the great offering of bred sows to be sold at Parker, Kan., on February 12. W. T. McBride is putting out one of the good offerings of the year. This offering consists of five tried sows, 10 fall yearlings and 35 spring gilts, the big stretchy kind. Good looks, good feet in fact they are first class individuals and bred right. Sows by Orion Surprise by Crimson Orion King by Orion Cherry King, Premier Illustrators by Illustrators the 2nd, Crimson Orion King and other great sires. The gilts are sired by H. & A. Belle by Orion Chief and Echo Sensation by Belle by Orion Chief and Echo Sensation by Great Wonder Lady by Am and Great Sensation by Great Wonder. In addition to the bred sows, four real herd boars will be sold, two Pathfinders and two Sensations. Anyone interested in Durocs should attend and attend this sale. Parties who cannot attend should send their bids in Mr. McBride's care to S. T. Morse, Fieldman for the Kansas Farmer and Mail and Breeze. Such bids will be handled in buyer's interest and not to boom prices.—Advertisement.

"What's the idea of sitting in the barn here all by yourself?"
"Well," answered Farmer Corn-tassel, "if the summer boarders aren't playin' jazz on the phonograph they're quarrelin' over the League of Nations, so I'm lingerin' out here with the cattle and restin' my mind."—Washington Star.

COULD HAVE SOLD SIX MORE LAST WEEK

Wish you would please change my ad in the Kansas Farmer and Mail and Breeze to the one I have below. Want it changed in the next issue if possible as they are running me to death for those gilts. Could have sold six more than I had last week. Kansas Farmer and Mail and Breeze ads sure do get results.—Frank L. Downie, Breeder of Poland China Hogs, Hutchinson, Kan., R. F. D. No. 4.

You Cannot Afford to Miss This Circuit

Mr. Farmer, you will find the type of females here you know you need on your farm—the big up-standing ones with the constitution and the quality to convert your feeds into pork at a profit. Mr. Breeder, you need the blood, the individuality, the stamina that these offerings set forth. Some females shipped home from these sales will open new accounts on the profit sides of your ledgers.

Durocs and Holsteins

will sell in a combined sale at
Sedgwick, Kan., Tues., Feb. 10
44 Bred Sows and Gilts and 3 Boars

Sows and gilts bred to the herd sire, GREAT ORION 4TH, A WORTHY SON OF GREAT ORION, THE 1918 WORLD'S GRAND CHAMPION. Four tried sows and 20 fall gilts—Pathfinder, Golden Model, and King the Col. breeding. 20 spring gilts, (10 are litter mates sired by Great Sensation 2nd and out of a Pathfinder sow and bred to this herd sire); 5 Col. gilts and 5 Golden Model gilts. 2 of the boars are litter mates to the 10 exceptional spring gilts and the third boar is a good herd prospect of King the Col. breeding.

Holstein Dispersion

To devote full time to raising registered Durocs I disperse my Holstein herd sale day: 4 two-year-old cows, 1 heifer calf, 1 herd bull, and 3 bull calves. One cow is King of Pontiac breeding, another King Segis. Three cows recently freshened and are making 5 and 6 gallons at the pail. The dam of the herd bull, a Homestead Fobes bull, recently completed a 24 lb. record. This bull is a good herd sire and the three bull calves sired by him are real herd prospects. 11 grade Holstein cows sell also. They are all fresh or close up springers and average 5 to 6 gallons per day. Write today for either or both catalogs. Please mention Kansas Farmer and Mail and Breeze.

Boyd Newcomb and W. W. Otey, Auctioneers.

R. C. Smith, Sedgwick, Kansas

Model Ally

The phenomenal show boar is featured in my
Duroc bred sow sale to be held at

Emporia, Kansas, February 11
50—Big Type Sows—50

Bred to
Model Ally
General Pathfinder Illustrator III

They represent the blood of King Orion Cherry, Illustrator's Orion 3rd, Great Wonder, Pathfinder, Defender's Trailmaker, Pal's Premier, King's Col. Again, Colonel Uneeda, Peter Pan, Cherry Chief's Pride, Rajah's Disturber, Bell's Crimson Wonder, and Uneeda High Orion.

These are the best bloodlines that could be driven thru a sale ring. The opportunities will be many. Send for your catalog today, mentioning this paper.

J. W. Petford, Saffordville, Kan.

Dependable Durocs

from the noted Zink Stock Farm herd will sell

Turon, Kan., Friday, February 13
48 HEAD

45 bred sows and gilts and 3 unusual boars, 10 tried sows including 2 granddaughters of Pathfinder. Sires are Critic B., Crimson Model, Illustrator, and other good ones. 20 fall yearlings including 6 by Apache King's Col., the great breeding son of the noted King's Col., Kansas Critic, Illustrator, King of Orion Cherries. 15 spring gilts by Uneeda High Orion, Pathfinder Chief 2nd, Ideal Pathfinder, and Illustrator.

This superb lot of sows will be bred to Uneeda High Orion, a son of Great Orion Sensation, the 1919 national grand champion, Victory Sensation 3rd, and a son of Pathfinder. Three boars including a son of Pathfinder, a real prospect and 2 outstanding sons of Uneeda High Orion. This offering will be a picked group out of a herd that won an enviable number of ribbons at the Kansas and Texas 1919 state fairs. Send for catalog.

Snyder and McCormack, Auctioneers; J. T. Hunter, Fieldman.

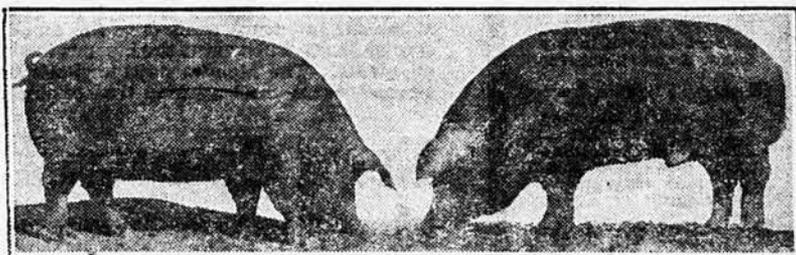
Zink Stock Farms, Turon, Kan.

Shepherd's

Orion Sensation, Greatest Orion, Pathfinder Jr.

are the boars whose get will strengthen your herds and put your figures on the profit page. They sell at

Lyons, Kansas, February 14th



King's Grand Lady, Sample of Shepherd's Orion Sensation, sired the 20 big fall yearlings. by Great Orion Sensation.

8 Big Tried Sows; 20 Big Fall Yearlings; 20 Big Spring Gilts

The fall yearlings are sired by Great Wonder Model, 1st prize junior yearling boar of Kansas 1918; King's Col. I Am, 2nd prize junior yearling boar of Kansas 1917.

The spring gilts are sired by Pathfinder Jr., Greatest Orion and High Orion.

The entire herd is immuned. The offering is in good breeding condition. They are ready to go to work on your farm. Get your catalog today and please mention this paper.

G. M. Shepherd, Lyons, Kansas

Get a Catalog of Each Sale—Attend the Circuit

It will be a source of education and profit. When you see these offerings you will know you need some of these females in your own herd. Get your catalogs today. When writing each breeder kindly mention this paper.

J. T. Hunter represents Kansas Farmer and Mail and Breeze thruout the circuit—Tuesday, the 10th, R. C. Smith, Sedgwick, Kan.; Wednesday, the 11th, Jno. W. Petford, Saffordville, Kan.; Friday, the 13th, Zink Stock Farms, Turon, Kan.; Saturday, the 14th, G. M. Shepherd, Lyons, Kan.

BELGIAN IMPORTED MELOTTE

HERE AGAIN

JULES MELOTTE—"The Edison of Europe"—
has again placed his **GREAT BELGIAN MELOTTE CREAM SEPARATOR** on the American market to save money to the American farmer.

The great pre-war offer is continued. Free trial—small first payment—easy terms—duty free. So you, who have wanted the world's greatest separator, write for catalog now. Find out why 500,000 Melotte separators are in continuous use today. Read how in England, where every penny must be saved, there are more Belgian Melotte Separators in use than all other makes combined.

Before buying any separator find out how the Melotte has won 264 International Prizes and how, for Efficiency of Skimming, Ease of Turning, Convenience of Operation and Durability—the Great Belgian Melotte has won every important European contest the last 15 years.

No wonder Jules Melotte says "Let every man try it. I'll leave it to the judgment of the American farmer as to whether this is the greatest separator in America." Mail coupon now for our great offer.

\$7.50
After 30 Days
Free Trial

You are not to send one cent until you have used this Great Belgian Melotte and have made up your mind it is the machine you want. Keep it for 30 days and use it just as if it were your own machine. Test the wonderful Melotte **SELF-BALANCING BOWL**—see why this bowl cannot vibrate nor get out of balance—why it cannot cause currents in the cream—why it cannot re-mix cream with milk.

Compare the Melotte separator with any other—test them side by side. See for yourself which works easiest—which is most profitable—which operates at least expense—which is most sanitary and easiest to clean. Then send your skim milk to the creamery. Let them prove which separator skims the cleanest.

Easy Payments

After 30 days, when you are entirely convinced and satisfied that the Imported Belgian Melotte is, by far, the best cream separator to be found any place in the whole world—(a big statement but true) send only the small sum of \$7.50. Then settle the balance in small monthly payments. The Melotte pays for itself from your increased cream checks. Mail the coupon now—today.

Easiest to Clean

Few plain discs, all alike, go back in bowl in any order. Bowl chamber is

Porcelain Lined

Has smooth, rounded surface—no crevices. Easy to clean as a china plate. Can't rust. One-half less tinware to keep clean.

Easiest to Turn

We guarantee that the 600-lb. capacity Melotte turns easier than any other separator of 300-lb. capacity. Bowl spins 25 minutes after you stop cranking unless you apply brake. No other separator needs a brake.

Send Coupon Valuable Books Free

In addition to the Melotte catalog, we will send you, absolutely free, "Profitable Dairying"—a practical, common-sense treatise, by two of America's foremost dairy experts, telling everything about dairying and how to make more money out of your cows. Get these valuable books free.

The Melotte Separator H. B. BABSON
U. S. Manager
Dept. 3811 2843 West 19th Street, Chicago, Ill.

The Melotte Separator, H. B. BABSON, U. S. Manager Chicago

Without cost to me or obligation in any way, please send me the valuable book "Profitable Dairying." Also the catalog which has the full story of this great Belgian Separator and M. Jules Melotte, its inventor.

Name.....

Address.....

Post Office..... State.....

What U. S. Gov't Says

Vibration of a cream separator's bowl will soon cost you more money in cream waste than the price of your separator. U. S. Gov't Bulletin No. 201 says that a perfectly true motion of the bowl is absolutely necessary. The bowl is the vital part of any separator—the part where the cream separation takes place.

Self-Balancing Bowl

Jules Melotte—with his wonderful, patented self-balancing bowl—has solved the problem of perfect skimming. The Melotte bowl is the only ball-bearing bowl. It cannot vibrate. It hangs down from a single ball-bearing and spins like a top. Can't get out of balance—can't cause currents in the cream—can't re-mix cream with milk. It is simple—durable—Fool Proof.

