

KANSAS FARMER



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THAT M. K. & T. DECISION.
 EDITOR KANSAS FARMER:—I enclose a clipping taken from the Chicago Daily Drovers Journal and Farm News of November 12, 1906. Please read it and let me know whether there is any truth in it, as I have land that will be affected by it. Kindly answer through your paper or by letter and give all the details so far as you know, as it is of great importance to me. I have never heard of it nor do the abstracts or deeds make any mention of it. I have been watching all of the papers since to see more concerning it, but have so far failed to see anything about it.
 Waynet, Ill. A SUBSCRIBER.

Following is the clipping mentioned by Subscriber:
 "Thousands of acres of the most valuable farm land in Kansas, together with a large amount of land located in towns and cities of the State, is given to the Missouri, Kansas & Texas Railway by a decision handed down by the Kansas Supreme Court in the case of that railway company against one Watson.

"In July, 1866, Congress granted to the Union Pacific Railway Company, southern branch, now the Missouri, Kansas & Texas Railway Company, a right of way 200 feet wide from said railway to the south line of the State, a distance of about 150 miles. Afterward patents were issued to private persons for land through which the railroad runs without excepting the right of way. The persons holding these patents have treated the right of way as being only 100 feet wide. The railroad company brought suit to oust these occupants and the court now decides in its favor. The land affected by the decision lies in Geary, Morris, Lyon, Coffey, Woodson, Allen, Neosho, and Labette Counties, in one of the most fertile parts of the State. Among the larger places touched in these counties by the Missouri, Kansas & Texas Railway are White City, Council Grove, Emporia, Burlington, Chanute, Parsons, Oswego, and Chetopa."

The decision of the Kansas Supreme Court, has not yet been published so that THE KANSAS FARMER has not been able to read the full text. The abstract given in the clipping agrees with current reports of the substance of the decision. The first publication of all important opinions of the Kansas Supreme Court is made in the Pacific Reporter. Subscriber can probably see this journal in the office of any prominent attorney in his county seat and thus learn its exact terms as soon as published.

A DURABLE AUTOMATIC GATE.
 Many attempts have been made to construct an automatic farm gate, or at least a gate that can be readily opened from the vehicle on approaching it and closed after passing. Some very elaborate inventions have been built. The great and ever-present trouble has been that the working parts would get out of order and much labor was required to keep the machinery in repair. Another objection has been the great expense of the automatic gate.

The writer accepted an invitation a few days ago to examine a gate which has been used during the past season by A. A. Adams, a farmer living near Berryton, Shawnee County. Having a gate that was much used by others as well as himself, this farmer put his mind to work to devise a good gate with simple and nearly automatic arrangements for opening and closing. He succeeded. His gate may be opened on driving up to it and without stop-

ping the team. It swings from the team and is closed after passing through without the necessity of stopping. The gate is strong; the working parts are few, simple, and strong so that they can not easily get out of order. The gate latches so securely that no animal can open it and is held open by the latch so that the wind can not blow it shut while the wagon is passing through.

We are assured that the gate will soon be on the market and will be sold complete at about \$10.

PASTURE AND WOOD LANDS IN OKLAHOMA TO BE SOLD.

THE KANSAS FARMER has received several inquiries relative to the sale of "Pasture and Wood Reserve Lands" in Oklahoma. After some delay we

Kinzie Street, Chicago, have lately published and offer to mail free of charge to any one requesting it. The average reader might perhaps ask, "Why read anything about socialism?" But the book anticipates the objection by a brief and interesting statement of the case for socialism.

THE KANSAS SUGAR-BEET INDUSTRY.

The time is not long past since Western Kansas was considered in reality a part of the Great American Desert, and the man who owned land in that section was thought to be truly unfortunate. Young men who have just cast their first vote can remember when this great region was in disrepute; when it was thought to be the home of cyclones, and the breeding place of hot

The State offered a bounty for the manufacture of beet-sugar within its boundaries and this was a great incentive to the farmers of that region, although much of their profits were consumed in the payment of freight to a factory outside the State.

Garden City, in Finney County, has become the center of the sugar-beet industry in this State, and on Thursday, November 15, there was dedicated the finest sugar-beet manufacturing plant in existence at this place. This factory is the result of the favorable climatic conditions, the abundant supply of water for irrigation purposes, the high sugar content of the beets raised, and the tremendous energy of the people of that city and section. There are no drones in Garden City, and the facts of this country that its inhabitants tell to people farther east are either wholly disbelieved or taken with a "grain of salt."

THE DEDICATION CEREMONIES.

At the dedication of this enormous sugar-beet plant there was present a great crowd of people from all parts of the State. Every train that came into the city on that day was loaded with visitors. Among the many from all sections were men of prominence in all walks of life. Governor Hoch was a prominent figure in all the functions of the celebration. Secretary Coburn, of the State Board of Agriculture, without whom the celebration could not have been complete, was present and addressed the assembled multitude. Other men of prominence were Justice W. R. Smith, of the Supreme Court; Congressman Victor Murdock; Col. J. W. Robison, of the State Railroad Commission; Hon. Henry Allen, of Ottawa; Lieut-Governor-Elect Fitzgerald; I. L. Diesem, of the State Board of Agriculture; Aaron Gove, of Denver; and the officers of the United States Sugar and Land Company. It is estimated that at least 2,000 out-of-town people were present during the day to watch the operations of the factory. These were carried to the factory, which is about one mile from the city, in carriages, automobiles, and the private car of the Great Western Land Company on the Santa Fe Road. After an inspection of the plant the guests were assembled in the sugar-storage room where they were addressed by Governor Hoch, Secretary Coburn, and others, and where they afterwards partook of a luncheon furnished by the United States Sugar and Land Company.

It is with pleasure that we are able to reproduce the substance of the remarks made by Secretary Coburn, under whose direction the State bounty on sugar-beets is paid to the farmers. Secretary Coburn said in part:

"I deem myself fortunate in privilege and opportunity to be here upon this splendid occasion, and to be a witness of and participant in what I am sure is an epoch-marking event; by no means epoch-marking alone in the history of Garden City, but for all Southwestern Kansas, and especially the Arkansas Valley. From to-day there is no longer a problem as to whether high-grade sugar-beets can be grown here in any quantities desired, or whether capital will supply the factories for promptly and economically converting their rich juices into sugar equal to any which commerce knows. With no favors, but decent treatment—and you ask no more—from the powers that be, at Washington, the way seems clear for a prosperity which others, wheresoever, may well envy.

"Yet, the business of irrigation, beet-growing, factory-building, and sugar-making must, like every other, be con-



The twenty-seven 10-inch pumps which supply the Garden City beet sugar plant with water from the underflow. Factory in background.
 (Photograph by The Kansas Farmer man.)

have obtained from the U. S. Land-Office at Lawton, Okla., full information and instructions in the matter. These are too long to be inserted here. All interested persons should address "Register and Receiver, U. S. Land-Office, Lawton, Okla.," asking for instructions and necessary blanks for making application to purchase a portion of said lands.

The following points of information will be useful to those interested:

About 500,000 acres of land will be sold.

Bids to receive consideration must be at the Lawton Land-office not earlier than 9 o'clock, December 3, nor later than 4 o'clock, December 8, 1906.

Bids must be made on blanks which will be furnished by the Lawton Land-office.

Price bid must be at least \$5 per acre.

Each bid must be accompanied by a certified check for one-fifth of the amount of the bid, but in case a person makes several bids he is not required to enclose more than one check.

No bid must be for more than one quarter-section.

The lands will be awarded to the highest bidders.

Bids may be sent by mail.

There are many other details, all calculated to insure fairness, but those here summarized will be sufficient to enable any reader to determine whether he desires to procure the full instructions from the Lawton Land-office. A map of the land offered and a detailed description of each tract will be sent to each applicant.

"What to Read on Socialism" is the title of a book of sixty-four large pages which Charles H. Kerr & Co., 264

winds; when it was considered good for nothing except as a breeding place for range cattle, which of necessity must be shipped to the corn-belt to get their first full feed; when this country was treeless, fruitless, and cropless, and its few inhabitants lived chiefly on hope.

Now all this is changed. Some of the heaviest timber of the State is to be found on these once treeless plains. A study of the climate and soil conditions has evolved an agriculture that is immensely productive and that is as sure of returns as that of many States east of the Mississippi River. The corn-belt has gradually crept westward until its boundary line is obliterated, and wheat grows everywhere. Years ago it was found that the conditions here were most favorable for the production of garden- and field-seeds, and the great seed companies of the United States grew their supplies in the Arkansas Valley. Garden and orchard products are abundant in this region, and the Rocky Ford melon is only an illustration of what is produced all along this valley. In the extreme southwestern portion of the State, in Kearny County, is one of the best orchards in the State of Kansas.

A study of the conditions has evolved the fact that the sugar-beet thrives wonderfully in the Arkansas Valley, and that its sugar content is a high one. In Colorado, on the banks of this stream, there was established some time since an immense factory for the conversion of these beets into one of the finest qualities of sugar that appears on the market. Experimentation proved that Western Kansas, although it has a greater rainfall, was equally adapted to the production of this crop.

ducted with sense and sanity or disaster and humiliation will follow. Enterprise and aggressive courage are admirable, and in fact essential, but everywhere 'boom' is sooner or later pretty sure to be found closely connected with 'boomerang.' The industry upon which this region is so hopefully embarking, and which embarkation we

feet wide, and some 20 feet deep with driveways on top from which the wagon loads of beets are dumped into the bins below. At the time of our visit there were thousands of tons of beets in storage here waiting to be manufactured into sugar by the three shifts of employees who work eight hours per day each during the entire beet season.

pumps, each one of which throws a ten-inch stream of water under high pressure, a section of which is shown in our first-page photograph. The water from these pumps is thrown into a cemented channel which carries it to the factory. The power for the pumping is supplied by the engines located in the factory. This water supply is so copious that it is found that seven of these pumps will supply the needed amount with the factory working at its present capacity.

Economy is the watchword in this sugar factory. Not only is every particle of sugar extracted from the beets, but the pulp which remains is carried by means of a long pipe to a so-called silo, which is an immense earthen reservoir prepared for its accommodation. After the water has drained from this beet pulp, it solidifies into a pasty mass, which is found to be highly relished by cattle and of great nutritive value to them.

SOME PRAISE FOR GARDEN CITY.

Garden City is a beautiful town in the midst of a smiling valley on the Trans-Continental Line of the great Santa Fe Railway System. It is 419 miles west of Kansas City and 333 miles from Denver. It is in one of the most productive regions of Kansas and is the metropolis of the southwest part of the State. By the aid of irrigation enormous crops are possible. It is the home of the alfalfa-plant, and more crops of good alfalfa are raised each year than in any other section of the State. Sweet potatoes and all kinds of garden truck are immensely profitable here. The dairy business is making rapid strides in Finney and adjacent counties and the great Continental Creamery Company testifies to the fact that this is one of the best dairy regions of the State. Wheat grows abundantly and, as before mentioned, all kinds of garden-seeds are produced

sources might have lain undeveloped for centuries had it not been for the enterprise of the citizens who knew of its possibilities through their residence there. The Santa Fe Railroad has been a great factor in the development of this section of Kansas which, in the language of a high official of the United States Department of Agriculture, is destined in the near future to become the most productive part of the United States. The commercial clubs of the cities have been largely instrumental in placing facts before the people of less-favored regions and inducing immigration. The most potent factor, however, in turning this desert into a garden has been the land agencies whose untiring energy has presented the merits of this region in season and out of season until men have become convinced against their will and have moved their household gods to a region where they have prospered and where they have learned that the half had not been told. In the vicinity of Garden City the greatest of these agencies has been the Great Western Land Company which runs a regular sleeping car between Chicago and Garden City for the accommodation of its patrons.

To the young man in search of a home where he can prosper, as well as to the capitalist with idle funds to invest, there is perhaps no region in this country that promises so large and so immediate returns as does the Arkansas River Valley of Kansas.

BLOCKS OF TWO.

Every opportunity to do a favor to a friend or neighbor should be improved. The subscription price of THE KANSAS FARMER is \$1 per year. It is worth the money. But the publishers are extending the circulation rapidly by means of their blocks of two proposition. It is this:

Every old subscriber on sending his dollar for renewal is authorized to send the name and address of some one not now taking THE KANSAS FARMER and the dollar will pay for both subscriptions for one year. Address, The Kansas Farmer Company, Topeka, Kans.

Proposed Cooperative Union.

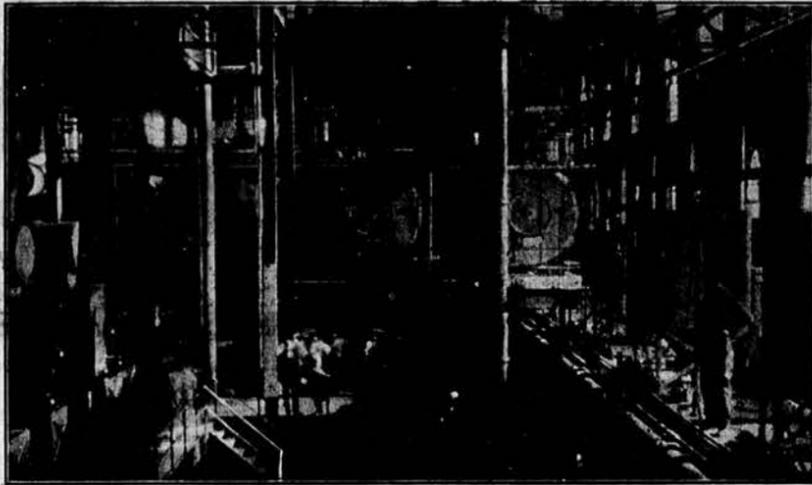
EDITOR KANSAS FARMER:—Wanted, 2,000 men to start a farmers' business and cooperative union at Dwight; not for profit, but for individual benefit. Twenty dollars apiece would build us a \$40,000 grist-mill which would assist us in furnishing ourselves with flour for nearly the same as we now pay for bran. Twenty dollars apiece would build us a \$40,000 packing and cold storage plant, whereby we could eat more meat and prolong the fruit-eating season easily and profitably.

A broom, a canning, and a starch factory would be among the things we could build with the money we could easily save by knowing more how to do business and how others are doing us now. Others have combined and conspired to rob us. It is not more dishonorable to demand that which is not right than to submit to that which is wrong. The powers of darkness are against us. God is with us if we act together for right. C. H. TRUS, Morris County.

ASTHMA SUFFERERS REJOICE.

Vienna Physician Discovers Permanent Cure for Asthma, Catarrh and Bronchitis.

Joyfully will many sufferers receive the news that Toxico, the marvelous



Glimpse of the interior of the beet-sugar factory owned by the United States Sugar and Land Company at Garden City, Kans.

(Photograph by The Kansas Farmer man.)

are here to celebrate, deserves and must have no boomerangs. It is susceptible, in my judgment, of a marvelous and constantly expanding development, and at every turn the visitor finds evidence that the undertaking at both its agricultural and manufacturing ends is in hands directed by wisdom and earnest purpose. The wonders you have wrought here in a twelve-month would be impossible of belief if our eyes did not behold them as unmistakable realities, and they tell far more eloquently than mere words can of the magic that capital with brains can work.

"I am not here to belabor you with advice, but as one of your interested and sympathetic fellow Kansans to give you good cheer and bid you God-speed in every undertaking for the improvement of your surroundings and the more advanced and more useful civilization an enlarged prosperity makes possible; to share with you and for you the hope that it shall all redound to the honor and glory of Him who giveth the seed-time and the harvest. I heartily congratulate you upon the auspicious present and your promising prospects."

Governor Hoch made a brief address, expressing his surprise and appreciation at the immensity of the industry already developed here, and his hopes for its future. Governor Hoch said:

"I have been formulating in my mind recently the great things I have found in Kansas. I have been in Southeast Kansas and have seen the greatest smelter in the world. Now, Kansas has the greatest normal school, the greatest experiment farm, nine of the largest ten glass factories west of the Mississippi; has the record of the greatest Secretary of Agriculture in the world; Kansas is superlative in wheat; Salina has the largest woman in the world, weighing 607 pounds; and now I have come out here and find this region promises the greatest beet-fields in the United States and already possesses the best-built and most modern beet-sugar making plant on the globe. I merely review the sentiments of every one who has had the pleasure of being in Garden City to-day, and I want to say that this event has been a real revelation. I have heard much about this town and this country and this factory, but I must say that the half has not been told. I shall go away cherishing the most delightful memories of my visit here. I am astonished at this great institution and this great industry. I shall carry home the conviction that those who engage in this business here have no idea of the possibilities wrapped up in beet-growing and beet-sugar making. I am in hearty sympathy with Government assistance in the beet-growing industry in this country."

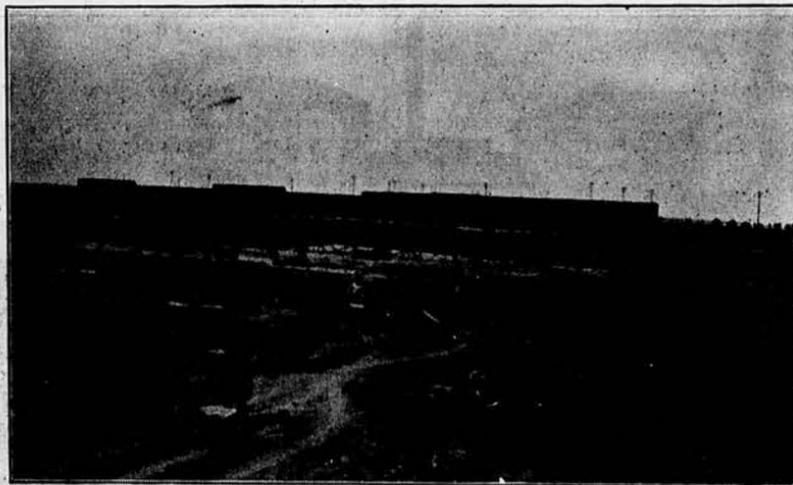
The Governor closed by assuring his hearers that officially and otherwise he would do all in his power to assist this as one of the greatest industries in the State.

HOW BEET-SUGAR IS MADE.

After the speech-making and banquet, which are always interesting, the visitors had more leisure to inspect the plant and the processes by which the saccharine matter is extracted from the unpromising looking roots. At one end of the main building is located the beet shed, which is 700 feet long, about 150

feet wide, and some 20 feet deep with driveways on top from which the wagon loads of beets are dumped into the bins below. At the time of our visit there were thousands of tons of beets in storage here waiting to be manufactured into sugar by the three shifts of employees who work eight hours per day each during the entire beet season.

Immediately below each bin and extending its entire length is a deep channel of swiftly flowing water which conveys the beets from the bin to the factory where they are cut up by machinery after being carried over a twenty-foot beet wheel and thrown into the washer. After being washed the beets are carried to the fifth story of the main building, where they pass through the slicer and thence down a chute to the diffusion batteries under-



Building the new "silo" for the storage of sugar-beet pomace at the Garden City, Kans., beet-sugar factory. It is of earth and occupies about the space of a city block.

(Photograph by The Kansas Farmer man.)

neath. Here the juice is extracted from the pulp under heavy water pressure and this juice is then manipulated until it comes out the finished product. It is rather difficult for the outsider to understand this process, but the theory is to cut the beets into small, thin slices, so the water may gain access to the cells containing the sugar. These thin slices are placed in the diffusion batteries and the water forced through them to extract the saccharine matter. This sweet liquid is then mixed with milk of lime and is carbonated by the introduction of carbonic acid gas. The liquid is then filtered through a press until it is perfectly clear, whence it goes to a quadruple evaporator where it is boiled to a certain consistency and then carried to a vacuum pan, where it crystallizes into sugar. This product, however, is mixed with molasses from which it must be separated. This mass is placed in a centrifugal running at great speed which throws the molasses out and retains the sugar, which in turn is washed with a vapor in compressed air. The granulator is the next machine which takes the sugar, granulates and dries it, and from which it is placed in hundred-pound sacks ready for the market. When in the sacks it is placed in the store room which is 200 feet long, 100 feet wide, and capable of holding an enormous quantity of sugar in storage.

The operations of this great factory demand an enormous supply of water. This is furnished in the purest state from the famous underflow which is reached at a very shallow depth at any point in the Arkansas Valley, and which is practically inexhaustible. In front of the factory and just across the Santa Fe Railroad track, is the pumping station which is made up of 27

in quantities. The abundance of cheap feed and the mild climate with good water make of this an ideal dairy and live-stock country, and some of the best herds of beef-cattle, swine, and sheep are located in the Arkansas Valley.

SOME OF THE FACTORS WHICH HAVE BROUGHT SUCCESS.

The United States Government is establishing a pumping plant here as a part of the reclamation service, and



Line of pipe conveying the beet "pomace" from the Garden City Beet-Sugar factory to the large earthen "silo." Sugar-beet pomace in foreground.

(Photograph by The Kansas Farmer man.)

has withdrawn 30,000 acres of sand-hill land upon which a forest reserve will be established. Five million trees will be planted on this reserve next spring.

The Arkansas Valley, of which Garden City is the center, is a wonderland to the man who knew this section in the early days of Kansas. Then it gave little promise of what it has now accomplished. With the endowment by nature of this region with good soil, fine water, and a mild climate, its re-

new discovery of an Austrian savant, is curing thousands of the lesser diseases of respiration, such as catarrh, asthma and bronchitis. This remedy is a palatable internal treatment, causing no stomach derangement and acting directly on the mucous membranes through the blood and nervous system. Through the generosity of The Toxico Laboratory, 1269 Broadway, New York, every one of the vast army of coughing, wheezing sufferers in the United States, can obtain a free test of Toxico by simply sending their name and address.

DO NOT

WATCH

WESTERN KANSAS

From Eastern Kansas, but Come With Us and See It from our Automobiles.

Why write the Santa Fe about good farms, they have to come to us for the good ones?

Garden City is the Queen City of the Southwest within sixty-six miles of the Colorado border, on the main line of the Santa Fe railroad, and the Metropolis of Western Kansas.

This issue of "The Kansas Farmer" tells all about the opening of the Million Dollar Beet Sugar Factory at Garden City and what Governor Hoch and Secretary Coburn of the Board of Agriculture think about it and the future of the

Arkansas Valley of Western Kansas.

Governor Hoch in his address last week before the Trans-Mississippi Commercial Congress at Kansas City said, "Gentlemen, the sugar beet industry is one of the industries that will make our Empire." Every word of this is true, too. Farmers in Finney and Kearney counties are making from \$50 to \$90 per acre net raising sugar beets.

Now is the time to get in on the ground floor while these sugar beet and alfalfa lands are cheap. They will advance fifty per cent in the next six months.

Your corn is about all in now and you will have time to go to Garden City with us in our private cars on December 5 and see for yourself that this country we tell about is surely the garden spot of the West.

We have 30,000 acres of the best farm lands out doors at poor man's prices. Good irrigated farms at \$40 to \$100 per acre.

Sugar beet farms are selling in Colorado from \$300 to 700 per acre and that is what these Western Kansas lands are going to bring in a few years.

Write us and we will tell you more. Join us on December 5 and bring your wives.

GREAT WESTERN LAND CO.

1048 Union Ave.

Kansas City, Mo.

Western Office, Garden City, Kans.

Stock Interests

PURE-BRED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

- November 23, 1906—H. E. Haynes, Olathe, Kans.
November 24, 1906—Duroc-Jerseys, Marshall Bros., & Stodder, Burden, Kans.
November 24, 1906—Shorthorns, Hall Brothers & J. P. Newell, Carthage, Mo.
November 27, 1906—L. C. Caldwell, Moran, Kans.
November 27, 28 and 29, 1906—Shorthorns, Herefords and Aberdeen-Angus at South St. Paul, Minn.
D. R. Mills, Iowa, Manager.
November 28, 1906—Snyder Bros., Winfield, Kans.
November 28, 1906—Poland-Chinas, Winfield, Kans.
November 30, 1906—U. S. Ison, Butler, Missouri
Poland-Chinas.
December 6, 1906—American Galloway Breeders' Association Combination Sale, Chicago, Ill.
December 11-12, 1906—Imported and American bred Aerefords, James A. Funkhouser and Charles W. Armour, sale pavilion, Kansas City.
December 18, 1906—Hereford cattle at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.
December 14, 1906—Shorthorn cattle at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.
December 14-15, 1906—Dickinson and Marion County Breeders Sale of Herefords, at Hope, Kans. J. B. Shields, Lost Spring, Kans., Secretary.
December 15, 1906—Poland-Chinas, Duroc-Jerseys and Berkshires at Coffeyville, Kans. H. E. Bachelder, Fredonia, Kans., manager.
December 18, 19, 20 and 21, 1906—Shorthorns, Herefords, Aberdeen-Angus and Galloway at South Omaha, Neb. D. R. Mills, Des Moines, Iowa, Manager.
December 19, 1906—Herefords, E. R. Morgan Blue Rapids, Kans.
January 9-10-11, 1907—Percheron, French Draft, Shire and Clydesdale stallions, mares and fillies at Bloomington, Ill. D. Augustin, Carlock, Ill., and C. W. Hurt, Arrowsmith, Ill.
January 10, 1907—R. B. Marshall, Willard, Kans., Duroc-Jerseys.
January 11, 1907—Grade Draft, Coach, Trotting bred, All Purpose and Saddle horses, mares and gelding, at Bloomington, Ill. D. Augustin, Carlock, Ill., C. W. Hurt, Arrowsmith, Ill.
Jan. 17, 18 and 19, 1907—Shorthorns, Aberdeen-Angus and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.
January 22, 1907—Grant Chaplin, Greene, Clay County, Duroc-Jerseys.
February 5, 1907—C. A. Cook, Salem, Nebr., Duroc-Jerseys.
February 6, 1907—E. M. Jenkins & Son, Byron, Nebr., Poland-Chinas.
February 6, 1907—Wm. Brandon, Humboldt, Neb., Duroc-Jerseys.
February 7, 1907—R. F. Miner, Tecumseh, Nebr., Duroc-Jerseys.
Feb. 7, 1907—Ward Bros., Republic, Kans., Duroc-Jerseys.
February 8, 1907—T. J. Charles, Republic, Kans., Poland-Chinas.
February 8, 1907—A. J. Russell, Crab Orchard, Nebr., Duroc-Jerseys.
February 9, 1907—Poland-Chinas, C. O. Parsons Clearwater, Kans.
February 12, 1907—John Morrison & Son, College View, Neb., Poland-Chinas.
February 12, 1907—Duroc-Jerseys, T. P. Teagarden, Wayne, Kans.
February 13, 1907—Poland-Chinas, H. B. Walters, Wayne, Kans., at Concordia, Kans.
February 13, 1907—J. E. Davis & Son, Fairview, Kans., Duroc-Jerseys.
February 13, 1907—W. A. Kirkpatrick, Lincoln, Neb., Duroc-Jerseys.
February 14, 1907—Gilber Van Patten, Sutton, Neb., Duroc-Jerseys.
February 14, 1907—Poland-China bred sow sale at Abilene, Kans. L. D. Arnold, Route 1, Enterprise, Kans.
February 15, 1907—Frank Dawley, Osborne, Kas., Poland-Chinas.
February 15, 1907—Geo. Briggs & Son, Clay Center, Neb., Duroc-Jerseys.
February 16, 1907—Roberts & Harter, Hebron, Nebr., Duroc-Jerseys.
Feb. 18, 1907—C. W. Taylor, Pearl, Kans., Duroc.
February 19, 1907—Jno. W. Jones & Son, Concordia, Duroc-Jerseys.
December 19, 20, 1906—Webber, Apperson & Co., Tecumseh, Neb., Berkshires, Shorthorns, Polled Durhams and Jersey cattle.
February 22, 1907—Poland-Chinas, Lemon Ford, Minneapolis, Kans.
Feb. 20, 1907—J. E. Jones, Clyde, Kansas, Duroc-Jerseys.
Feb. 21, 1907—Leon Carter & Co., Asherville, Kans Duroc-Jerseys.
February 22, 1907—J. C. Larrimer, Derby, Kans., Poland-Chinas.
February 25, 1907—G. E. Avery, at Kansas State Agricultural College, Manhattan, Kans., Aberdeen-Angus cattle.
February 26, 1907—Poland-Chinas, Holmes & Daniels, Edmund, Kans.
February 27, 1907—Poland-Chinas, W. H. Bullen, Belleville, Kans.
April 3, 4 and 5, 1907—Herefords, Aberdeen-Angus and Shorthorns, Kansas City, Mo., W. C. McGavock, Mgr., Springfield, Ill.
May 12 and 13, 1907—Aberdeen-Angus, Shorthorns and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.
Improved Stock Breeders Association of the Wheat Belt—November 13, 14, 15, 1906, at Arkansas City, Kans., I. E. Knox, Nardin, O. T., manager; Dec. 5, 6, 7, 1906, at Anthony, Kans., Chas. M. Johnston, Caldwell, Kans., manager; Dec. 18, 19, 1906, at Wichita, Kans., J. C. Larrimer, Derby, Kans., Manager; Feb. 13, 14, 15, 1907, at Caldwell, Kans., Chas. M. Johnston, Caldwell, Kans., manager.

Timing the Pigs.

It has been our practise to finish the hogs for market before the steady cold of winter sets in. Any material advance in prices has not tempted us to deviate from this plan, for as a rule, high prices in winter are followed by as high a range the following summer. To fatten the hogs without grass or other succulents is expensive. No matter how well sheltered the hogs may be, a certain proportion of the food must be used to maintain the animal's heat above what would be required were the heat of the sun sufficient for all purposes. We can keep the shoats and pigs growing in winter when to fatten them would be a more difficult problem. It is more natural for young hogs to grow than to lay on fat. Of the two alternatives, we would rather rear a few pigs in winter, notwithstanding the difficulties in the way, than try to finish a bunch which could not be made ready before the holidays.

If the pigs are to come at different times of the year, some consideration must be given to the latitude in its relation to warm and cold weather. The reason why October and November pigs are unprofitable is because they are weaned at about the time the heavy snows and steady cold of winter set in.

We learned that the pigs must be timed to miss this period. For the ordinary hog-raiser perhaps the coming of the pigs can be timed so that a heated hog-house will not be needed, at least from the latitude of Central Ohio southward. Situated as we are, apparently the best time for the spring pigs to come is in March. Although this may be an unfavorable month, yet a careful man can save the pigs in about any kind of weather during March. Perhaps there was an unfavorable weather last March as we ever have, but we succeeded in saving the litters in a satisfactory way. The man who looks after the pigs should be, if possible, the owner himself. He should have other things side-tracked so that about any time of the day or night he can give the coming pigs attention. If he expects one or two hundred pigs, he should eat and sleep with the care of the pigs on his mind. Obviously, the coming of March pigs is to be before the lambs are expected or the spring work opens up, for it is unprofitable to have any other important work on hand at that time. The March pigs go to market in November and December. The first sows to farrow are bred to farrow again in August. The later litters can be pushed so they may be past the critical age succeeding weaning before midwinter weather.

This will probably appeal to many as a reasonable schedule. There are some sows to farrow too late in the spring to be bred for late summer litters. Shall we allow these to go over till the following March before they have pigs again? This is a problem we are trying to solve. Some contend that there is no place for the winter litter and I do not wonder that they take this position. We must remember that the sow is useful only to raise pigs, and she is capable of doing a little better than one litter per year. If she farrows but once, she must be fed and sheltered during the winter. If she has pigs, she must be fed more, of course, but while the pigs derive their nourishment principally from their mother, their cost for other food is not considerable. We have made several failures with winter pigs. Yet the most satisfactory solution of the matter as we have found it is this: Have pigs farrow about December 10, breeding three or four sows or as many as can easily be taken care of. The pigs will have passed the first critical period before January. They will be able to move out of doors with their mothers nearly every day if the houses are in a sunny place toward the south and there is protection against prevailing winds. Deep snows and prolonged freezing periods will give trouble. The pigs are inclined to lie in their nests and may succumb to the thumps if they have little exercise. It is helpful to change them into different lots as the weather permits, for I believe that change of location has often prevented disorders in winter pigs for us. During this time the sows should have access to a piece of rye and be fed a balanced ration.

Now what is gained by having winter litters? The sow must be kept anyhow. A little more feed is required and more time to look after the pigs. In the winter there is more available time and I do not believe the work is as laborious as the feeding of other kinds of stock. Perhaps the pigs will not grow as rapidly as if they came in the spring, but we have found that winter pigs have some advantage from the age gained. The winter pigs can be finished with the late summer pigs for the October market, thus insuring a high price for them. Sows having winter pigs can be bred to farrow in June or July and these pigs can be pushed so as to bring a good price at the holidays or thereabouts, when there is a strengthening of prices over the low values of the late fall; also, these pigs do not have to be wintered and do not cost much. It should be added that the winter pigs are sustained largely by their mother's milk during the winter. We do not attempt to wean them. Natural nourishment will fall about March 1. There should be some pasturage, such as rye, for them at this time. For a ration we feed corn, oats, skim-milk, slops, and middlings, and allow the pigs to follow the cattle now and then. Variety in feeding always shows good results.—Robt. L. Dean, in Ohio Farmer.

Grooming of Horses.

The question, often asked, "Why does the stabled horse require constant grooming, while the same horse turned out into the field does well enough without it?" is answered by W. R. Gilbert, in Albright's Farm and Ranch, as follows:

"The question can not be answered

the way it is put. It is not the fact of living under cover, but the active work and the high feeding of the stabled horse which necessitates grooming. Cavalry horses in camps, for instance, require grooming just as much, and in some respects more, than they do in barracks. It is the work and the food, not the shelter, which constitutes the difference between the domesticated animal and the horse in a state of nature.

"By work, and especially by fast work, the secretions of the glands of the skin are enormously increased. Furthermore, the horse, which is worked hard, must be fed highly nutritious feed; and from this cause also the secretions of the skin are largely increased.

Nature must be assisted by artificial means to remove these increased secretions, or the pores of the skin will become clogged, and the health will be deteriorated.

WHY GROOMING IS NECESSARY.

"The greater the activity of the skin the greater must be the attention paid to it. As long as the horse remains in a state of nature, taking only the exercise required to gather his food, and feeding only on laxative diet, grooming is not needed, because the debris of the food and the excretions of the system are carried off mainly by the actions of the bowels and kidneys. The cart horse, whose work is slow, can get along with very little grooming, but the trotter and the runner, on the other hand, whose whole systems are developed to the utmost, require much more grooming than is necessary for carriage and ordinary riding horses.

"Grooming or, in other words, cleanliness of the skin, is not, as many suppose, a mere matter of appearance, or of a rough or smooth coat; but it is essential to the general health and condition of the domesticated animal. This fact would become more plain had I sufficient space to consider the structure of the skin and its glands.

"In regard to the perspiring of a horse, it may be of interest to some of my readers to know that a horse in hard condition and in hard work, gives off through the pores of the skin, or in other words through the sweat glands, during the twenty-four hours, an amount equal to that excreted as dung. Perspiration in a greater or less degree is always going on, even when the animal is in a quiescent condition.

"The healthy or unhealthy condition of the skin is very readily shown by the appearance of the hair, otherwise called the coat. If the skin is unhealthy, the coat is dry and harsh. Again, if the skin is not properly cleaned, dirt remains, not merely in the coat, as many think, but in the system. A very important set of drains, namely, the glands of the skin, are choked, and the whole system, or in other words, the general health, must in consequence suffer.

"Twice in the year, in spring and in autumn, the horse sheds his coat. At those seasons the nourishment of the old hair is arrested, the soft, pulpy extremities shrink and dry up, and the hair becomes detached and falls off, while at the same time a new hair is formed and pushed up to its side.

"In the fall longer hairs are supplied as a protection against the cold winter. Probably in order to admit of longer growth, the hairs of the mane and tail are not shed. Their roots are situated more deeply in the subcutaneous tissue.

TWO PRINCIPAL ENDS OF GROOMING.

"Grooming answers two principals and several subsidiary ends. First, it removes from the skin those particles of perspiration, dust and dirt which would otherwise impede and clog the free action of the sweat and oil glands. Second, it removes the scurf or worn-out cells, which are no longer required on the surface of the skin, and which would, especially when cemented together by particles of sweat, add to the obstruction of the glands. In order that grooming should produce the two above-mentioned principal effects, it is necessary that the skin be cleaned with a good bristle brush strongly applied and well laid on. Against arguments in favor of the brush, it may be urged that in racing stables the wisp and the rubber, though the use of the brush is not altogether neglected, are largely employed. It would be absurd to say that trainers do not know their business. I think, however, that a distinction may be fairly drawn between horses in training and other horses.

HOW THE GROOMING SHOULD BE DONE.

"The thorough cleaning of the skin of the horse is an operation requiring both skill and hard labor. To make his labor effective and to produce the greatest effect, with the least expendi-

Horse Owners! Use GOMBAULT'S Caustic Balsam. The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or Blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

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ture of power and in the shortest time, the groom should aid his muscular strength with his weight. He should therefore stand well away from the horse, and lean his weight on the brush, which thus used will penetrate the coat more effectually and with less exertion to the man, than if worked only by his muscular strength. The principal working of the brush should follow the natural direction of the hair. It will not penetrate as deeply and thoroughly when worked against it, as with it. To remove, however, external dust and sweat, which may have caked in the coat, it may sometimes be necessary to brush against the hair.

"When grooming is neglected, the horse for the reasons already given soon loses flesh and condition, and generally deteriorates in health, while eventually actual disease of the skin may be the result.

DISEASES THAT ARISE FROM NEGLECT OF GROOMING.

"Among the more common diseases arising from neglect of grooming are those which are caused by the presence in the skin of the parasitical insects, such as mange and lousiness. The insects inducing these disorders, when not disturbed by the action of the brush, breed rapidly. All such diseases are sure and certain signs of neglect. These insects will not attempt to obtain a lodging in a skin where the pores and glands are constantly disturbed by the use of the brush.

"Soft and glossy coats, as a general rule, indicate good grooming and careful stable management, while long, dull coats argue the reverse. But I must give a warning against the practice of administering tonics and other stimulants, which, by artificially exciting the system produce temporarily a good external appearance, but in the long run are the fruitful parents of disease.

"Not only is it necessary that the horse should be groomed after exercise, but it is essential that he should be groomed immediately after exercise. All the pores of the skin are then open, and the brush will more effectually clean the skin if the operation is not delayed until skin has cooled and its pores have closed and the perspiration has dried and caked on them.

"No horse which is heated or has been perspiring should ever be allowed to stand undried one moment longer than is absolutely unavoidable. When a delay can not be avoided, the evil consequences should be reduced to a minimum by clothing him warmly and putting flannel bandages on his legs, or by allowing the saddle or harness to remain on, and by preventing any draft from coming on the animal.

THE EFFECT OF GROOMING.

"The effect of daily good grooming is readily recognized in the bright, clean, and healthy appearance of the coat. If the fingers are run through it no trace of soil will be left on them. On the other hand, if the skin is not clean the fingers will be soiled and white streaks of dirt and dust will be apparent in the parts through which they have passed. With a view of testing the cleanliness or otherwise of the skin, the hollow of the side of the hocks, the knees, the points of the hips and shoulders, and the head and neck may be more particularly examined.

"Every owner ought occasionally at least to run his fingers through the coat of his horse before he mounts, or when he visits his stable after his horse has been cleaned. He will also do well to see that its feet have been thoroughly washed out in the morning or after exercise.

"I would caution all horse-owners against the practice of forcing off the old coat in the spring, when the process of shedding commences. Nature will complete this process in her own good time, and any attempt to hasten it frequently results in leaving the animal bare in patches, and rendering him more susceptible to chills and colds."

Feeding Value of Tankage.

I would like the address of the American Sheep Breeder.

Can you inform me of the value of Swift's Digester Tankage, and how much is used at a feeding? How does it compare in feeding value with oil-meal? O. G. COLLINS.

Bourbon County.

The address of the American Sheep Breeder is 124 Michigan Avenue, Chicago, Ill.

Tankage has a very high feeding value, either, for fattening or growing hogs. We have never made an experiment comparing it with oil-meal, but in comparison with corn we have found that it will produce cheaper gains. In a recent experiment in which meat-meal was used, and meat-meal is very similar to tankage in composition, it

cost \$4.05 to produce 100 pounds of gain; while the cost on a similar lot of hogs fed on corn alone was \$4.33 per hundred. When feeding tankage to fattening hogs, we feed from 8 to 10 per cent. Larger quantities than this can be fed without injurious results, but I do not believe it profitable to feed it in too large amounts. We would place a much higher value for fattening hogs on tankage than on oil-meal. R. J. KINZER.

International Shorthorn Sale.

As the public appreciation of the great International Live Stock Shows has annually shown a commendable increase, so the interest in Shorthorn sales that are held in connection with the International have made a corresponding growth. The cattle to be offered Dec. 5, will maintain the high standard of merit established by former sales made by the American Shorthorn Breeders' Association. Among the bulls offered are some, both imported and home bred, whose merit and proven excellence as sires will strongly commend them to Shorthorn breeders. The offering also contains cows and heifers of great merit in form and of the most desirable breeding. The cattle have been contributed by the following reliable breeders: J. F. Frather, I. M. Forbes & Son, Emory Cobb, Frank O. Lowden, C. E. Clark, D. B. Searle, N. A. Lind, E. R. Stangland, F. W. Ayres, J. H. Miller, Arthur Meeker, Dr. W. H. Earles, Carpenter & Ross, Ardmore Stock Farm, Illinois Agricultural College, Mrs. Virginia C. Meredith, Samuel Fletcher, H. S. Bright, T. C. Robinson, Dr. J. D. Cole, O. S. Johnson, C. Hintz, E. C. Holland, J. D. Douglas & Son, H. G. Bowers, N. P. Ewing, and M. M. Madden & Son.

The sale will be held at 1 o'clock p. m. Wednesday, Dec. 5. For catalogue write H. O. Cowan, assistant secretary, 17 Exchange Avenue, Chicago.

The International Live Stock Exposition.

The International of 1906 will be the greatest show of live stock ever made in this country, if not in the world. Entries in this class are more numerous than were ever made at this show and include the names of practically all of the prominent breeders of the United States who ever make exhibits. These entries show totals as follows:

HORSES.		
Percherons	174	
Clydesdales	89	
Shires	94	
Belgians	73	
Draft in Harness	45	
German Coach	36	
French Coach	35	
Hackney	32	
Shetland Ponies	14	
Other Ponies	8	
Total	600	
BEEF CATTLE.		
	Breeding	Fat
Shorthorns	319	53
Aberdeen-Angus	132	42
Herefords	145	28
Galloways	69	20
Total	665	143

DEAL-PURPOSE CATTLE.		
Red Polled Cattle	100	9
Polled Durham	48	8
Total	148	17
Grades and Crosses		94

FAT HOGS.		
Berkshires	11	
Poland-Chinas	33	
Duroc-Jerseys	40	
Tamworths	12	
Large Yorkshire	38	
Hampshire	35	
Grade and Cross	88	
Total	257	

SHEEP.		
	Breeding	Fat
Shropshire	227	35
Southdown	26	22
Oxford	31	16
Hampshire	48	15
Dorset	52	12
Cheviot	23	16
Cotswold	44	24
Lincoln	86	28
Leicester	9	8
Rambouillet	106	11
Grades and Crosses		113
Total	602	289

This gives a grand total of 2015 entries in the breeding classes and 800 in the fat classes, or a grand total of 2,815 animals. Surely the visitor can see all that is good in live stock when he inspects this number of animals gathered from the best flocks and herds on earth.

The Armour-Funkhouser Hereford Sale.

In speaking of the tenth annual sale of the Armour-Funkhouser Herefords at Kansas City, which will be held in the fine stock sale pavilion at the Stock Yards on December 11 and 12 next, the consignors say:—

"Of the seventy-one cows to be offered, you will notice that twenty are imported. These are all of the best breeding, and are choice individuals, selected from the best herds in England and imported by Mr. Armour in order to breed up his herd. This has been accomplished, and the cows are now offered as special attractions in this sale. They will undoubtedly be eagerly sought by those who wish to add imported blood to their herd without the expense of making the importations.

"Twenty of the cows were bred by Mr. Armour, and it is only necessary to look down the list of sires to see that so far as the breeding goes it would be hard to find a better lot. Note particularly such sires as Imported Majestic, the herd-bull at the Armour farm, Lord Prettyface by St. Louis and out of a Kansas Lad cow, Southampton, Young Kansas Lad, and Beau Donovan. Here are shown pedigrees strong in the blood of Lord Wilton, Anxiety, and Grave 3rd, and some choice combinations.

"Eighteen cows are from the herd of the late Mr. James A. Funkhouser. Three of these are sired by March On 6th, the great show bull of the Funkhouser herd, winner of many firsts and champion at various fairs and at the American Royal at Kansas City. Other good sires shown are Heslod 2nd, winner of first and champion at Kansas City Exposition two years in succession; also Printer, Good Sign, and Don Pedro. These cows are selected and put in the sale by the estate with an idea of preserving the reputation of the late Mr. Funkhouser for putting into

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this sale only such cows as are worthy of place in the best herds.

In the list will also be noted six cows owned by Mr. J. B. Wellcome, of Whitehall, Mont. These, with the four bulls, which he is also offering, constitute his show herd, which he is bringing east for the International Show at Chicago, after which, rather than go to the expense of returning them to Montana, he will offer them in this sale, which will be a rare opportunity to purchase at auction a show herd of exceptional merit.

Twelve cows will be sold with calf at foot and all others bred to calve within three or four months from date of sale.

Twenty-nine good bulls will be sold. No better bred bulls could be had anywhere, and any one wishing a bull to head his herd, or wishing to start a show herd, can make a selection out of this twenty-nine head which will give him a show bull or a herd bull of which to be proud. Eleven head are from the herd of Mr. Armour and twelve head are consigned by the Estate of James A. Funkhouser, five of them by the great March On 6th and three by Onward 18th, one of the best sons of March On 6th. The four head consigned by Mr. Wellcome are now in his show herd. Two fine young bulls are offered by Mr. C. B. Smith, of Fayette, Mo.

The sale will begin promptly at 1 o'clock Tuesday afternoon, December 11. This will give every one an oppor-

ful—is that they always make their prices very reasonable for the quality offered.

One of the chief reasons why their prices are so reasonable lies in the fact that they prefer to sell at their barns at Lincoln where the buyer can have the choice of a larger number of horses. Not only are good individuals selected in the old country, but great care is exercised in choosing the best blood lines, and this firm was never so well equipped to furnish the buyer with what he wants as they are to-day. Go to Lincoln and see these horses and you will be pleased.

Do You Need a Herd-Boar?

If you do, we would advise you to either write, or better go and see those that John W. Jones & Son are offering at this time at special low prices to close their spring crop out. They have only ten head left and will not be long selling them, as they are some of the tops of their this year's crop and are from their well known and famous herd-boars. They have two very fine pigs sired by Fancy Top-Notcher 40339, the first-prize winner in class at the Kansas State Fair, 1906. Two are by Fancy King Orion 36835, a son of Orion 2d 28813 and My Choice 50032. Their dam is one of the great herd-sows by the famous herd-boar, Fancy Chief 24923 by Ohio Chief. Then there are pigs sired by Prince Wonder 42455, the greatest son of Missouri Wonder, and

wonderful record and that lies in the quality of their horses. In the American show-rings of to-day, and especially in the greater expositions where the Trumans have won most of their honors, no man can win prizes unless his stock has superior quality. In their large barns the buyer can inspect a great number of stallions of the four draft breeds at one time and when he comes to price them he will find that the figures are very reasonable. If you are in need of a good horse, and every farm community should have at least one, look at the Truman offering and you will be able to buy an imported stallion for but little more than is charged by some companies for a home-bred one of much inferior breeding and quality. Mention THE KANSAS FARMER when you write them.

The Southeast Kansas Improved Stock Breeders' Association.

The Southeast Kansas Improved Stock-Breeders Association will hold one of its regular sales of pure-bred stock at Coffeyville on December 13, 14, 15. The sale will include 40 Hereford cattle of which 26 will be cows and heifers, several of which will have calves at foot. These will be sold the first day. On the second day forty Shorthorns will be sold, of which twenty-five are cows and heifers, many of which are bred.

Seventy-five hogs will go into the ring on the third day. Of these 55



Calypso, Owned by H. G. McMillan, Cedar Rapids, Iowa. Champion Stallion at Iowa and Missouri State Fairs and first prize winner at the International. Sale at Sioux City, December 12 and 13.

tunity to arrive in Kansas City Tuesday morning and inspect the cattle in the forenoon before the sale begins.

We will be pleased to send you our 100-page catalogue upon receipt of your request.

The Inglesfield Shorthorns.

For some time past Dr. H. G. Slaven, of Neosho Falls, Kans., has been a breeder of good Shorthorns. He has a splendid foundation on the female side of the herd and he has always been a buyer of good bulls. He lives in the Neosho River Valley which has long been famous for its alfalfa, and plenty of alfalfa means good cattle.

The foundation stock of this herd traces to Imp. Fashion and Imp. Victoria by Plenipo (4724). All the cattle now on sale were sired by Red Gauntlet who is one of the best sons of Godoy and who is a bull of great scale substance and an exceptional breeder. The writer saw the Doctor purchase this bull at a good, round figure and found him to be a duplicate of Spartan Hero. His second sire was Baron Ury of Inglesfield 131581, a low-down, blocky fellow of fine style and finish. He was got by Baron Ury 118024 out of Udera 11th by Kirklevington Duke 2d 32980.

These are good cattle and, as the Doctor desires to sell the entire herd, his prices will be very reasonable.

The Watson, Woods Bros. & Kelly Horses.

Horse-breeders and buyers everywhere recognize that the horses imported by Watson, Woods Bros. & Kelly, of Lincoln, Neb., are of superior character. Mr. Joseph Watson of this firm personally selects these horses in England, France, and Belgium, and he gets the best. He is one of America's best judges of draft horses and knows what to buy. This is best shown by the latest importation of 60 head of Percherons, Shires, and Belgians, all of which are of the most approved draft-horse type with excellent bone and feet, plenty of action, good quality, and attractive style. They have the weight and scale and their colors, while mostly black, are varied by a few splendid dapple grays. With such choice animals it has never been difficult for them to dispose of each importation. Now, their reputation is so well established that Lincoln has become the headquarters for good horses of the draft breeds.

One of the reasons for the success of Watson, Woods Bros. & Kelly—and they have been remarkably success-

one of the largest hogs in the State of his age and the sire of the large, heavy-boned, smooth kind. There are three from the great World's Fair winning sow, My Choice 50032, a winner in four classes and without doubt one of the largest, smoothest, and best sows of the breed. They have others from Proud Advance dams and sired by the Prince. Here is a chance to buy the top blood of the breed and at the same time get pigs that will develop into top hogs of the breed. Jones & Son have several in the lot that will make show hogs for next year, and you can not do wrong in buying one for use in your herd. They will close these pigs out at special low prices. They are all in the best of condition, are healthy and hearty, and they have the size, quality, and the blood that reproduces it. Jones & Son will be pleased to have you come and see these hogs, or will answer your inquiry by return mail. Write them to-day as the breeding season is at hand and you will have use for one of these animals at once. Address Jones & Son at Concordia, Kans.

Trumans' Pioneer Stud Farm.

Everybody who knows and loves good horses knows of the Truman Pioneer Stud Farm, of Bushnell, Ill. By the way, the name of this farm is well chosen as it was established as an importing and breeding farm in 1878 when there were not many pure-bred draft horses in the Mississippi Valley and when an imported animal was a rarity. In the twenty-eight years past the Trumans have seen their business grow until they are now able to maintain large branch barns at London, Ontario, and Moscow, Idaho; until they have been able to import more London, England, prize-winners than all their competitors; until they have imported more Hackneys than any other firm in this country; until they maintain in Europe an expert buyer constantly; and until their name has become famous throughout the Union because of the prizes their horses have won. They import and breed Shires, Percherons, Belgians, Suffolks, and Hackneys. At the Louisiana Purchase Exposition they won more premiums, diplomas, and gold medals on Shires than all competitors combined. This is a wonderful record made at the world's greatest live-stock show. Then, their Shire stallions and mares won more championships, gold medals, and premiums at the last four International Live Stock Expositions at Chicago than all competitors combined. There is only one explanation of this

will be Poland-Chinas, 10 Duroc-Jerseys, and 10 Berkshires, all from well known herds.

The Southeastern Kansas Improved Stock-Breeders' Association has done and is doing a great work for the live stock industry, not only for their own section, but for the entire State. With such men as H. M. Hill, of Lafontaine; Samuel Drybread, of Elk City; and H. E. Bacheider, of Fredonia, as president, vice-president, and secretary respectively, and with good live stock with which to fill their sales the success of this Association was assured from the start. Address Secretary H. E. Bacheider, Fredonia, for catalogue, and be present or send bids to either of the auctioneers mentioned in the advertisement.

The Interstate Dairy Congress.

At St. Joseph, Mo., on December 13 and 14, there will be held the first Interstate Dairy Congress. Speakers of prominence have been engaged from the four States composing the St. Joseph territory, and the railroads have made specially low rates for this occasion. Prof. Oscar Erf, dean of the dairy husbandry department of the Kansas Agricultural College; Hon. R. M. Washburn, State Dairy Commissioner of Missouri; Prof. D. C. McKay, at the head of the dairy husbandry department of the Iowa Agricultural College; and Prof. A. L. Haecker, of the dairy department of the Nebraska Agricultural College, are among the more noted speakers. Hon. W. W. Marple, president of the Missouri State Dairy Association, is the chief promoter and will preside at the meetings. This will be a feast of good things for all who go and everybody is invited.

The A. T. Garth O. I. C. Sale.

Mr. A. T. Garth, of Larned, Kans., has a herd of 200 head of O. I. C. swine, and from this great number he has selected a choice draft with which to make a sale at his farm on December 13, 1906. Sixty head will be offered, which will include 20 boars from 8 to 9 months old; 25 young sows bred to a grandson of Big Mary, who was grand champion sow at the Louisiana Purchase Exposition, and to Big Jim, who will make a 1,000-pound hog at maturity; 15 July and August boars and gilts. During the fair season just closed Mr. Garth took over forty blue ribbons on his show herd, which are bred exactly like the sale offering. Some of these blue ribbons were taken at the Kansas State Fair and several of the sale hogs were members of this show

A MATTER OF HEALTH

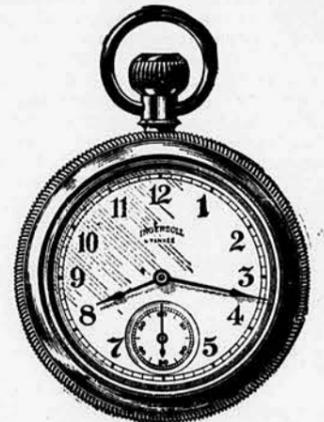


ROYAL BAKING POWDER
Absolutely Pure

A Cream of Tartar Powder, free from alum or phosphatic acid

HAS NO SUBSTITUTE

THE INGERSOLL DOLLAR WATCH



A First-class Nickel Watch, guaranteed a reliable time piece. Popular present for the boys. Sent only to our subscribers. The Kansas Farmer one year and the Yankee Watch delivered to your address for only

=\$1.50=

By THE KANSAS FARMER CO., Topeka, Kans.

MORE CORN MONEY

INCREASE Your CORN PROFIT
By Planting Sorted Corn



No idle ground; no missing hills; big yield sure when you sort your seed with this machine.

It all depends upon the stand

We want to show you how you can make more money out of your next season's corn crop. All you have to do is to make sure of a perfect stand—get a uniform number of grains in every hill.

We manufacture the ONLY machine that will sort your seed corn so evenly that your planter must drop a given number of grains every time.

"Morecorn" Seed Sorter does the work. It was put through the most critical tests at Iowa, Illinois and other state fairs. Thousands of corn growers sorted seed with it so perfectly that an edge-drop planter dropped 99 per cent PERFECT three kernels at each drop.

If you can get your corn fields planted like that next year won't it give you the biggest crop of corn that you ever raised? You can do it if you sort your seed corn with the "Morecorn" sorter. It can be done no other way. No planter has ever been, or ever will be made that can drop an even number of kernels at a drop without the kernels being uniform in size. You cannot get uniform kernels without sorting your corn.

Don't think of planting corn again without investigating the work of the "Morecorn." It will pay for itself twice over every year and last a lifetime if taken care of.

Let us tell you more about it. Write us today.
THE MONARCH SELF-FEEDER CO., Cedar Falls, Iowa.

When writing advertisers please mention this paper.

herd. All of the sale hogs are recorded and a pedigree goes with each hog sold. This herd is strong in the blood lines which made Dr. O. L. Kerr's hogs the winners of practically all of the O. I. C. ribbons at the St. Louis World's Fair. They are as good a lot of hogs as has been offered this fall, and buyers are sure to find something to please them. Mr. Garth has what he considers the finest hog barn in Kansas. It is built of cement blocks and is certainly a model of its kind. Even if you do not buy any hogs, an inspection of this cement hoghouse will pay for the trip to Larned on sale day. This will probably be the best opportunity of the year to buy good O. I. C. hogs at your own price.

Remember the date, mention THE KANSAS FARMER, and ask for a catalogue.

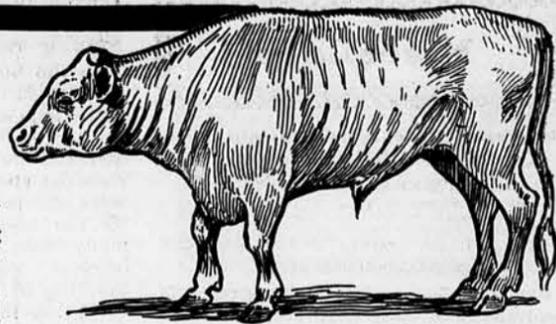
The Cheyenne Valley Percherons.

Kansas excels in practically everything she undertakes. She has made herself felt in every department of human activity, and as yet she is but a youngster. The world knows of her record-breaking crops of wheat, corn, and alfalfa; of her proud history as a beef-, pork-, and mutton-producer; of her wonderful crops of fruit and vegetables, and has had some faint hint of her abilities as a horse-producer, but does not know all. The climate, water, and abundant feed of Kansas have been found to make exactly the conditions necessary to develop the highest qualities in the draft horse, and Kansas developed the highest-priced Percheron mare that was ever sold at a public auction. These thoughts came through a recent visit to the Cheyenne Valley Percheron Stud, belonging to F. H. Schrepel, of Ellinwood, Kans. This stud is located in what was once known as the "short grass" country, where the bluestem and alfalfa stand hip deep in the fields and where the conditions for the growth and development of the draft horse are at their best.

At the head of this herd of Kansas Percherons stands Keota Scroggan 24555, who is a Kansan by adoption. He is now 5 years old, weighs a ton, and has led this stud to victory in many State and other fairs. Recorder 29776 is a horse of great quality and a prime favorite with Mr. Schrepel. He is brown in color, of great bone and substance, and a good actor. Cheyenne Valley Thomas 13495 is only a 2-year-old, but he is a hummer. He now weighs 1,800 pounds in his work clothes and proudly points to the great Brilliant as his ancestor. Capital 13285 is another good one with plenty of size, bone, and action. The writer secured photographs of these four Percheron stallions as well as of the German Coach stallion, Finish 1806, and they will be reproduced in the columns of THE KANSAS FARMER from time to time in order that our readers may judge of their quality. Photographs tell facts. There is a lot of other good stuff on this big alfalfa farm. Togo by Keota Scroggan is a fine yearling that gives every promise of equaling, if not of excelling, his sire. Ellinwood King by

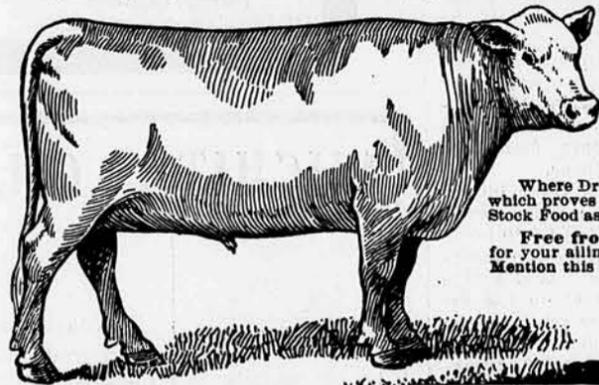
From Scrawn to Brawn

The difference between the scrawny animal and the thrifty one is not usually due to the amount of food consumed but the amount digested. In fact, the scrawny animal frequently consumes more. It is a vital point to see that there is a gain in weight each succeeding day sufficient to cover cost of feed and labor, otherwise, you are feeding at a loss. Such a condition can be brought about, and the scrawny animal converted into a brawny, thrifty, profitable one, by adding



DR HESS STOCK FOOD

the prescription of Dr. Hess (M.D., D.V.S.) to the regular ration twice a day. It compels the rapid development of bone, muscle, milk fat, etc. and insures perfect health and condition. It produces this extra profit by supplying the animal with bitter tonics, which improve the digestion, of intestinal juices; by stimulating the parastaltic action of the bowels (that churning motion that brings the contents of the bowels in constant contact with the minute cells which absorb the nutrition); by supplying iron for the blood, nitrates to assist nature in expelling waste material from the system; and by supplying laxatives to regulate the bowels. Professors Quimman, Winslow, Dun, and all the noted medical writers indorse these ingredients for producing the results above mentioned. Besides, Dr. Hess Stock Food is sold on a **Written Guarantee**.



100 lbs. \$5.00; 25-lb. pail \$1.60

Smaller quantities at a slight advance.

Except in Canada and Extreme West and South.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal tonic and this paper is back of the guarantee.

Free from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. You can have his 16 page Veterinary Book any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.

Also manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

Instant Louse Killer Kills Lice

ing, Union Stock Yards, Chicago, beginning at 10 o'clock a. m. on December 6, 1906. A full corps of officers and directors will be elected, and other important business transacted. The meeting will be followed by a banquet at the Transit House on Thursday evening, which will be given by the newspaper men and auctioneers to all Poland-China breeders, whether members of the Record Association or not.

Dickinson and Marion County Breeders' Sale.

We call particular attention to the Dickinson and Marion Counties Hereford breeders' annual sale, to be held at Hope, Kans., December 14 and 15. The offering is decidedly the most attractive for buyers that has yet been

TRUMANS' CHAMPION STUD

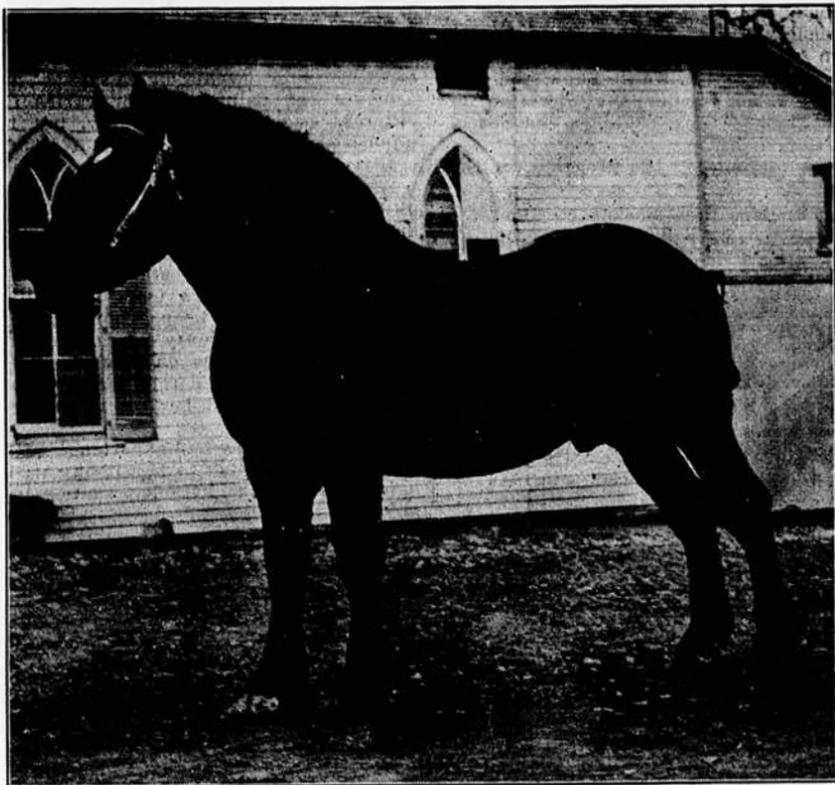
We are the Largest Importers of English Horses in the world. We sell Stallions of the different breeds for less money than any other firm or individual in America.

TRUMANS Always retain Customers.
 TRUMANS Have the right kind.
 TRUMANS Buy the right kind.
 TRUMANS Always Imported them.
 TRUMANS Now a Household Word.
 TRUMANS Commenced with Prize Winners.
 TRUMANS Imported more than any one.
 TRUMANS Know how to find them.
 TRUMANS Know how to buy them.
 TRUMANS Hence our success.
 TRUMANS With our Customers.
 TRUMANS Treat you white.
 TRUMANS Treat you right.
 TRUMANS Came to stay.
 TRUMANS Have stayed.
 TRUMANS Horses admired by the crowd.
 TRUMANS Always looked for at the Fairs.
 TRUMANS Always something sensational.
 TRUMANS Always something fresh.
 TRUMANS ALWAYS ENGLISH Winners.
 TRUMANS Customers treated Honorably.
 TRUMANS Customers stay with them.
 TRUMANS Customers have confidence.
 TRUMANS Customers not humbugged.
 TRUMANS No loud childish talk.
 TRUMANS No claiming what they haven't got.
 TRUMANS Attend their own business.
 TRUMANS Do honorable work in Show Rings.
 TRUMANS Let the Public Judge
 TRUMANS Of their exhibits.
 TRUMANS Don't want dirty work.
 TRUMANS Don't pay for it.
 TRUMANS Won't have it.
 TRUMANS Can do without it.
 TRUMANS No shifty business.
 TRUMANS Means to do right by their Customers.

A profusely illustrated souvenir catalogue of horses on hand will be mailed for the asking. Every horse for sale and fully guaranteed. NO ONE CAN DUPLICATE OUR HORSES OR PRICES.

ADDRESS

TRUMANS' PIONEER STUD FARM, BUSHNELL, ILL.



Recorder 29776, owned by F. H. Schrepel, of the Cheyenne Valley Stock Farm, Ellinwood, Kans.

(Photograph by The Kansas Farmer man.)

Colonel is a good horse and one of the owner's own breeding. He is a black with good action and plenty of bone and muscle.

The mares are as good as the horses. The visitor is especially impressed with a pair of young mares that were sired by the \$2,200 Iena who sold at the Wichita sale of J. W. & J. C. Robison last spring. Mr. Schrepel only showed at one State fair this season. At Pueblo, Colo., he won first on group of stallions, first on American-bred stallion, champion stallion, any age, and first on group of mares.

Anything on the Cheyenne Valley Stock Farm is for sale, and the prices are right. Mention THE KANSAS FARMER and you will receive every courtesy.

The American Poland-China Record Association.

The first annual meeting of the American Poland-China Record Association will be held in the assembly room of the Live Stock Record Build-

made by this association. On the forenoon of the 14th, a number of pure-bred Berkshires, Duroc-Jerseys, and Poland-Chinas will be sold, and in the afternoon the various breeders will contribute some very select Hereford bulls, cows, and heifers.

On Saturday, December 15, A. L. Evers will hold a dispersion sale at his farm near Hope, which will include his entire herd of fifty Herefords, mostly cows and heifers; also his farm stock and machinery will be sold on the morning of the 15th. The members of the association particularly invite breeders and farmers who are interested in first-class stock to be present at this event. For catalogue address J. B. Shield, Lost Springs, Kans.

The Peerless Duroc-Jerseys.

Mr. R. G. Sollenbarger, owner of the Peerless Herd of Duroc-Jersey swine at Woodston, Kans., now has for sale twenty-five spring gilts and ten boars. The gilts will be bred or sold open as desired. These pigs were sired by Auc-

STANNARD'S PROCESSED CRUDE OIL Kills Lice and Cures Mange. There is no Remedy on the Market as Good or as Cheap. It not only kills all lice on cattle and hogs, but all nits, and one application does the work. Does not injure hair or skin. Can be used in vats or with brush. Also kills lice or mites on chickens. Put up in new 52-gallon barrels and sold for \$5 per barrel. I have used nearly all dips on the market and I say to you, from experience, this oil is better and more effective than any of them. Why pay \$50 per barrel when you can get a better article for \$5? I also sell a heavy Pure Crude Oil as it comes from the well that is a good lubricating oil, 52 gallons for \$3.50; an excellent grease to keep plow-shares and cultivating-shovels from rusting. Try these oils and you will always use them. When ordering, state plainly whether you want the Processed Oil or the Pure Crude. Send remittance with order. C. A. STANNARD, Emporia, Kans., Sunny Slope Farm. Please mention Kansas Farmer.

Watch for Sale Announcement of the PURPLEBLOOM POLAND-CHINAS

Windom, Kans, Dec. 12, 1906.

A great offering of choice breeding and individuality. Write for catalogue.

Geo. W. Wright, Windom, Kans.

tion Boy 3d 23471, Duroc Wonder 44371, State Limer 31739, Advance Top Notcher 43501, and Crimson Wonder I Am 45249. The herd is now headed by Havelock Wonder 48977 by Crimson Wonder 26355, and out of a dam by None Such. The second herd-boar is Bird's Limer by State Limer and out of Louden's Bird 48482, the sow that topped W. F. Garrett's last winter sale at Concordia; also Parker Orion by Parker Mc 29283 and out of Miss Orion 69568. Mr. Sollenbarger also has about

forty-five extra good summer and fall pigs from these three boars and out of good sows that will be priced right. He also has for sale five tried brood sows. One of these was sired by Improver 2d and will farrow next month to Havelock Wonder. This litter ought to be something good. The other four sows will be bred for early spring litters. There are no reservations of the good ones, but everything will be sold and the prices are right. All inquiries are cheerfully answered.

Miscellany

The Farmers' Cooperative Grain Movement in Kansas.

C. W. PECKHAM, HAVEN, KANS.

II.

ORIGIN AND NECESSITY OF THE FARMERS' COOPERATIVE ELEVATORS.

Every incident, trivial or great, is inspired by a motive, directly or indirectly. Nothing transpires by chance. A narration of the motive that impelled the building of the farmer elevators need not be a lengthy one. There was one motive and only one, namely, an effort to escape the exactions of the pool, organized by the Kansas Grain Dealers' Association, the details of which were carried out by its secretary. During the first eight months of the existence of the pool the local market in Kansas was in a deplorable condition. Competition among buyers had ceased. But one buyer was active on the market at any one time. A bid from the active buyer, when submitted to the other buyers, was pronounced by them to be an extravagant one, beyond which they could not go. There seemed to be something mysterious in the very atmosphere. How long the pool would have existed had the buyers remained in harmony is beyond conjecture. The secretary, in an address before the convention at Wichita, declared that a definite margin of 3 cents per bushel had been secured, by reason of which elevator property throughout the State had greatly enhanced in value. He said the pool was yet in its infancy, and that with a closer organization, which he expected to accomplish during the year, the margin would be increased to at least 5 cents per bushel.

The farmers at this time being unable to learn of the exact nature of the pool were completely in its grasp. The one alternative presented was to ship their own grain, which many of them did, there being no embargo at terminal points at that time, against their doing so.

The bursting of the pool, which the farmers could not accomplish, was finally wrought by the buyers themselves, who fell out, one of the number exposing the methods of the gang. He was the secretary of a local pool, and produced the books and accounts for a period of six months. The evidence was conclusive. This was in January, 1901. The building of farmers' elevators now began in earnest. The capacity of these elevators was from 5,000 to 10,000 bushels and the local companies were capitalized at from \$3,000 to \$10,000. They were organized on the cooperative plan. The stock which an individual could hold was limited. A salaried manager was hired to conduct the business, subject to instruction from the board of directors. A man who had experience in the grain business, and who was friendly to cooperative methods, was given the preference as manager of the local companies. Inexperienced and unscrupulous men sometimes found employment in this capacity, with the usual results in such cases.

EFFECT OF THE LOCAL GRAIN MARKETS—ESTIMATE OF THE SAVING TO FARMERS.

The effect of building a farmers' elevator at a station previously controlled by the "Trust" is always magical, electrical. It is like infusing leaven into dead dough. A steady market has jumped from 2 cents to 4 cents in a single day, under the impetus of a farmers' elevator. It has maintained a price 5 cents above that paid in a neighboring town eight miles away and on the same line of railroad. It has been the means of drawing grain from a radius of twelve miles, and past neighboring towns. It is a potent means of building up the trade in a town that is fortunate enough to secure the location of a farmers' elevator. Such a boon to the farmers is sure to be a boon to the town of its location, for more money is retained in the hands of the farmers, which is sure to find its way into the channels of trade.

A conservative estimate of the saving to farmers, over and above what they would receive under the pool regime, is 5 cents per bushel, so that if a local station ships 100,000 bushels of wheat, and the same amount of corn, the saving is \$10,000 each year at each station. An instance can be cited where the earnings paid for the elevator the first year returned 1½ cents per bushel to its patrons. Another earned 70 per cent on its stock, clear of all ex-

penses, in three years. Nothing has been so profitable to Kansans.

SOME OF THE DIFFICULTIES ENCOUNTERED.

In the building of farmers elevators in 1901-02-03, and 04, many obstacles were imposed by the buyers. Injunction suits, brought on various pretexts, and the buying or leasing of vacant elevator sites along the rights of way were common obstructive tactics used by the so-called regular buyers. In many cases the railroads, through their officials, seemed unfriendly to the building of these elevators. A notable exception in this instance, was Superintendent Webb, of the Missouri Pacific Railroad, who, so far as is known to the writer, has recognized the right of the farmers to build elevators along railroad rights of way. Buyers at terminal markets and millers, in many cases, were induced by local dealers to refrain from buying of the farmers' companies. The tactics used by the local buyer in such cases was to threaten the commission firm that if it persisted in dealing with farmer companies, the buyer's custom would be given to commission firms who would boycott the farmers. In many cases these threats had the desired effect.

The above methods, with discriminations of every kind, were intended to discourage the farmers from engaging in the grain business.

The local buyers raised their bids 3 cents to 5 cents on grain whenever a farmers' company attempted to do business, with a view of making the farmers' business unprofitable. While this often had the desired effect on the local companies, the farmers received the enhanced price with much satisfaction, and had they been accorded fair treatment at terminal markets and with the mills, their efforts would have ended at the local stations. But the avarice of the dealers apparently is without bounds, and they have driven the farmer companies to provide their own terminal market, which, after all, is the only logical way whereby the farmer may be free from the unprincipled corsairs who infest every avenue on the commercial high seas.

Corn and Good Roads Institutes.

Beginning on Monday, December 3, the Kansas State Agricultural College will inaugurate a new system of farmers' institutes. Corn and good roads will be the subjects under discussion. These subjects will be handled by experts from the college, and all farmers in attendance are expected to take part in the discussions. Each morning session will be devoted to corn and the afternoon to good roads.

The dates and places for the holding of these institutes are as follows:

Monday, December 3, Alma.
Tuesday, December 4, —
Wednesday, December 5, Cottonwood Falls.
Thursday, December 6, Marion.
Friday and Saturday, December 7-8, Eldorado.
Monday, December 10, Sedan.
Tuesday, December 11, Independence.
Wednesday, December 12, Oswego.
Thursday, December 13, Pittsburg.
Friday, December 14, Osawatimie.
Saturday, December 15, Spring Hill.
Prof. E. B. McCormick, of the college, who lectures on good roads, is a practical road-builder who has done considerable work for the Government. In fact he will on this trip officially represent the Office of Road Inquiry of the Government as well as the college. Prof. J. H. Miller is superintendent of institutes at the college.

Kansas Historical Society.

The thirty-first annual meeting of the Kansas State Historical Society, and Department of Archives, will be held in Representative Hall, Topeka, Tuesday, December 4, 1906.

Any one not a newspaper publisher or editor, and desiring membership in the Kansas State Historical Society, is taxed one dollar per year. A life membership costs ten dollars. There are now twenty-nine life members, 152 one-dollar members, and all newspaper editors and publishers of Kansas.

A business session will be held at 2 p. m. The usual official reports and miscellaneous business will be presented, and thirty-three directors elected for the ensuing term of three years.

Immediately after the business session of the society, and in the same room, the board of directors will hold its annual meeting for the election of officers.

Persons not members of the society will be cordially welcome to the sessions.

The time allowance for the presentation of papers is twenty minutes each,

Buying a Cream Separator

A little thought before buying a cream separator will save you a lot of hard work later on. Don't be talked into buying a machine with a high milk supply can—it's like pitching hay to pour milk into one. Besides it does n't cost any more to get an easy running



U.S. Cream Separator

with a low milk tank that a child can reach, a simple bowl that's easily washed, and a set of entirely enclosed gears, protected from dirt and danger. The U. S. holds the World's Record for clean skimming—it is the most profitable machine for you to buy, and will last a life time. Our handsome new catalogue describes in detail the operation and construction of the United States Separator. Many fine and accurate illustrations aid in making perfectly clear to you the advantages the U. S. has over all others. If you're keeping cows for profit, ask for our catalogue No. 91. It points the way to the biggest profits.

VERMONT FARM MACHINE CO.,

Prompt Delivery.

18 Distributing Warehouses.

BELLOWS FALLS, VT.

438

WICHITA OIL GAS BURNER

Patent Pending



Adapted to any heating stove or furnace; using light crude oil for fuel; makes its own gas at half the cost of coal. Clean! Steady! Nonexplosive! No coal to carry in; no ashes to carry out. We install and guarantee this burner without cost to you.

We want district managers in every county in the United States. Call and see practical demonstrations at our office.

Wichita Oil Gas Burner Co.,

ROOM 19, SHEETZ BLDG., WICHITA, KANS.

with leave to publish at greater length in the Transactions.

The evening meeting will be at 7.30 o'clock.

Music will be furnished by the Washburn College Quartette—Misses Vera Best, Celia Smith, Nellie Pond, and Mabel Renwick—under the direction of Mrs. Florence Fox Thatcher, teacher of voice.

The following is the program for the meeting:

Invocation, Rev. Father Hayden.
Music, "A Song of Seasons."
The President's Address—"Public Records of Births, Marriages, and Deaths," Col. Horace L. Moore, Lawrence.
Music, "Peggy."
Address, "The Legislature of 1868," John S. Dawson, Assistant Attorney-General.
Music, "My Lady Chlo."
Address, "The Language and Folklore of the Kaw Indians," George F. Morehouse.

At the close of the meeting, about 9.30 p. m., there will be an informal reception.

If authors chance to be absent, their papers will be presented by title only, but will be published in full in the Transactions.

Paint Pays.

Of all the commodities serving the convenience of the modern property-owner, there is none that gives a larger return on the investment than good paint. What clothing is to the body paint is to a building. It makes us civilized and respectable and protects us against disease and decay.

The lumber in our houses is like the flesh of our bodies, subject to all manner of diseases. In the living tree the life-force enables it to withstand these diseases, but the deadwood in our houses requires artificial protection or it will become a prey to the innumerable microscopic plants and animals whose work we call decay.

A well-painted house which is repainted as often as it becomes necessary, should last practically forever, and besides adding to the self-respect of the owner is worth to him at any time in dollars and cents more than it would be worth if he allowed it to deteriorate through neglect.

Painting to-day is so simple, so easy, and so inexpensive that it is a matter for wonder that any one with good money invested in buildings should be indifferent to this precaution. Good, efficient paint, ready for use can be

bought in every first-class general store or hardware store throughout the United States, and using paint of this character, fifty or one hundred dollars will cover the price of the material to keep any ordinary house well painted for twenty or twenty-five years. The price of the painter's labor varies in different parts of the country, but is nowhere exorbitant, and if a good, ready-mixed paint be selected for the work, his services should not be required more than once in four or five years, and then only a single coat should be necessary.

Supposing that it costs as much as three hundred dollars (and that estimate is liberal) to keep a house properly painted for twenty years, the average annual cost is only fifteen dollars a year, of which total the cost of the paint itself will be less than one-third.

Any one who has had experience with carpenters' bills due to parsimony with paint will realize at once that paint pays. P. G.

What Kind of Siding?

EDITOR KANSAS FARMER:—I have a frame barn sided up with hard pine drop siding. During a dry spell the siding will shrink, and then when we get a heavy rain it will beat through, causing the frame to decay. Which will be the most economical and durable to cover the frame, the soft pine lap siding or corrugated steel siding? If steel siding should be used, which would be preferable, the pressed-brick or corrugated form? I have been told that steel siding will only last a few years before it will rust from the inside, even if it is well painted on the outside. Does THE KANSAS FARMER, or any of its readers, know from experience how long it will last or how much longer the galvanized will last than the painted? Will the galvanized make the building hotter in summer? Which should be used in steel siding, a 28 or a 24 gauge? N. Marshall County.

"How to Make Good Roads"

is the title of a pamphlet distributed free by the Union Pacific on the proper building and maintenance of country roads. It describes at length the split log drag for grading and surfacing, and points out the remarkable results and benefits which will accrue to the farmer who uses. Inquire of E. L. Lomax, General Passenger Agent, Union Pacific R. R. Co., Omaha, Neb.

Agriculture

Cow-Peas.

FROM PROF. A. M. TENEYCK'S CIRCULAR NO. 8.

Of the several annual legume-crops grown in the Central, Western, and Southwestern States, cow-peas easily rank first as a forage-crop, and in some of the Southern States cow-peas also rank first among the legumes as a grain-crop. The crop has this advantage over other legume-crops, in that cow-peas grow naturally throughout a wide area and in a great variety of soils, and do not seem to require the inoculation of new land with the bacteria which thrive upon the roots of this plant. These bacteria are either always present in the soil in sufficient number so as to readily infect a part of the cow-pea plants the first season the crop is planted, or else the bacteria are introduced with the seed. In any case tubercles may usually be found on the roots of some cow-pea plants the first season the crop is planted on new land, even though no means were employed to inoculate the soil or the seed with the required bacteria. This is an important factor in increasing the value of this crop, not only in its production but also as a fertilizer, since, as is well known, unless the bacteria which grow on the roots of a certain legume are present in the soil, the crop will not thrive and produce well, and must fall largely as a fertilizer because without the presence of the bacteria the legume-crop must take its nitrogen out of the soil the same as other crops.

AVERAGE YIELD PER ACRE—BEST VARIETIES.

The soy-bean requires inoculation of the soil or seed before it will thrive well and act as a fertilizer on land new to the crop, which makes it a less desirable crop to grow than cow-peas. At the Kansas Experiment Station soy-beans have, as a rule, proved superior to cow-peas in the production of grain, but the cow-pea easily excels in the production of forage and for pasture. The crop varies in production in the different seasons; in 1903 cow-peas produced only an average crop; a field of Whippoorwill cow-peas on the station farm on ordinary upland, seeded in drills eight inches apart and given no cultivation after planting, yielded about eight tons of green fodder per acre, which was put into the silo. In a test of varieties the same season the yields of dry fodder ranged from 2 to 2½ tons per acre, and the largest yield of peas secured was 11.07 bushels per acre. In 1904 the season was much more favorable for the growth of cow-peas. No large field of this crop was grown on the college farm that season, but some twenty-five different varieties were grown in small plots, which yielded from 2½ to more than 6 tons of field-cured hay per acre, while a number of varieties yielded more than 20 bushels of peas per acre. (The hay was apparently not fully cured when hauled and weighed, although dry enough to stack.) The season of 1905 was also favorable for the growth of cow-peas, several varieties yielding 2½ to 3 tons of well-cured hay per acre. The highest yield of peas per acre was 16.33 bushels. These varieties yielding 15 bushels or more were the Whippoorwill, White Giant, Extra Early Black Eye, Hammond's Black, Old Man's, and Michigan Favorite. As an average for the three seasons the following varieties stand highest in yield of peas: Extra Early Black Eye, 15.22 bushels; Warren's New Hybrid, 14.22 bushels; White Giant, 14.17 bushels; Gray Goose or Taylor, 14.07 bushels; New Era, 13.99 bushels; Hammond's Black, 12.98 bushels; Michigan Favorite, 12.65 bushels; Whippoorwill, 12.27 bushels; and Old Man's, 12.04 bushels, per acre respectively. The following varieties have ranked highest in yield of hay: Whippoorwill, Michigan Favorite, Iron, Gray Goose or Taylor, New Era, Mt. Olive, Extra Early Black Eye, Lady, Clay, Hammond's Black, and Old Man's.

In this State for the production of peas it is best to plant early-maturing varieties, and in the average season such varieties as the Iron, Clay, Hammond's Black, and Unknown can not be depended upon to mature. The Whippoorwill is a standard variety commonly grown in Kansas, and this variety is among the best fodder-producers and produces a fairly good crop of peas in the average season, but is a little late in maturing. The New Era is one of the most promising early-maturing varieties. It is not quite so rank a grower as the Whippoorwill, although somewhat similar to this va-

riety in character, but it matures earlier and more evenly than does the Whippoorwill. The Extra Early Black Eye, White Giant, Warren's New Hybrid and Taylor varieties may also be recommended for general planting, both for forage and for the production of peas, since they are among the earlier-maturing varieties.

OBJECTIONS TO COW-PEAS.

The cow-pea is a Southern plant and requires a long, warm season for its best growth. It is slow in maturing. The pods do not ripen at the same time, there being often a period of several weeks when mature pods, green pods, and blossoms may be found upon the plants. This is a serious objection to the crop when it is grown for the production of peas; the New Era variety is more free from this fault than other varieties tested at this station. Also, the cow-pea is readily subject to change by selection and breeding, and it may be possible in a few years to breed varieties which mature more evenly and early enough so as to insure a crop in the average season.

For forage, pasture, or green-manuring, the later-maturing varieties may be grown. For any of these purposes the peas may be sown-broadcast or in close drills. For the production of seed the peas should be planted in drill rows two and one-half to three feet apart and cultivated throughout the season. If the peas are planted in rows, it will be necessary to harvest the crop with the bean-harvester, since the vines grow so long and so close to the ground that it is not possible to cut them with the mower; but when cow-peas are sown broadcast or in close drills the plants do not vine so much, but grow more upright, and the crop may be readily harvested with the mower.

TIME FOR HARVESTING.

For hay or silage, cow-peas should be harvested about the time the vines have practically finished their growth and when some of the leaves and some of the pods are beginning to turn yellow. If harvested for hay before this period, there will be some difficulty in curing the crop properly. Also, the crop should not be left too long, since there will then be an unnecessary loss of leaves in cutting and handling. Cow-pea hay should be cured and handled in much the same manner as alfalfa; after cutting, before the leaves have become very dry, the fodder should be raked and placed in small cocks and allowed to remain in the field for several days, until the stems are well cured, when the hay may be put into the stack or mow. Cow-pea hay, if properly made and saved, is nearly equal to alfalfa hay in feeding value, being nearly as rich in protein and containing more fat than alfalfa hay. As a rule, the hay does not seem to be relished so well by stock as is alfalfa. Also, the hay is hard to keep in the stack, since it does not shed water well and is better stored in sheds or under cover. At this station, also, we have usually had difficulty in getting the hay cured in the field, since it requires a considerable interval to cure it, and it is apt to be caught by rains and unfavorable weather before stacking.

SILAGING THE CROP.

Silaging may be a good way to save the crop, but cow-peas do not make a very good quality of ensilage on account of being too soft and watery. Corn is the crop generally used for ensilage, and it is perhaps superior to almost any other crop for this purpose. Corn ensilage, however, has this fault as a feed; it is deficient in protein. On the other hand, cow-pea ensilage is especially rich in protein. The two crops balance each other fairly well as a feed when fed together; hence, it is becoming a common practice to grow cow-peas and corn together as a silage-crop.

In 1903 several experiments along this line were undertaken at the Kansas Station. Cow-peas and corn were sown together broadcast or in close drills; the result, however, was unfavorable to the growth of the cow-peas, the corn making so rank and thick a growth that the cow-peas were practically smothered out. In another trial the cow-peas were planted with corn in rows and cultivated during the season; the peas and corn were mixed in equal parts by weight and planted with an ordinary drill planter in rows three and one-half feet apart. Sixteen-cell plates were used, which dropped the seed so that by actual count the peas averaged about six inches apart in the drill row and the corn two feet apart. This made a happy combination. The cow-peas and corn grew equally well, the vines twining about the corn-stalks. The crop was cut in the first part of September and put into the silo. The

average yield was about eight tons per acre, 20 per cent of which, by actual weight, was cow-pea vines.

In 1904 this experiment was continued, but the corn was planted thicker, the stalks averaging about eight inches apart in the drill row, and the soil was also more fertile than it was in 1903. The total yield of the crop in 1904 was fourteen tons of green fodder per acre, but only about 5 per cent of this was cow-pea vines. The thicker growth of corn caused a more feeble growth of the cow-peas. In 1905 the combination crop of corn and cow-peas yielded 10.1 tons of green fodder per acre, 20 to 23 per cent of which was cow-peas. A good thickness to plant is in rows three and one-half feet apart with stalks of corn twelve to twenty-four inches apart, and pea-vines four to six inches apart in the row. In my judgment this is the way to grow cow-peas and corn for fodder or ensilage, rather than to grow the crops separately. The combination crop may be harvested readily with the corn-binder and hauled to the silo, or the bundles may be placed in shocks in the field and handled as fodder corn.

COW-PEAS A PASTURE CROP.

Cow-peas make excellent pasture for cattle, sheep, or hogs. In a test in pasturing dairy-cows upon several different kinds of annual crops, at the Missouri Experiment Station, cow-peas proved to be the best milk-producer. At this station in 1903, when cattle were pastured daily in a field which contained a variety of annual pasture-crops in separate plots, it was shown that the stock relished green corn best and grazed upon it in preference to all other crops; next to corn, soy-beans were preferred; the third preference of the cattle was probably for cane, and the fourth for cow-peas. But it was observed that in the plots where cow-peas and corn were growing together, the cow-peas were well eaten before the cane received much attention. This suggests that it would always be well to plant a little corn with cow-peas for pasture, but the corn should not be planted so thickly as to shade and smother the peas. When cow-peas are pastured with sheep or hogs, it is usual not to turn the stock on the crop until the peas are nearly developed and approaching maturity. With cattle the grazing may be begun earlier, while the crop is still green and growing.

Whether cow-peas are grown for seed, for forage, or for pasture, the crop is a benefit to the land as a nitrogen-fertilizer, and it is therefore a valuable crop to use in rotation with corn and small grains. Cow-peas are a very suitable crop with which to prepare the ground for fall seeding of alfalfa or grasses. By growing the legume-crops, some available plant-food is prepared for the young alfalfa plants, and when the crop is removed the soil is left in excellent condition for disking and harrowing to prepare an ideal seed-bed. Cow-peas also make an excellent catch-crop to leave on the ground during the winter as a cover-crop, or to plow under as green manure.

At this station we have been quite successful in planting cow-peas in wheat stubble after harvest, by simply disking the ground once or twice and seeding with the disk drill. In 1903, 1904, and 1905 a fair stand of peas was secured in this way, which made a good growth, standing twelve to fifteen inches high by the middle of September when the crop was plowed under. As good results have not been secured by planting cow-peas in corn at the last cultivation. In these trials the peas have usually made a thin stand and feeble growth, giving little winter cover after the corn had been removed, although in the fall of 1905 cow-peas in corn stubble made a good growth after the corn was cut up, and would have furnished considerable fall pasture or a good crop of green manure. Probably the better way to use the crop as a catch-crop and fertilizer is to plant it after small grain, as described above, when the cow-peas may be plowed under as green manure, cut for forage, or pastured, and left as a cover-crop during the winter.

Corn is one of the best crops with which to follow cow-peas. Cow-peas plowed under as green manure can not, as a rule, be safely followed with wheat. On land which is not too fertile spring grains such as oats, barley, or flax may be safely planted after cow-peas.

KIND OF SOIL PREFERRED.

Cow-peas can be grown on almost any kind of tillable land, but the crop prefers a rather light, warm soil, especially in Nebraska, Iowa, and Northern Kansas. Cow-peas should not be planted until the soil is warm; the early part of June is a favorable time at this station. It is the usual method

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at this station to plow the land early and give frequent cultivation until seeding time; by this method the ground is largely cleared of weeds and the soil moisture is conserved, resulting in an excellent seed-bed for germinating the seed and starting the crop. Our method is to sow with the ordinary drill, opening the grain gauge to sow about two bushels of wheat per acre. This will drop the peas from two to four inches apart in the drill row, which requires four to six pecks of peas per acre when sown in six- or eight-inch drills, and about one-third of a bushel when planted in rows three feet apart. The soil should be mellow to the depth of three or four inches in order that the peas may be planted and covered about three inches deep. The method of planting the peas in combination with corn has been described above.

Kansas Agricultural Experiment Station, Department of Kansas State Agricultural College.

FROM REPORT OF OFFICE OF EXPERIMENT STATIONS U. S. DEPARTMENT OF AGRICULTURE.

There have been few changes in the organization or lines of work of the Kansas Station during the past year. The extensive breeding experiments with cereals and forage-plants have been continued, and some crosses of wheat with rye, spelt, emmer, einkorn, and Polish wheat have been secured. The more promising hybrids and pure-bred cereals have been placed in increase plots and later will be distributed among farmers of the State. Soybeans are in the third year of experiment, and a race of non-shattering beans has been secured. The station continues to cooperate with the Bureau of Plant Industry of this Department in the testing and improving of cereals on leased land at McPherson. The station is also cooperating with this office in irrigation from wells at Fort Hays. In the horticultural department a special study is being made of vegetables suitable for canning, the maximum productive capacity of 50 square feet of land in garden truck, the cost of spraying, improving of native fruits, and the effect of fertilizers on the quality of strawberries. Important additions have been made to the equipment for work in animal husbandry, and a number of experiments in butter- and cheese-making and in beef-production have been made. Feeding and performance tests with leading breeds of chickens have been undertaken in cooperation with an organization of poultry-raisers.

At Fort Hays over six hundred acres are now being used for farming operations, including tests for cereals and forage-plants, fruits, evergreens, forest-trees, etc. The appropriation provided for this work in 1906 is \$11,300, and for 1907 is \$8,500. With improved organization and management, the branch station at Fort Hays can do work of great value in the study of agricultural problems, typical of the extensive semi-arid region of the United States.

The State Legislature at its last session dealt liberally with the college and station, appropriating \$50,000 for a horticultural building with greenhouses and equipment, \$4,000 for a granary, \$16,000 for other improvements, \$90,000 for maintenance in 1906, and \$100,000 for 1907. The station is doing much useful work, and a recent resolution passed by the board of regents gives promise of materially strengthening the organization of the station. By this resolution the duties of director are extended and the functions of the council are better defined. The director is to have immediate charge of all the work of the station, including that of the branch station, and be held responsible for its execution. He is also to have charge of the expenditures of the stations, the publications, and other business matters. Reports are to be made to the board annually and a plan of the work and expenditures for the year is to be submitted each spring. The new plan will materially strengthen the organization of the station.

LINES OF WORK.

The principal lines of work conducted at the Kansas Station during the past year were as follows: Chemistry—studies of cereals, soils, eggs, cattle-dips, etc.; soils—moisture determinations, bacteriological investigations; horticulture—interpollinating apples, selecting and improving native fruits, spraying, and cold storage of fruits; plant-breeding—with wheat, corn, cow-peas, and other crops; field experiments—steers, heifers, dairy-cows, calves, swine, and sheep; poultry experiments;

diseases of animals; entomology; dairying; irrigation; and extermination of prairie dogs and gophers.

INCOME.

The income of the station during the past fiscal year was as follows:

United States appropriation..	\$15,000.00
State appropriation for sub-stations..	7,650.00
Farm products..	3,418.75
Balance from previous year..	847.30
Total..	\$26,916.05

A report of the receipts and expenditures for the United States fund has been rendered in accordance with the schedules prescribed by this Department, and has been approved.

PUBLICATIONS.

The publications of this station received during the past fiscal year were Bulletins 124-128 and the annual report for 1904. The bulletins are on the following subjects: Experiments in feeding steers and in breeding and feeding pigs, experiments with dairy-cows, experiments with hand-fed cows, the roots of plants, and experiments at Fort Hays branch station 1902-1904.

Cost and Yield of Irrigated Crops in New Mexico.

Bulletin No. 56 of the New Mexico Agricultural Experiment Station entitled "The Duty of Well Water and the Cost and Profit on Irrigated Crops in the Rio Grande Valley" contains the results of a series of experiments carried on during the years 1903 and 1904 in cooperation with the Office of Experiment Stations, United States Department of Agriculture. This bulletin is the first, published by the New Mexico Agricultural Experiment Station, which deals directly with the duty of water and the costs of irrigated crops. In order that interested persons may obtain a concrete idea as to the nature and scope of the bulletin, the following brief resume is given:

1. Very large areas of arid and semi-arid lands in New Mexico, which can not be irrigated by gravity systems because of various physical difficulties, may be reclaimed by means of pumping from the underflow.
2. Some of the more important essentials for successful pumping are:
 - (a) Abundance of good water near the surfaces of the ground located in good water-bearing strata; (b) a good soil and a good climate; (c) fair prices and good markets and marketing facilities; (d) competent management and the application of good business methods.
3. Pumping may be resorted to under the following conditions:
 - (a) Where there are no surface streams from which to draw irrigation waters; (b) where the surface streams have eroded their channels so deeply that the expense of building and maintaining ditches for the appropriation of the water would be prohibitive; (c) where the streams from which irrigation waters are drawn flow during only a portion of the growing season; (d) for reaching lands lying slightly above gravity systems, where there is waste or surplus water.
4. No perceptible difference, due to a difference in the temperature of the water, was noticeable between the crops grown with well and with river water. The well water in New Mexico was 8.4° F. warmer on the average than Utah river water used for irrigation.
5. Of the two series of alfalfa plots that received the same measured quantity of water, the series of plots that received the water in more frequent and smaller irrigations gave slightly the larger yield of hay during the season. The difference, however, was not sufficiently pronounced to warrant the conclusion, without further trial, that like results would always follow such treatment.
6. The largest yield per inch of water was obtained when a depth of 24 inches was applied to wheat and 39 inches to alfalfa, five cuttings of alfalfa being secured during the season.
7. The results of these experiments have shown quite conclusively that the yearly profits may be considerably increased during years of shortage in the water supply by supplementing the river water with well water.
8. Averaging the results obtained from the crops grown with well water during the season of 1904, we have the following:
 - (a) Depth of water required: Alfalfa 36.4, wheat 29.6, corn 25.2, and sweet potatoes 17.6 inches; (b) cost of pumping per acre: Alfalfa \$10.50, wheat \$9.80, corn \$6.92, and sweet potatoes \$4.91; (c) cost of applying the water per acre: Alfalfa \$1.23, corn 85 cents, and sweet potatoes 64 cents; (d) the yield per acre: Alfalfa 2.33 tons, corn 31.9 bushels, and sweet potatoes 10,-

000 pounds; (e) the value of the crop per acre: Alfalfa \$35.03, wheat \$18.09, corn (including the stover) \$36.27, and sweet potatoes \$170.

Bulletin No. 56, as well as any other available bulletin of the New Mexico Agricultural Experiment Station, may be obtained by dropping a card to Director Luther Foster, Mesilla Park, N. M.

Alfalfa in Pennsylvania.

A bulletin just issued by the Pennsylvania Experiment Station contains the following summary:

Under favorable conditions alfalfa yields a most satisfactory crop for soiling and for hay.

Alfalfa should be cut when coming into blossom; if the cutting is delayed until full bloom, the stalks become more woody and undesirable, and the succeeding growth starts more slowly. Under average good conditions from twenty to thirty pounds of seed should be sown per acre.

Summer or fall seeding following thorough tillage is recommended. Spring seeding is more likely to be choked out by weeds.

Deep, well-drained soils are best. Do not sow on wet land.

Alfalfa thrives in a compact, gravelly soil of good drainage quite as well as in a loose loam.

Alfalfa grows best where a heavy application of phosphoric acid and potash has been made.

Five tons of manure per acre gives better results than the phosphoric acid and potash contained in five hundred pounds of a good brand of commercial fertilizer.

Turkestan alfalfa does not equal in yield the common alfalfa.

Fall-seeded alfalfa on dry land will withstand severe winters of this climate perfectly; in fact, better than the common red clover.

Where conditions are such as to give the plant a strong and vigorous start, nodules appear on the roots. Where plants are weak and slow in starting to grow, few of them possess nodules.

Lime has not given satisfactory results. In some instances it has given no appreciable results; in other cases it has been decidedly harmful; in no case was it applied to advantage.

In several instances the alfalfa withstood the first winter, but was completely winter-killed during the second. The larger growth seemed to give no assurance of the ability of the plants to withstand severe freezing if the soil is wet.

Immensity of the Corn-Crop.

EDITOR KANSAS FARMER:—The gigantic strides corn has been making within the last few years, both as to the acreage planted and the total output, is attracting wide attention, and the query is being made, if corn and not cotton is to be king in this country. According to the latest statistics, the area this year was 1,500,000 acres greater than ever before, the total being 95,535,000 acres, and it is estimated the crop will reach the enormous amount of 2,881,000,000 bushels, or a value according to the market price of \$1,215,000,000. If the State of Connecticut should start out to buy up the corn-crop of this year, it would take the entire property value of the State, and then she would have to borrow nearly \$30,000,000; if Maryland entered the field she would have only about \$100,000,000 left, while Virginia would have to go into the market as a borrower to the tune of \$110,000,000. These figures are given to show, by comparison, the enormous wealth of the corn-producing belt.

The corn story of the country is one well worth writing, and is as well worth the reading. Only once before, in the history of the cereal, has the average crop per acre reached as high as this year—30.2 bushels, and that was in 1878 when it was 30.8. It was in 1872 that the product first reached the billion-bushel mark. The increase in the acreage that year was phenomenal, brought about by the opening of the great West by the railroads, and bringing into cultivation vast tracts of the rich prairie lands of that section. Since then the crop has grown to three times the yield and four times the market value.

Since 1897, a period of nine years, we have added more than fifteen million acres to the corn area of the country, and it is confidently predicted that in five more years we will have full one hundred million acres in the great National corn-field. At the close of the Civil War the corn acreage was thirty-four million acres. By 1872, when the crop first reached the billion-bushel record, the acreage had increased to 40,000,000 acres. Three years later it had gone up to 50,000,000 acres, and by

CRISIS OF GIRLHOOD

A TIME OF PAIN AND PERIL

Miss Emma Cole Says that Lydia E. Pinkham's Vegetable Compound has Saved Her Life and Made Her Well.

How many lives of beautiful young girls have been sacrificed just as they were ripening into womanhood! How many irregularities or displacements have been developed at this important period, resulting in years of suffering!



Miss Emma Cole

A mother should come to her child's aid at this critical time and remember that Lydia E. Pinkham's Vegetable Compound will prepare the system for the coming change and start this trying period in a young girl's life without pain or irregularities.

Miss Emma Cole of Tullahoma, Tenn., writes:

Dear Mrs. Pinkham: "I want to tell you that I am enjoying better health than I have for years, and I owe it all to Lydia E. Pinkham's Vegetable Compound."

"When fourteen years of age I suffered almost constant pain, and for two or three years I had soreness and pain in my side, headaches and was dizzy and nervous, and doctors all failed to help me."

"Lydia E. Pinkham's Vegetable Compound was recommended, and after taking it my health began to improve rapidly, and I think it saved my life. I sincerely hope my experience will be a help to other girls who are passing from girlhood to womanhood, for I know your Compound will do as much for them."

If you know of any young girl who is sick and needs motherly advice ask her to write Mrs. Pinkham, Lynn, Mass., and she will receive free advice which will put her on the right road to a strong, healthy and happy womanhood. Mrs. Pinkham is daughter-in-law of Lydia E. Pinkham and for twenty-five years has been advising sick women free of charge.

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1880 there were over 60,000,000 acres under corn cultivation. In 1885 the yield reached the two-billion bushel mark, or 73,000,000 acres. This was high-water mark, both in yield and acreage. It was a period of renewed railroad building over the West, and the rapid settlement of that great agricultural section. The wonderful march of the agricultural West in the decade from 1875 to 1885 will long be remembered. From 1885 to 1904 the acreage did not vary much, but in the latter year it made a jump of 20,000,000.

There had been several attempts to introduce our corn as a food product into Europe, but the attempts did not meet with any great success. It was these attempts that gave, for a time, a stimulus to the raising of corn. This stimulus did not last, but another factor entered, and corn went climbing up in the area covered by its cultivation. The sudden turn in the fortune of this great American cereal can be readily traced, and its phenomenal development is wholly owing to a change in the conditions here. The disappearance of the ranch system of cattle-growing, forced by the taking up of the public and railway lands by actual settlers, has caused a demand for American corn, for animal feeding purposes, and this demand will, in all probability, increase, and corn-growing will continue to be a prominent factor in American farming. Another interesting feature of this increased demand for corn is the remarkable steadiness of the market price. C. B.

Washington, D. C.

How to Get Publications of the Department of Agriculture.

EDITOR KANSAS FARMER:—Find enclosed check for \$1 for which kindly send Farm and Fireside, commencing with November 15 issue, in connection with my renewal to THE KANSAS FARMER.

This year has become a rather strenuous one for most people of our section. Hot winds in July damaged the crop it is estimated 65 per cent. Many wheat-fields of several hundred acres thrashed out from three to six bushels per acre. I introduced the combined harvester into our section this year and it proved to be a great grain-saver, as well as a money-maker for the farmer. Twenty-four head of horses will draw the machine with a sixteen-foot header and twenty-one-inch cylinder, over steep sidling ground even in soft condition. We cut as high as forty-one acres per day of ten hours, but thirty-five acres is a good average run. We have had no snow yet and but slight frosts. But little rain has fallen until last week, and many of the farmers are now commencing their fall seeding, having cultivated their summer fallow up to the present time, waiting for rains. Warm weather continues and the grain sown before the rain is showing green. I will have 1,000 acres of grain this coming season, all on rented ground. I have purchased a ranch where I can irrigate some sixty acres and raise fruit and hay, and market garden produce.

I would like to ask, how can one get his name before the Agricultural Department at Washington, D. C., so that he may receive current issues of bulletins published for distribution. These would be a great help to me. I have found many things of much practical value in the perusal of your columns, and wish you much success in your great work.

BURTON H. PECK.

Lexington, Oregon.

For such bulletins of the Department of Agriculture as are for free distribution address, Hon. James Wilson, Secretary of Agriculture, Washington, D. C. Also ask that the "Monthly List of Publications" of the Department be sent you. This last gives prices of all Department publications which are on sale.

Indian Corn as Food for Man.

As a food for man, wheat must forever retain the preeminence which it has so long held. But man craves variety and should make generous use of the other cereal foods which a beneficent nature has placed within his reach. Of the half-dozen cereals now generally cultivated in this country corn easily ranks second. The experience of our early colonists demonstrated the excellence of this cereal, and even its ability under necessity to replace wheat. Now that the latter grain is so universally grown, there seems to be a disposition to eat less and less corn. This tendency is probably due in part to the widespread belief that corn is much less easily digested than wheat. There is reason for

believing that corn, when properly cooked, is not far from wheat in this respect.

A series of experiments recently made at the Maine Agricultural Experiment Station furnish evidence in favor of corn. While this cereal is not in itself as complete a food as wheat, it may be so combined with other foods as to maintain the proper balance between the food constituents.

Uncle Sam's Free Land Going Fast.

To help satisfy an almost universal land-hunger, the Santa Fe published, a few months ago, a large edition of a folder, describing the free United States Government lands and telling how they might be obtained. Several big editions of that folder were sent out and all the United States land offices in the Southwest report an increased demand for homesteads. Thus far during 1906 nearly 3,000,000 acres have been taken up under the homestead act in Western Kansas, Eastern Colorado, New Mexico, and Arizona. The Las Cruces, New Mexico, office reports the largest acreage; Roswell, also in New Mexico, being second, and Dodge City, Kansas, third.

Cut-Off Heavy Grades.

The Belen Cut-Off, a new piece of track 269 miles long, connecting Texico and Rio Puerco stations, on the Santa Fe, is about ready for business the entire distance. At present it is operated from Texico west to Sunnyside and from Belen eastward to Vaughn. It is expected that complete local train service, including the United States mails, will be installed by January 1; the details of passenger and freight traffic over the cut-off are now being worked out.

It is not likely that any important changes will be made in through Santa Fe freight or passenger trains between Chicago and California until next summer or fall, although ultimately some of them will no doubt be run the new way. Several months' work are required for placing heavier rails and stronger bridges on the Panhandle division, west of Wellington.

This route is a cut-off in more ways than one. It cuts off 1,117 feet altitude as compared with the old line over Raton and Glorieta Passes. It cuts off two mountain ranges, on which 228 miles of 3½ per cent grades abound, and substitutes one mountain range with only twenty-five miles of 1¼ per cent grades. It cuts off twelve miles of travel. It will cut off several hours' time for passenger trains and about a day's time for freight trains. It will cut down operating expenses.

This is the line noted for being ballasted with rock which contains a large percentage of gold.

The new country opened up west of Texico has already attracted a large number of settlers.

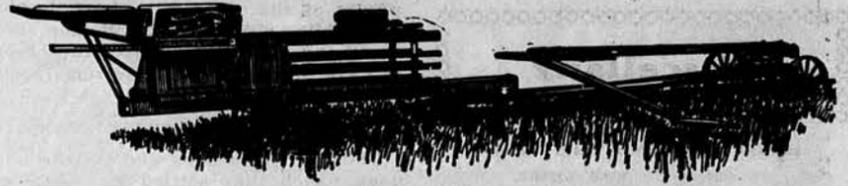
If it were merely to save a few miles of travel, the Belen Cut-off would not have been built. It is justified only because of the heavier loads that can be pulled and the quicker time that can be made. Modern railroading seeks easy grades and direct routes.

Americans prove to be very good buyers of foreign luxuries. During the fiscal year of 1905-6 we bought more than \$100,000,000 worth of such things from Europe, according to the statistics as given by the Department of Commerce and Labor. Of the total \$40,000,000 went for diamonds and other precious stones, and a like amount went for laces and other ornamental trimmings for the female dress, and in that class ought to be counted another \$7,000,000 for natural and artificial feathers. Champagne took \$6,000,000. In this \$100,000,000 is not included what we paid for tobacco, cigars, and cigarettes.

Notwithstanding the great howl that has gone up about American canned goods, the demand for them seems to be on the increase in foreign countries. In 1896 the export of canned goods, consisting of beef, fruits, salmon, condensed milk, pork, vegetables, lard, and butter amounted to only \$11,000,000. During the last fiscal year the value was more than \$18,000,000.

For a number of years a London firm has had paper stockings on the market but the sale of them has been slow. People, perhaps, didn't want to get into the papers, because you can't believe all you see there.

The American Agriculturist estimates the broom-corn crop of the United States in 1906 at 47,740,000 pounds, against 41,700,000 pounds in 1905.



Things Worth Knowing About Hay Presses.

Do you know that you can make mighty good wages for yourself and hire for your horses baling your own hay instead of letting out the job?

Do you know that the I. H. C. one-horse and two-horse full circle presses are about the most satisfactory machines ever built for doing your own work?

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Do you know that I. H. C. presses will bale timothy, clover, alfalfa, prairie hay, straw, husks, shredded corn stalks, pea vines, sorghum, moss or excelsior?

Do you know that I. H. C. presses are so constructed that even when bale pressure is greatest the pull for the team is no heavier and that the step-over is only 4 inches high?

Do you know that with the I. H. C. two-horse press you can have a bale chamber either 14 by 18, 16 by 18 or 17 by 22 inches and that the one-horse press chamber is 14 by 18 inches?

Do you know that with these presses you are always sure of neat, shapely bales, so compactly pressed that you can always get your minimum weight of ten tons into the car?

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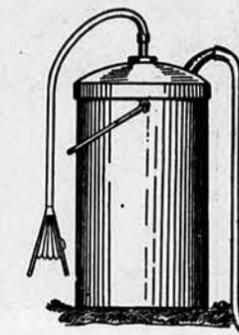
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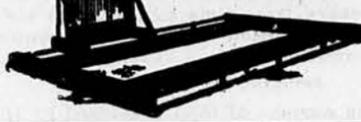
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Miscellany

RUSSIA BEHIND THE VEIL.

BY ONE WHO WAS THERE.

I.

HOW SERFDOM OF THE PEASANTRY CAME TO EXIST.

The world is watching with intense interest the progress of the struggle for continued existence of the imperial government of Russia. Every day brings news of fresh uprisings among the people, and it is reported that the royal yacht is kept in readiness for the swift transportation of the imperial family to some hospitable shore when the word comes that the military has lost its power to hold the revolution in check. That Russia is to follow in

affairs of the community were decided at public meetings called the mir. From the very earliest date they seem to have possessed the same remarkable capacity for organization.

LANDLORDISM THE ENTERING WEDGE.

The right to occupy and till the land upon which they settled was obtained from private owners, or from the state. This right was sometimes paid for in money, or in the produce of the soil, but in the case of private land-owners by a contract similar to that which is still entered into by the peasants with the nobles, by which the community agreed to give the proprietor a certain number of days' labor in each year for the development of the estate, in return for the right to occupy a part of it for their own benefit. In order to secure perfect equality among all the members of the community, in the amount of work done for the landlord and themselves, and in the payment of

ways been and still is far larger than that in the hands of private owners. It was generally virgin soil, and, being unoccupied, the peasants settled upon it could obtain new grants of land without difficulty as their numbers increased. Whenever, therefore, state lands were available in the vicinity of private estates, the owners were compelled to offer special advantages to the peasants to induce them to settle upon their property, and often provided them with agricultural implements, and even with izbas (cottages or huts) to live in.

Until the end of the sixteenth century the system worked admirably. New land, until then, could always easily be obtained, and peasants who wished to do so could abandon their commune and "trek" off where they pleased, as their contract with their neighbors was only from year to year. But now difficulties began to arise. The communes were taxed as a whole, and whenever a large number of dissatisfied members left, the burden of taxation thrown upon each of those that remained increased. Very many, indeed, abandoned their communes and emigrated elsewhere to avoid paying their share of the tax, repeating the same maneuver a few years later.

THE REMEDY WORSE THAN THE DISEASE.

To remedy this, communes unwittingly took the first step that led to their undoing, by strongly supporting the demand made by the nobles, as well as tax-collectors, that peasants should henceforth be prohibited from quitting their communes. It was thus that the krieptstnoy pravo, or "law of serfdom," was established. In the case of peasants settled upon private property the land-owner could now impose his own conditions. These necessarily became more and more severe, for as the community increased in numbers a private estate was often compelled to support a far larger number of persons than were needed for its cultivation. At the same time there were many nobles who required labor on their estates which they now could not obtain, and there were also vast tracts of government land which could no longer be peopled. The remedy adopted was another step downward for the peasantry. The government decided to forcibly transfer the peasants from its own congested estates to other districts where the population was less dense. In this way the colonization of the Russian steppes, hitherto quite uninhabited, was brought about. At the same time, the private landowners were permitted to transfer a portion of their serfs to the estates of other nobles who required agricultural labor, and to receive payment in money for the service thus rendered. Russian serfdom seemed now to have reached the last stage of its development. Bad as it was, it was unintentionally aggravated by the ill-advised action of the peasants themselves. Whenever a peasant girl married a serf belonging to another community she, of course, quitted her own and entered that of her husband. As the easiest way of accomplishing this legally, her friends generally requested her owner to sell her to her future husband's master. At first this was a mere formality, and only a nominal sum was paid, which was generally given to the girl by her late owner as a present; but the principle, once admitted, was very soon abused, and served in the last days of serfdom as a precedent, permitting nobles to break up families and sell any of the children or any individual members, at their own good will and pleasure. This right was at length abolished by the late Emperor Nicholas.

THE LOCAL TYRANNY OF THE PRESENT.

Serfdom is now abolished, it is true, but very many of the conditions to which it owed its origin still exist, and new and not less dangerous ones for the peasantry have been created by industry and capital in the towns. The tendency of the Russian peasant to submit with blind obedience to the control of his village government in the country, and of his artel (workmen's association) when employed in towns, renders him peculiarly liable to fall, bound hand and foot, into the power of unscrupulous capitalists, and especially foreigners of the German, Belgian, and Jewish races.

SOME THRIFTY PEASANTS HAVE BECOME RICH.

In one particular, serfdom was indirectly the means of rendering an invaluable service to Russia, and to many thousands of kustars, or peasants en-



Russian Laborers, Representing One of the Numerous Socialistic Parties.

the footsteps of republican France now seems more probable than ever; but whether or not the Czar shall be dethroned, it is certain that the existing form of government will be radically changed.

As we follow the thrilling events that are now taking place in the Czar's domain, readers of THE KANSAS FARMER may be inclined to devote a little leisure time to a study of the conditions which have brought about the present unhappy state of affairs in Russia, as set forth by one who has spent much of his time among the peasantry of that country, and knows whereof he writes. In a series of short articles a truthful story will be told of peasant life, in the course of which an effort will be made to give the reader a true insight into the nature and characteristics of this much-oppressed and turbulent people.

Though tomes have been written about Russia of late years, it is doubtful if the average American reader is yet fully informed as to just how it came about that a condition of serfdom which made white people chattels has existed and still exists to a large extent, although their "emancipation" was declared forty-five years ago.

SERFDOM OF RECENT ORIGIN.

To begin with a retrospect, it should be understood that serfdom was not identical in all parts of what is now the Empire of Russia in Europe, nor was it, in the case of Russia, a legacy from the Middle Ages. Indeed it is not more than eighty or ninety years since it acquired its worst and most oppressive form. The history of its development shows that it is perfectly possible for communities of free men, enjoying complete self-government, step by step, almost imperceptibly, to lose first their individuality, and at length their personal freedom, in a social system that is essentially democratic and communistic in form. In the whole of the old kingdom of Muscovy the peasantry were absolutely free, with the exception of the khalopy, or household servants, who were practically slaves. The latter, however, were by no means a numerous class. They were servants in the households of the nobles, and were really quite distinct from the peasants. The free peasantry—the great bulk of the rural population—formed separate and independent communities of the most democratic character possible. Each was a distinct little government in itself; every man of full age was entitled to vote, and all questions relating to the

the tax when settled on government land, as well as in the distribution of the proceeds of the harvest, the whole community was divided into tiaglos or working units, consisting of one adult man, a woman, and a horse. The amount of land that the community obtained was divided by the village mir into as many lots of equal size as there were tiaglos. The tiaglo became thus the unit for the division of the land as well as for the rural population. A peasant with a large family of grown-up sons and daughters could, of course, claim several tiaglos of land, while a young and newly married cou-



Peasants of Northern Russia.

ple would have to content themselves with one. As the young people grew up the tiaglos became more numerous, a new distribution of the land became necessary from time to time, and with each distribution the lots grew smaller and smaller.

SETTLING ON NEW LANDS.

The amount of land possessed by the crown and the state in Russia has al-

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New Wheat-Growing Territory has been made accessible to markets by the railway construction that has been pushed forward so vigorously by the three great Railway Companies. Grain-growing, mixed farming and dairying are the great specialties. For literature and information address Superintendent of Immigration, Ottawa, Canada or the following authorized Canadian Government Agent. J. S. CRAWFORD 125 W. 9th St., Kansas City, Mo. Mention this Paper.

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gaged in cottage or village industries. The nobles had to provide for their serfs the whole year through, though farming operations were impossible in winter. Many of the nobles, therefore, sent some of the more intelligent of their peasants to work in the towns, or even abroad, requiring them, on pain of severe punishment, to bring back with them a certain sum of money to pay for the maintenance of their families, who were kept meanwhile as hostages for their return. The majority of the peasants took up a trade of some kind, and many were sent by more enterprising nobles at their own expense to learn industries in Germany, Austria, or even France. In this way a vast number of new trades were introduced into the remote rural districts. Very frequently a skilful serf artisan would settle in Moscow or some other manufacturing town, where he could carry on his trade more profitably, paying his owner a fixed sum for the permission, but being liable at any time to be called back to his village community and to his ordinary labor as a serf. No small number of these eventually made fortunes, and had their families educated in a way that corresponded with their new financial position. In a few generations there were many who had acquired fortunes far exceeding those of their former owners, but none the less they remained "peasants," and, until the emancipation, in 1861, serfs, liable at any moment to be recalled.

EVEN DISTRIBUTION OF LAND.

The act of emancipation, which not only freed nearly fifty million serfs, but also provided them with more than three hundred and fifty million acres of land for their support, was unquestionably the most stupendous scheme of national endowment that has ever been attempted. The peasants received the villages they were then actually occupying, and an amount of land sufficient to provide each family with an average of thirty-three acres. The land taken from private landowners was paid for at once by the government, in the expectation that the nobles would employ the money for the more profitable development of the remainder of their estates; but in the far greater number of cases it was quickly spent, and only too often when it was gone the land was mortgaged to its utmost borrowing power, to maintain the same standard of living a little while longer. In a few years time the great majority of the Russian nobles were ruined. The land purchased stallments over a period of years, which has since been several times extended; but this payment, constantly falling into arrears, is becoming every year more and more difficult.

SUBSEQUENT SUBDIVISIONS OF LAND.

In 1861 the land was amply sufficient for the requirements of the peasantry. Since then the population has doubled in many cases, while the land, constantly producing the same crops, is becoming rapidly exhausted. Whenever the peasants are entirely agriculturists, therefore, they have once more to fall back for support upon their earnings on the landowners' estates, while once again they are in a great measure tied to the soil, as they are reluctant to ask for permission—not always granted—to quit their holdings and abandon the land, which they have already partly purchased; so long as it will produce anything at all. The steady growth of the kустar trades—one of the most interesting and least known features of Russian life—is the only remedy which can prevent large numbers of peasants from falling into a condition of serfdom differing but little from that from which they were emancipated—unless, indeed, a revolution should change the entire complexion of things throughout the empire, in which event nobody knows what may happen to the peasantry.

(To be continued.)

Twentieth Century Bridges.

DANIEL B. LUTEN, PRESIDENT NATIONAL BRIDGE COMPANY.

The age of reinforced concrete is today contesting the supremacy of the age of steel. A gulf had always existed between the tension-resisting metals on the one hand and compression-resisting masonry on the other; in the last decade this chasm has been bridged by reinforced concrete, a masonry material to which the embedded steel gives all its own qualities.

INCREASE IN THE MANUFACTURE OF CEMENT.

In the year 1895, one million barrels of Portland cement were manufactured and used in the United States. Ten years later, in 1905, 25,000,000 barrels

were made; and our increased knowledge of reinforcing concrete now enables us to make one barrel go farther than five barrels in 1895. Nothing could better illustrate the remarkable transformation that is taking place in building construction with the introduction of this almost perfect building material, at once fire-proof, rust-proof, and frost-proof, universally adaptable, yet practically indestructible.

COMPOSITION OF CONCRETE.

Concrete is composed of Portland cement and sand mixed with gravel, broken stone, or cinders, in proportions of about one part of cement to from five to ten parts of the other materials. By embedding steel members in the concrete and allowing the whole to harden into one monolithic mass, it becomes adaptable for floors, beams, walls, roofs, bridges, and other structural members for which steel and timber were formerly the only available materials.

The Ingalls Building at Cincinnati, sixteen stories entirely of reinforced concrete, was one of the first skyscrapers, but others are now building too numerous to mention. Chimneys of reinforced concrete three hundred feet in height are no longer unusual. And bridges of the same material are now spanning rivers that once delighted to wash away at regular intervals the more frail steel or wooden structures.

Stone arches have heretofore furnished almost the only type of construction for bridges desired to be ornamental as well as durable, but their almost prohibitive cost for most localities has prevented any very general adoption, and the cheaper steel bridge has become the favorite. But now we have reinforced concrete, adaptable to almost every location, absolutely permanent, and susceptible of the most artistic treatment, yet cheaper than steel. A bridge should be designed to fit its surroundings and there are few locations indeed where a steel truss bridge can be made to harmonize with its environment. With reinforced concrete the very reverse is true. The concrete bridge can be made attractive for any scene, and it is a crude designer that can fail to improve a location with such a structure.

This new type of bridge is a permanent improvement, no repairs or painting ever being required. All steel used in the structure is embedded in concrete, which protects it absolutely against rust. To prove this fact, immerse a piece of steel in soda water for a few hours and a scale of rust will form; repeat the experiment after adding lime or lime-water to the soda and the steel will remain free from rust for an indefinite time. Soda water is charged with carbonic acid gas. Its presence in the air in small quantities, together with moisture, is the cause of rust. The lime neutralizes the acid and protects the steel; and the lime in Portland cement protects the steel embedded in the concrete.

By proper design, concrete bridges can be made flood-proof. Paving the bed of the stream and providing concrete aprons, prevents undermining. For the roadway, the bridge is covered with earth to a level subgrade, which may be paved with gravel or any other desired paving material, so that there need be no break in the continuity of the road-bed.

SIMPLICITY THE BEAUTY OF A CONCRETE BRIDGE.

The greatest beauty of the concrete bridge is its simplicity. Not only are its lines simple and graceful, but the construction itself is of the simplest. When we consider to what infinite labor we have been to build up our steel bridge industries, how the steel must first be manufactured with great care in extensive rolling mills that have required years to develop; how the different parts must be sheared, punched, fitted, and grouped in an elaborate bridge shop, after each and every rivet even has been figured and laid out on paper by skilled draftsmen; how finished parts must then be transported to the bridge site, assembled and erected by experts who must see that every piece has its place and fits it, the wonder is that all this expert work has been so well done, and that disasters have not more often followed from misplaced members or burned rivets.

The development of the steel industry and of steel bridge construction has been one of the marvels of the past century. In spite of their complicated parts, steel bridges have been so well built that railroads rely on them absolutely under the heaviest loads and highest speeds. And the men who have thus developed steel construction are deserving of all commendation for



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the results obtained. But the simplicity of reinforced concrete structures is sure to give to them even a greater degree of popularity than has been attained by steel. Steel will not necessarily be displaced, but instead of being manufactured and used in the form of beams, columns, and other structural shapes, its greater application in the near future will be in the form of rods and bars as reinforcement for the concrete structure.

CONCRETE BRIDGES NOT DANGEROUS.

In the construction of the concrete bridge, all materials are assembled and tested at the bridge site. The proper placing of the reinforcement in the bridge, while of great importance, is nevertheless a simple matter compared to the arranging of members in other types of bridges, and with little care is easily controlled. The reinforcing members may be of the simplest forms of steel, and defects no longer affect the safety of the bridge in the immediate and positive manner that they do in the steel structure. Reinforced concrete bridges, if they fail at all, fail slowly, giving abundant warning by cracking of the concrete long before the steel has reached its ultimate strength. The steel bridge falls with a crash when weakness develops in any member, for every member is vital to the safety of the structure.

One danger, however, attends the rapid introduction of concrete bridges. A bridge of sixty-foot span was erected by unskilled contractors, but probably of good materials and in accordance with the drawings. The design, however, had been made by an engineer who had had no experience with concrete construction and who could not be convinced that embedded steel would reinforce or strengthen an arch. Even the absence of reinforcement, while an important matter from the standpoint of efficiency, might not have been a vital matter as to stability, for many concrete arches have been erected without reinforcement. But this arch was not properly designed, the curves not properly chosen for the loading, and the result was collapse of the structure on removal of the timber supports from beneath the arch. Concrete bridges can be erected by unskilled contractors, but their design can no more be entrusted to untrained designers than can the design of a steel bridge.

Fortunately, in one sense at least, many of the improvements in concrete bridge construction have been of recent origin and upwards of forty of them are covered by patent. The patentees of such improvements and reinforcement are, for their own interests, bound to secure the best possible results for their respective devices so that there are many experts who have more than a mere professional interest in promoting good practise in design of concrete structures. The would-be purchaser can easily secure a competent engineer to make his designs, remembering only that in this line, as in most others, for an engineer to be competent requires that he shall have both technical training and practical experience in a large degree.

A VALUABLE FEATURE OF CONCRETE.

One of the most valuable features of reinforced concrete construction is that, as the concrete hardens it increases in strength, and that this increase goes on for years. Unlike every other type of construction then, a reinforced concrete bridge grows stronger as it grows older. Since traffic is rapidly increasing on our highways as well as on our railroads, this type of bridge will maintain its safety while other bridges must be condemned and replaced by heavier structures before they have outlived their natural period of usefulness.

Reinforced concrete bridges are practically indestructible; as they grow older they become stronger; they are not affected by weather; if properly designed they can not be washed away by floods; they require neither painting nor repairing; they have no wooden-floor systems to be continually out of order; they are made of materials that can usually be purchased in the immediate vicinity, and labor as well as materials may be to a large extent the home products of the town or county.

During the year ending June 30, 1906, this country exported 27,360,537 pounds of domestic butter, against 10,071,487 pounds in 1905, an increase of about 172 per cent. About 79.8 per cent of this total was exported to the United Kingdom.

Time sets his chisel a little deeper whenever there is a frown upon the face.—Ram's Horn.

Horticulture

California Grapes in Kansas.

I wish we could raise the large, beautiful grapes in Kansas, such as are shipped in from California. If the cuttings and plants would grow here and produce, it would have been done long ago. It strikes me that we might plant the seeds here and in that way raise vines, which would gradually become acclimated. Can you give me any encouragement? Do you think the grape would be very nearly the same as the mother grape?

W. A. GARTNER.

Edwards County.

The problem which you suggest, that is, of planting the seeds of California grapes in our State, hoping thereby to secure hardy plants, meets with but little encouragement and the chances of success are very few. Hardy varieties in the main are secured in two ways: First, by selection, securing hardy individuals; and second by crossing different varieties of the same species or different varieties of different species. It is very improbable that the seeds from the California grape would produce a seedling hardy under the climatic conditions of this State. There is but little to work with. A seedling could be produced, but it would undoubtedly be killed the first winter. However, we ought not to overlook the fact that these European varieties become more resistant to certain conditions if grafted upon American roots. This is especially true as regards susceptibility to attacks by Phylloxera and unfavorable climatic conditions which tend to weaken or kill the roots of European varieties. The question of crossing varieties is not so hopeless, and it seems that this is the only way of securing varieties having a certain amount of the Vinifera blood that are hardy in this State; in fact we have some such varieties at the present time. The similarity between the offspring and the parent is largely dependent upon the question of pollination and fertilization, which result in the seed used. In countries where Vinifera varieties are almost exclusively grown, it seems but reasonable that the offspring should have the character of the European species of grape. However, if varieties of other species are grown in that region, it would make cross-pollination possible, then the resulting seedling might be very unlike the parent.

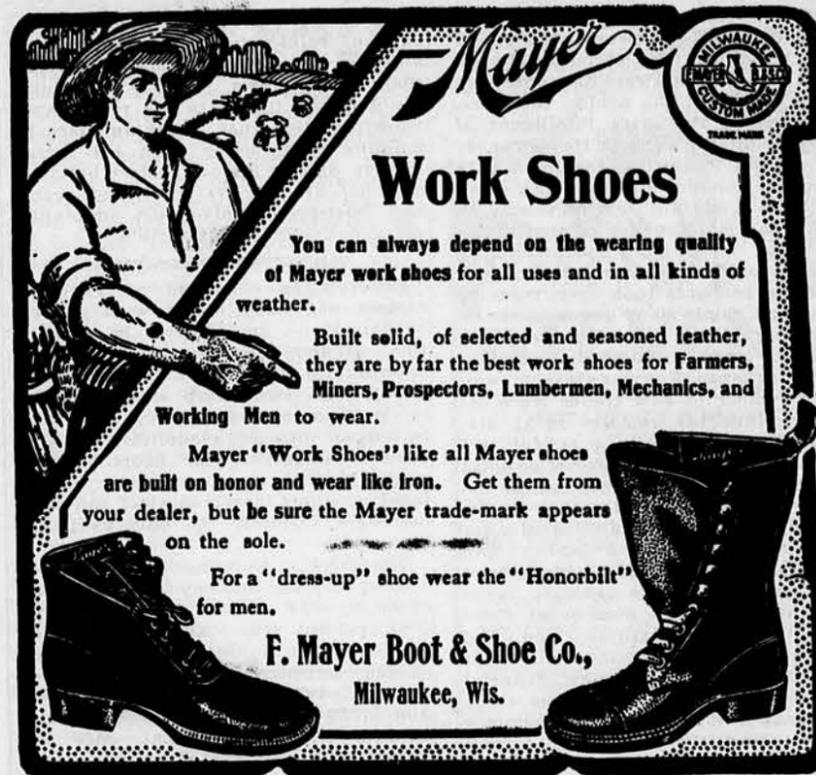
It might not be out of place to suggest that there are several varieties, productions of native American species of grapes, which are hardy and of excellent quality. Some few contain a limited amount of Vinifera blood and some which supposedly contain such blood are fairly hardy, productive, of excellent quality, and well adapted for planting in parts of the State.

ROBT. E. EASTMAN.

Size of Apples.

It has often been assumed that the size of apples is regulated much by the number of apples on the tree. This is not so until the size of the crop reaches the point where the roots and leaves can not elaborate enough food to supply all the fruit. Thinning fruit can increase the fruit only to a limited degree, but that limit is absolute. If more food is elaborated than the fruit needs, the extra amount goes into the formation of new wood, new leaves, new bark, or new roots. The size of fruit is not influenced by the size of the crop, so long as the latter is not excessive and is not an overload on the tree. In all the thinning experiments, the check trees have been trees on which there was much fruit—too much to get the best results. This fact must be kept in view when the matter of thinning fruit is talked about, either by picking off the fruit in the summer or by cutting off many of the fruit-buds at the time when the trees are latent.

The size of apples is of considerable moment, for the reason that such apples sell well always. A big apple will almost always bring better prices than a small apple, even though the small apples are desired by boarding-house keepers that want fruit for the table and by people with large families who want a large number of apples rather than a few large apples. But these people are never willing to pay a correspondingly high price for the small apples, and therefore the commercial value is not increased by this demand. A medium-sized apple is the one that is most wanted, and that is the kind of



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apple that a vigorous tree will bear if it is not permitted to overbear, and if it is not an old tree. It is often found that an old tree bears smaller fruit than a young tree, and this seems to be due largely to the size of the leaves of the old tree. On a fruit-farm at Woburn, England, it was noted that the leaves of the apple-trees decreased in size for about ten years and that the fruit experienced a corresponding decrease in size. This is easily explained by the fact that the leaf is the only organ that can prepare the food that goes into the fruit, and the decrease in size of the leaf decreases the amount of food that can be prepared to manufacture into fruit.

It is no wonder then that orchards that are neglected become in the course of ten or fifteen years the producers of fruit of little value. The trees must be kept vigorous and the fruit must be kept down in quantity if the kind of apples that sell for number one are to be produced. It is no wonder that many of our old neglected apple orchards are producing number two fruit. WILLIAM BABCOCK.

Wasting Apples.

The apple-crop of the United States this year is estimated at 36,120,000 barrels, which is 12,625,000 barrels larger than the 1905 crop.

Where two apples were available to delight the apple lover last year, there are three now.

Rather, there should be three, but so great has been the waste of apples which could not find markets that the consumer will not be able to benefit anything like the proportion he should.

Early in the season, when the fall apples began to ripen, the woe of the man with the big orchard was pitiable.

He could see his trees breaking down under the weight of fruit, and know that even if he hauled the apples miles to a market town he could not get better than 20 cents a bushel for them, with a possibility that the local dealers would refuse to take them at any price.

The hogs were the main beneficiaries of the crop.

When the winter apples ripened the situation was no better.

An observer at a small town in Central Illinois, from which the apple product of about a third of a county was shipped, has reported that there was a waste of 40,000 barrels in that territory alone, or about a quarter of the crop.

Consumers in the cities have benefited despite the waste by being able to get the poorer grades of apples at very low prices, but strange to say, the better grades have sold at retail for almost as high prices as they have brought in recent years of short crops.

The quality of the apples is a little better, and the price a little lower, but the improvement in both factors combined does not begin to equal what would be expected from the huge production.

The causes of the waste have been the high freight rates and a car service which is not adequate for the emergency.

Without the cold storage warehouses and the development of fruit transportation lines, the situation would be worse than it is, and the country would have even less benefit from the bounty of nature.

The problem of organization to enable the country to get the best use of its resources is an enormous one, and will remain such as long as the population continues to grow.

It is one in which every citizen has an interest.

To make two apples grow where one grew before is hardly more important than to make the two apples, when once they are grown, reach the mouths which want them.—Farm and Stock.

Orchard Culture.

We believe that the late Thomas Meehan was the first, to our knowledge, to advocate the sod-mulch system of orchard culture. At least, it was owing to what Mr. Meehan wrote that our attention was directed to the advantages of this practise, and for more than thirty years we have consistently urged sod culture as the best method for apple orchards especially. The success of two or three orchardists with this method has attracted attention to it in late years, and most of the writers on orchard treatment seem to consider it something new, though Mr. Meehan certainly advocated it forty years ago. We have long found, and have advised that the best method of orchard culture for mature trees is just about what we would use on a well-kept lawn, frequent mowing, leaving the cut grass to decay where cut and annual top

dressings of phosphoric acid and potash to maintain the fertility of the soil. The constant return to the soil of all vegetable matter produced, will keep up an adequate supply of nitrogenous material [provided the sod contains clover or other legumes] which will be annually increased if the application of acid phosphate and potash is kept up in a liberal way. Few orchardists realize the amount of these mineral matters taken from the soil to produce a great tree, or in the production of apples. A good crop of apples will remove from the soil three times as much potash alone as a crop of wheat on the same soil, and while in the decaying vegetable material we can get what nitrogen the trees need, the supply of the mineral matters must be kept up if we expect to get large and perfect crops of fruit. The investigations at some of the stations have shown the good effect of this method. Some writers, seeing the evil effects of sod in old orchards that have long been used for hay or pasture, without any fertilization of the soil, have jumped to the conclusion that the presence of the sod was the cause of the poor condition of the trees when it was the result of the exhaustive method of treatment, and have come to the conclusion that keeping an orchard in grass is radically wrong. Doubtless the old method of neglecting and robbing the soil in sod was wrong, but it was the method and not the fact that the sod was there that did the harm. But when the grass is there solely for the benefit of the trees and the fertility of the soil is maintained, sod culture is the highest development of orchard practise.

During the earlier years of an orchard, growth of wood and perfect development of the trees is what is wanted. Hence, during these years, liberal manuring and the cultivation of early crops of low-growing vegetables, followed by legumes to be plowed under the next season for the benefit of the trees, are all right. But a luxuriant growth is not favorable to early and abundant fruiting, for when a tree is abundantly supplied with nitrogenous manures it will use these in the easiest way, in the production of wood growth. But when we have the tree developed to a state in which it should begin to fruit, we check this extra luxuriant wood growth by seeding the soil down to grass, and thus encourage it to make fruit-spurs. We keep up the supply of the mineral matters that are essential to the perfection of fruit rather than to wood growth, and by leaving all the growth of cut grass on the land to act as a mulch and to retain moisture, we supply all the nitrogen needed for a more moderate wood production, annually increasing this through the extra growth of grass induced by the annual fertilization with steamed bone or phosphate and potash. When all orchards get this treatment, we will soon find that the oft-repeated statement that we can not grow fruit as we once did is an error, and that the failure has been due to soil robbery as much as to any other cause.—T. Greiner, in Practical Farmer.

To Rid an Orchard of Curculio.

EDITOR KANSAS FARMER:—I was very much pleased with the editorial about apples and hogs. Whenever we have bought apples, we have found the quality better where hogs were kept in the orchard. I have stated this to many farmers for the last three years. I am fully convinced that leaving infected apples lay under the trees is not a good idea. Plowing the orchard and sowing with wheat or rape, letting the hogs take care of it and the falling fruit is a good plan to rid an orchard of curculio. D. H. Good. Douglas County.

Water as a Beautifier.

Sensible women do not run after each new thing in the way of face creams and complexion beautifiers, for they know a very simple aid to good digestion, and a clear, pretty skin. This is simply water, of which very few women drink one-quarter as much as they should in the course of a day. Drink it between meals, and at least three pints—or six ordinary glasses—a day should be the average for an adult. A woman whose skin is the envy of others, and who is believed by many to resort to all sorts of "beauty" devices, attributes it entirely to the plentiful use of water, both internally and externally. She drinks a glassful almost every hour. If taken a cupful on rising and another on going to bed, hot water will help to reduce the weight of a stout person. Cold water, unless taken with meals, will not increase flesh, but it has a tendency to harden it and make it firmer.—Exchange.

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CONDUCTED BY RUTH COWGILL.

Miss Lucinda's Thanksgiving.

But why do I keep Thanksgiving,
Did I hear you aright, my dear?
Why? When I'm all alone in life,
Not a chick nor a child to be near,
John's folks, all away in the West,
Lucy across the sea,
And not a soul in the dear old home
Save a little bound girl and me.

It does look lonesome, I grant it;
Yet strange as the thing may sound,
I'm seldom in want of company
The whole of the merry year round—
There's spring when the lilac blossoms,
And the apple-trees blush to bloom,
There's summer when great moths flit
and glance
Through the twilight's star-lit gloom.

Then comes the beautiful autumn,
When every fragrant brier,
Flinging its garlands on fence and wall,
Is bright as a living fire,
And then the white, still winter time,
When the snow lies warm on the
wheat,
And I think of the days that have
passed away,
When my life was young and sweet.

I'm a very happy woman
To-day, though my hair is white,
For some of my troubles I've outlived,
And some I keep out of sight,
I'm a busy old woman, you see, my
dear,
As I travel along life's road,
I'm always trying as best I can
To lighten my neighbor's load.

That child? You should think she'd try
me?
Does she earn her bread and salt?
You've noticed she's sometimes indolent
And indolence is a fault;
Of course it is, but the orphan girl
Is growing as fast as she can,
And to make her work from dawn till
dark
Was never a part of my plan.

I like to see the dimples
Flash out on the little face,
That was wan enough, and still enough
When first she came to the place.
I think she'll do, when she's older;
A kitten is not a cat,
And now that I look at the thing, my
dear,
I hope she'll never be that.

I'm thankful that life is peaceful;
I should just be sick of strife,
If, for instance, I had to live along
Like poor Job Slocum's wife;
I'm thankful I didn't say "Yes," my
dear—
What saved me I do not see—
When Job, with a sprig in his button-
hole,
Once came a-courting me.

I'm thankful I'm neither poor nor rich,
Glad that I'm not in debt;
That I owe no money I can not pay,
And so have no call to fret.
I'm thankful so many love me,
And that I've so many to love,
Though my dearest and nearest are all
at home,
In the beautiful land above.

I shall always keep Thanksgiving
In the good old-fashioned way,
And think of the reasons for gratitude,
In December, and June, and May,
In August, November, and April,
And the months that come between;
For God is good, and my heart is light,
And I'd not change place with a
queen

—Margaret E. Sangster.

Thanksgiving.

The months have swung around and
brought to us again this day of thanks-
giving, reminding us of our blessings
and pointing to the Giver of all good
things. To-day, more than ever before,
are we in need of such a reminder, so
absorbed are we in the getting of
wealth, and acquiring knowledge and
enjoying, or trying to enjoy, the labor
of our hands or the products of some
other person's labor.

Never had a nation more for which
to be thankful. Literally, peace and
plenty reign. It should be truly a day
of thankfulness and not one for just
feasting and self-gratification. Many
fail to recognize the bountiful Giver as
the source of all the blessings, but see
only what they consider the result of
their own efforts, giving to themselves
the praise, honor, and glory, thus mak-
ing it a day of mockery and empty
form.

Let us picture to ourselves the first
Thanksgiving of 1623. The autumn had
come. The crops were gathered. Na-
ture provided meats and fruit in abun-
dant, and in real thankfulness the
hearts of the struggling Pilgrims
turned to the Giver. It is true that not
one family in the colony had escaped
pain and privation, disease and death,
all were at the mercy of the blood-
thirsty Indians continually; but not-
withstanding, they were glad to offer
praise and thanksgiving for the bless-
ings they had received.

This first Thanksgiving dinner was
partaken of in the woods, fragrant with
the odors of the autumn forest. The

tables were laden with meats in varie-
ty and abundance—wild turkey, veni-
son, and waterfowl. The rest consist-
ed in what could be made from barley
and corn. The Indian chief, Massasoit,
and ninety of his braves were the
guests of this occasion.

The Pilgrims gave us our first
Thanksgiving Day, but the first one
we have any account of in history is
the old Jewish feast of Tabernacles,
which was celebrated in commemoration
of their escape from the Egyptians.
Jehovah commanded the Israelites
that when the corn and wine were
gathered in they should dwell in booths
made of the branches of the trees, for
a week, and offer up burnt offerings to
the Lord, which signified to them pray-
ers of thanksgiving, and brought to
their minds the past, showing them that
while they had passed through troubles
and discouragements, God had led them
safely and kindly along.

The Commercial Value of Neatness.

MRS. EMMA TROUDNER, CARBONDALE.

Neatness increases commercial value
in almost every avenue of industry in
the agricultural world. This may be
considered a radical assertion to make
at the very beginning of this paper. A
radical statement would have omitted
the qualifying word, "almost," which
furnishes a loophole in case a discus-
sion should arise upon the subject. To
enumerate the various degrees of in-
crease in value is not our purpose, but
to enlarge upon the little, everyday
conditions that confront us.

The most humble home within the
borders of our beautiful State could
easily be increased in commercial val-
ue in many little things which in them-
selves cost nothing more than the ef-
fort, but which bring about conditions
that increase value proportionately, and
appeal to the eye of every individual.
We often find a home with every out-
ward appearance of neglect, while a
genuine "homey" atmosphere will be
found within, thus increasing the con-
trast and want of harmony in the out-
door surroundings.

A DEFINITION FOR HOME.

The home is a visible expression of
the energy and thrift of its inmates, of
which those conversant with character-
reading will have no hesitancy in
reaching a true estimate. Neatness of
surroundings appeals to the better na-
ture and finds expression in a feeling
of contentment and satisfaction, while
discontentment and disorder prevail
where the elements of neatness are
lacking. Kansas farmhouses compare
very favorably with those of Eastern
States, but the outdoor surroundings
are often sadly neglected because of
the extra efforts which must be put
forth to cultivate a larger acreage of
land, in order to make the receipts
equal in value the decrease of the price
in products. This existing condition,
coupled with the fact that farming in
Kansas is carried on extensively and
on a much larger scale than in older
States, due to the wonderful fertility
of the soil, has brought about the al-
most universal neglect of neatness as
bearing any ratio to commercial value.

The conditions are lamentably deplora-
ble in many localities, to say the least.
Weeds are in undisputed possession in
all available space, along roadsides,
fences, and uncultivated ground, while
in many orchards it would not require
a medical expert to diagnose the phys-
ical condition and determine the dis-
ease, which is surely endangering the
usefulness and life of the orchard, to
be that of "strangulation," caused
through some sort of fungus growth
which appears suddenly in orchards
that are uncared for and cruelly neg-
lected by the owner.

WEEDS ARE LIKE INDIVIDUAL FAULTS.

Weeds are obnoxious as well as most
persistent in their efforts to force
themselves to the front. They bear a
close analogy to our individual faults,
which will so persistently force them-
selves to the front, and unless there is
an unceasing warfare waged to erad-
icate them, they become so rank and
glaring that eventually our friends lose
sight of our good traits and we lose
our friends. Well-kept country roads
are gratifying to the public in increas-
ing the pleasure of travel, lessening
the annoyance of impassable barriers
confronting one at inopportune times
and places, often causing delay, to say
nothing of the flow of language and

confusion of tongues which often re-
sult. The law is specific relating to the
duties of road-overseer in keeping the
weeds cut and at a time to prevent
seeds ripening. In many localities no
attention is given to this matter, but
every farmer should have pride enough
to keep his side of the road free from
weeds, even should the overseer fail to
perform his duty, and relatively increase
the material and commercial value of
his property. Eliminating weeds, cat-
erpillars, broken limbs, and dead trees
from the orchard, and a system of prop-
er cultivation, will insure added qual-
ity to the fruit, the improved quality
of fruit will insure the added commer-
cial value of the fruit, as well as the
corresponding increase in value of the
property. There would also be less
danger of an entangling alliance with
weeds, or becoming lost in an effort to
find any fruit that had chances to ma-
ture.

FARMER IS RESPONSIBLE FOR DEPLORABLE CONDITIONS.

The value of the farmer, as a rule,
has depreciated. There is no one re-
sponsible for this condition but the
farmer himself. He has pretended that
he is an independent sort of a chap and
would appear in public or out of it as
he pleased. Notwithstanding his prom-
ise at the "marriage altar" to "honor"
among the other articles of agreement,
he is so imbued with a sense of inde-
pendence that at the first opportunity,
deliberately and with "malice afore-
thought," he refuses to recognize and
honor his wife's ability to prepare clean
raiment, and about the first trip he
takes to town, after being duly in-
stalled as farmer-husband, he proceeds,
regardless of the wife's coaxing and
pleading, "to town," wearing the
clothing he has worked and sweated in
all the week—just as he has left the
plow perhaps. He takes his wife's nice,
sweet butter to market, and by assert-
ing his independence in personal un-
tidiness, he establishes the commercial
value of that butter. Of course the
value of the farmer's wife as a nice,
clean, tidy woman is estimated at a
comparative ratio with her husband.
This very mistaken idea that an untidy
personal appearance is independence
has been the means of degrading agri-
culture and depreciating the farmer's
commercial value.

We immediately recognize a dude by
his eyeglass, an Indian by his blanket,
and a cowboy by his hat, but the age
is past when it is necessary for a man-
ly, independent man to appear "en
character" to announce his occupation.
With habits of neatness, true self-re-
spect is increased as well as the re-
spect of an entire community. There
is no class of business men more de-
serving of honest recognition among
our brother men than farmers, and
when true, manly independence is as-
serted by habits of neatness in person-
al appearance, this class will assume
its rightful place as beings created for
a high and noble destiny in the future
history of agriculture.

In homemaking we should weigh
with all due consideration the adjuncts
essential to neatness and adhere con-
sistently, thereby molding sentiment
for the advancement of our race to-
ward a higher and better civilization.

A PICTURE OF A NEGLECTED HOME.

The opposite to neatness is not an
inviting pen picture, but it may be
made a comprehensive one if painted
in harmony of words and perfection of
details. A house may be of average
worth in point of material, style, or
workmanship, but through lack of
paint, neatness, and thrift, its appear-
ance excites nothing but pity and con-
tempt for the owner of so untidy and
unprepossessing a home. Fences are
tumbled down, and gates, long since
lost sight of in the dim remembrances
of the past, have been replaced by a
pole or two and broken boards criss-
crossed to stop the aperture. Pigs and
other live stock wander in unrestrained
freedom about the dooryard; weeds
adorn every available spot, while a col-
lection of lightning-rods are pointing
—toward the rascally agent who had
selected this as a good location to dis-
play his sample rods at a very low
price per foot, in order to advertise his
rods in that neighborhood. He has
managed to double up on the number
of feet; the contract has developed into
a promise to pay two or three times the
price of an honest rod. This story can
be read by a single glance; no need to
have some one relate it to you. Disor-
der prevails generally. A home like
this has no increasing commercial val-
ue, but is rather to be considered as
surely depreciating in value. This is
not an overdrawn picture.

In homemaking our farmers need not
confine all their efforts to delving in
"Mother Earth" to secure bountiful
crops, but should seek other avenues of

Watch Your Thirty Feet of Bowels!

YOU have thirty feet of Intestines!
What makes food travel
through them?

A set of Muscles that line the
walls of these Intestines or Bowels.

When a piece of Food rubs the walls
of the Intestines these Muscles tighten
behind it, and thus it starts a Muscle-wave
which drives it through the whole length
of the Bowels.

It should take about 12 hours to do this
properly, so that nutritious parts of the food
may have time to be digested and absorbed.

* * *

But,—if it takes twice or three times
that period the food spoils in passing, and
becomes as poisonous as if it had decayed
before being eaten.

Now, the cause of delay (Constipation)
is simply Weakness, or Laziness of the
Bowel-Muscles.

Want of Exercise, Indoor Employment,
weakens these Bowel-Muscles, just as it
weakens Arm and Leg Muscles.

* * *

"Physic" like Salts, Calomel, Jalap,
Phosphate of Soda, Mineral Waters, simply
flush-out the Bowels for the one occasion
only.

They do not remove the Cause of Con-
stipation.

But this is different with Cascarets.
Cascarets act on the Muscles of the
Bowels and Intestines. They act just as
Cold Water, or Exercise act on a Lazy man.

They act like exercise.
A Cascaret produces the same sort of
Natural result that a Six Mile walk in the
country would produce.

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made only by the Sterling Remedy Co.,
and never sold in bulk. Every tablet
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YOUNG MEN WANTED

To learn telegraphy. Write J. G. TIGHE, care of
Santa Fe Railway, Arkansas City, Kans.

thought. By beautifying their surroundings, work will seem less irksome by the change. The surroundings to this jewel, "home," should consist of a well-appointed lawn or yard and a neat fence. Even if the fence be of the most ordinary material, let it be neat and whole. Trees are always a grateful addition with their shade, while nothing adds more to the surroundings than a few beds of flowers that always attract the passerby with their bright and varied hues. Flowers are well described as "God's Thoughts," and the bright spots in the lives of many are made by them. A house, though it be an unpretentious cottage, forms a pretty contrast with a neatly mown lawn, while the commercial value is proportionately enhanced by protecting all buildings from the elements with a good coat of paint.

EFFECT OF NEATNESS ON OUR YOUTH.

Conditions of neatness increase the commercial value of the home and farm. Neatness increases the commercial value of the farmer himself, for has he not created a condition which surrounds him with the additional respect of his neighbors? No estimate can be placed on the practical lessons and the high aspirations that may be entertained by the young man or boy in the neighborhood, or perchance a passing stranger, who becomes imbued with a desire to emulate this home when he is a man. And thus the character of our youths are being molded by neatness of surroundings. They set their ideals higher, and begin to understand that the country has the advantage in its environments. Hence they have less disposition to leave the farm to cope for positions in the overcrowded cities. The commercial value of our boys and girls is increased by increasing the pleasing attractions of neatness in agricultural pursuits, as well as increasing their value in the matrimonial market.

The Young Folks

Young Women's Christian Association.

Any Young Woman who is planning to come to Topeka, will find peculiar advantages at the rooms of the Young Women's Christian Association, 623 Jackson Street. Best rooms, reading room and lunch room are at the disposal of all women at any time. A boarding house directory is kept at the rooms, and also an employment bureau, free of charge. On each Sunday afternoon, at 4:15, a gospel meeting held to which all women are invited. The first week of October is the time set for the opening of the club work, and the classes in Bible Study, in English, Parliamentary Law, Sewing, Water Color and Travel. The Gymnasium also opens then, with classes in Physical Training under a competent instructor. The printed announcements will be mailed on application to the General Secretary. A cordial invitation is extended to out-of-town women, especially to make use of the rooms.

A Thanksgiving Wooling.

The frost was on the cottage pane,
The skies were gray and chill;
But with a trembling hand she smoothed
Her kerchief's dainty frill.
For then she saw the youthful squire
Dismounting in the snow,
In velvet coat and buckled shoes,
Thanksgiving long ago.

While with her wrinkled sire he talked
Of weather and of wheat,
His ear was ever strained to catch
The music of her feet.
Her dimpled arms were deep in flour,
Her rounded cheek aglow;
Her father slept;—he stole a kiss,
Thanksgiving long ago.

His stately mother and her guests
Were waiting at the Hall
Before the feast in silver served;
But he forgot them all,
And at the farmer's humble board,
With curly head bent low,
He called a courtly blessing down,
Thanksgiving long ago.

Clear rose the moon above the woods
And twilight veiled the farm;
But still he lingered at the gate,
The bride on his arm.
"Oh, bake and brew for me alone,
Be mine for weal or woe;
I love you, dear," he softly said,
Thanksgiving long ago.

In yonder carven frame she stands,
In pearls and blue brocade;
And still tradition fondly keeps
The pumpkin pies she made,
And tells again the story sweet,
When granaries overflow,
Of how the squire a-wooling went,
Thanksgiving long ago.
—Minna Irving, in New England Magazine.

Keeping Her Counsel.

A large, plain girl of twenty-eight was May Peterkin. Mrs. Peterkin, who had been a beauty in her youth, worried a good deal over May's snub features and pale eyes. She had no illusions about her children, and saw their imperfections quite as plainly as any one else could do.

"Anyway he'll be a lucky chap that gets May," returned Mr. Peterkin at the conclusion of a sorrowful tirade from his wife. "She's a good cook, she's fond

of children, and she isn't one to chatter."

Mrs. Peterkin sniffed scornfully. "As if young fellows ever bothered their heads about future comfort. It wasn't because I was fond of children and a good cook that you married me; it was because I had a pair of black eyes, and because Joe Sawyer wanted me."

Mr. Peterkin pursed his lips, and nodded his head in acquiescence. He knew his wife was right.

"I could have smacked her with all the pleasure in life," continued Mrs. Peterkin, "at that school treat. There she was playing ring-a-rosy with the infants, and afterwards she helped carry around the tea, and all the grown-up girls and fellows playing two's and three's. Why couldn't May have been with them?"

"Did you ask her?"
"Yes, and all she had to say was that the children were fond of her."

"Was Mat Silverman playing two's and three's?"

"Mat Silverman!" Mrs. Peterkin's tone was scornful.

"Was he?"
"Goodness me, I don't know. Anyway, I'd sooner May died an old maid than take up with a softy like Mat Silverman."

"Mat Silverman's not so soft."
"Oh, you men!" Mrs. Peterkin was contemptuous.

"Oh, you women!" retorted Mr. Peterkin. "Just because the chap flushes up when a girl speaks to him, and because he's got a craze for growing flowers you call him soft. I tell you this, Mat knows how to use his fists when he needs 'em."

"Precious lot of good that is to any one. Why, the great gawk, he's frightened to even look at a girl. Now, Percy White—"

"Percy White. Bah! he's a waster; and though he has got a fine farm at his back, and a trotting mare, and a small gig, Percy'll go down the hill, you mark my words. I never want to see a daughter of mine keeping company with Percy White."

"You needn't worry," returned Mrs. Peterkin, dryly. "He's got eyes in his head, and he's off after that pretty niece of the schoolmaster's."

"I wish her joy of him," grunted Mr. Peterkin.

"May takes after your sister, Eliza," continued Mrs. Peterkin, presently. This likeness was an old grievance of hers. She always spoke of it as if her husband was to blame. "And I doubt if Eliza ever had an offer."

"She did very well without. She's got a nice little business."

"That's all right, but May has not got a nice little business, and we'll have nothing to leave her. I can't make out what the girl is thinking of to always stay in the background the way she does. I've told her often enough that I hope she'll marry; but she never answers a word, and when I buy her a new dress for a picnic or social, there she goes wasting time on children and old people. 'Pon my word, I get out of patience with her."

The outcome of many such conversations as these was that Mrs. Peterkin did all in her power to attract Percy White to the house, and having got him there, left him alone with May whenever opportunity offered. Mr. Peterkin, on the other hand, discouraged Percy and on some pretext or another brought Mat Silverman home to tea with him at least once a week.

Mat scarcely enjoyed himself; he admired May, but he was frightened of her, and of her mother, and he breathed a sign of relief whenever he found himself outside the house again. Percy, on the other hand, took much pleasure in Mrs. Peterkin's transparent devices. They added to his importance, and he felt a happy certainty that when he had finished his various flirtations May would be there placidly and humbly waiting for him. Of course, it was highly probable that some one more attractive might, in the meantime, take his fancy; but it was not to be forgotten that the Peterkin's farm joined his, and also that May would make a good farmer's wife. Percy, with all his flightiness, like many such men, had very matter-of-fact and commonplace ideas.

May smiled to herself; she knew very well the designs that her parents were harboring. She was gently civil to both men. A faint humility in her manner pleased Percy. A kindly motherliness cheered Mat. She accepted begrudgingly and fuchsias from the latter, an occasional hare or rabbit from the former; but matters got no further and Mrs. Peterkin at length began to wish that if Percy did not come to the point, Mat would, for she was not the type of woman who could patiently watch her daughter drift into old maidhood.

The neighbors were interested, and



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THE FARM MAGAZINE CO., FLOOR 1 WORLD-HERALD BLDG. OMAHA, NEB.

were quite aware of the state of things—in fact, several of the more graceless went so far as to bet on the outcome of the matter. After nearly two years had gone by in this way, and May's thirtieth birthday was close at hand, Mrs. Peterkin took upon herself to urge her daughter to do her best to bring one or other affair to a climax.

"I don't like either of them particularly," returned May.

"Nonsense!" Mrs. Peterkin was annoyed. "Do you think you can have the choice of the whole country?"

"I haven't even the choice of Percy or Mat. Neither has asked me."

"That is your fault. You must meet one or other half way, though how on earth any woman could put up with Mat Silverman is more than I can understand."

"Exactly how I feel," returned May. "Then why not send him about his business, and take more notice of Percy?"

"Of the two I prefer Mat," answered May, coolly.

"Well, of all the—" Words failed Mrs. Peterkin, and she flounced out of the room, and relieved her mind by scolding the younger children.

The following Saturday evening May remarked, "I'd like to bring a friend to dinner, and stay the night to-morrow, if you have no objection."

"Objection," why of course not," returned her mother. "Who do you mean?"

May colored. "Mr. Poley." "The parson," ejaculated her father. "Yes," said May.

"Why do you call him a friend of yours?" inquired her mother. "Whenever he has stayed here before, I thought he took no notice of you."

May colored again. "I put him up to that," she said. "I told him that you and dad were wild to get me married, and that you'd worry his life out, asking him here, if he paid me any attention, but now we've settled things up, he's got a call to a good living, and we're going to be married after Christmas."

Mr. Peterkin stared at her open-mouthed; then he laid an affectionate hand on her shoulder. "Well done, lass, you've kept your own counsel; it's a lesson to mother and me not to meddle."

"Nonsense," returned Mrs. Peterkin briskly. "May knows we only thought of her good. I'll get up early and get a tender pair of chickens in the oven. Have you any idea, May, if Mr. Poley likes a rich crust to an apple tart; he looks a trifle dyspeptic to me?"—The Australasian.

Thanksgiving Menu.

1. To a native of Constantinople add that which is the open sesame to every home, and serve hot.
2. To a modern exclamation, add a tumult; serve on ice.
3. To the basement of a house, add "y" and serve as a relish.
4. To a cooking utensil, add an extremity of a foot, and serve as a vegetable.
5. To the heart of an apple, add the beginning of nothing; serve as a vegetable.
6. To the ocean, add the past tense of a rapid movement. Place both deep in the earth, and serve as a sauce.
7. To an engine for raising water add a near relative and serve as a dessert.
8. To the ocean, add the letter "h" and repose; mix well and serve with dessert.
9. To some congealed water, add the oily part of milk, and serve with cake.
10. To the result of a tickled palate, add a remuneration and serve as a beverage.

Composition on Hens.

A composition by a California boy reads as follows:

"Hens is curious animals. They don't have no nose, nor no teeth, nor no ears.

"The outside of hens is generally put into pillars and feather dusters. The inside of the hen is sometimes filled up with marbles and shirt-buttons and sich.

"A hen is very much smaller than a good many other animals, but they'll dig up more tomato plants than anything that ain't a hen.

"Hens is very useful to lay eggs, for plum pudding. I like plum pudding Skinney Bates eat so much plum pudding once that it set him into the colliery.

"Hens has got wings and can fly when they are scart. I cut my Uncle William's hen's neck off with a hatchet and it scart her to death.

"Hens sometimes make very fine spring chickens."—Selected.

Soda Crackers and—

anything you choose—milk for instance or alone.

At every meal or for a munch between meals, when you feel the need of an appetizing bite to fill up a vacant corner, in the morning when you wake hungry, or at night just before going to bed. Soda crackers are so light and easily digested that they make a perfect food at times when you could not think of eating anything else.

But as in all other things, there is a difference in soda crackers, the superlative being

Uneda Biscuit

a soda cracker so scientifically baked that all the nutritive qualities of the wheat are retained and developed—a soda cracker in which all the original goodness is preserved for you.

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The Little Ones

The Wish That Jeffy Wished.

Now what do you think that Jeffy wished
On a turkey-bone Thanksgiving Day?
He brought it to me.
"Let's wish," said he.
"You pull an' I pull—that is the way."

I pulled and he pulled, one at each end,
As wishers have wished since turkeys were made.
There came a snap! the deed was done,
And Jeffy's piece was the longer one!
"O goody, hooray, it's my wish!" he said.

And what do you think that boy had wished,
One at each end, as wishers do?
It seems queer, I know,
But he told me so—
Jeffy had wished that his wish would come true!

—Annie H. Donnell, in *The Youth's Companion*.

A Ring and a Turkey.

ANNA DEMING GRAY.

"Harriet Elizabeth" was a very large name for such a very small girl, but she had been named after both her grandmothers, and as she was glad herself, and proud of the name, we have no reason to find fault with it. So far, the name was the only big thing about her.

It was February 29, and a very important day to Harriet, for it was her second birthday. As she had no remembrance for her first birthday, this one had been talked of, and looked forward to, for weeks.

"For you see, mother," she said, "there's not a single little girl I ever heard of, but me, who couldn't have a birthday but every four years; and its very unagreeable to live eight whole years, and only have two birthdays!"

"I wonder if there's any little girl here who would like to wrap up and go on a long drive with me?" said her father. He stood in the doorway in his heavy overcoat and fur cap, and Harriet could hear a most inviting jingle of sleigh bells outside.

"I have to go ten miles into the country to see a very sick little boy, and I could leave a little birthday girl I know to make a nice long visit at her

grandmother's, and pick her up as I come back; it's right on my way."

"Oh, I'm so glad!" cried Harriet, as she ran to get her wraps. "For that's my favorite grandmother; so's my other one. They both are my favorite grandmothers. And now I can show her my new ring." Her mother had that morning given her a tiny gold ring to help remind her to keep her hands and nails clean. She called it a "Remembrance Ring," and Harriet was sure it would be a great help.

They telephoned before they started, and so grandmother was expecting the little girl. She had a pair of red mittens and a toboggan cap which she had made for her, and a new book all ready for the birthday.

"One of the very nicest things about grandmothers," said Harriet, "is that they never forget people;" and she gave her a regular bear hug for the gifts. But what pleased the little girl most of all was a basket in the kitchen all covered with a warm blanket and put close behind the stove in the very warmest spot. When they lifted the blanket, there were six of the downiest little chickens, just like little yellow balls, and one ugly little turkey with a very long neck.

"You see the old mother hen made a mistake about one of those eggs," said grandmother. "But when all the chicks are big enough to go out, she will take the little ugly turkey too, and care for it just the same."

"You may have any one of them you choose for your very own, Harriet; see this one, dear, how round and pretty he is; I believe he is the prettiest of all."

"Yes, um," said Harriet, thoughtfully. "But I guess I'll take the ugly little turkey, grandmother. You see he's so very ugly that nobody will want him, and I think it's so sorrowful not to have any parents of your very own. It choked me all up, that day mother took me with her to the Orphans' Home; and it doesn't matter how kind the people there are to them, grandmother, it isn't the same, for you can't hire the mother part of it. Yes—I guess I'll take the turkey. He's just as old as my remembrance ring, isn't he?"

"He isn't very pretty," said grandmother, "but he has a wise look, and I'm sure he will grow up into a very large turkey. By Thanksgiving he will weigh over twenty pounds, I expect, if he lives."

"I think I'll name him 'Solomon' if he looks wise," said Harriet.

The little girl spent a day now and then on the farm after this, but she did not come out to stay until August. Then she came for three whole weeks, and the first thing she asked to see was Solomon.

"My dear, you would never know him," said her grandmother. "He is strutting about the yard as if everything on the place belonged to him."

"He weighs twenty-two pounds, Harriet, and he has not a very nice disposition," said grandfather. "He is so greedy and so selfish that I have to watch or the other fowls won't get their share of the food."

"Well, I'm going to train him. What do you expect, grandmother, when he hasn't been trained? It's like my remembrance ring. See my hands now; they aren't ever dirty at dinner time any more. That's 'cause I've been trained. And I'm going to begin to train Solomon right away."

How she managed to accomplish it, grandmother did not know, but she soon had the big, awkward turkey following at her heels wherever she went, stepping majestically along behind her, his head held high, and his familiar "Gobble, gobble" sounding as if he were well contented and reconciled to "being trained."

As she was not in the least afraid of him, they soon became the best of friends. When the three weeks were gone, grandfather said he could see a big difference in the manners of Solomon.

He told Harriet that if she would stay another three weeks, he had not the slightest doubt that the turkey would become as well trained as a certain little girl he knew.

"Then I guess I must have been acting pretty good," said the little girl, much pleased. "I don't always, you know, grandfather. Perhaps you are going to write my mother a note about it."

After this Harriet saw Solomon only once until the day before Thanksgiving, when she came out to the farm with her mother to help grandmother get ready for the big family dinner they had planned for the next day.

"Well, mother, what about the turkey? Shall we take Solomon or does Harriet want him killed?" asked grandfather, as he stood waiting in the

door. "We've never raised so large a turkey on the place before. He must weigh a good twenty-five pounds."

"Oh, I'm afraid Harriet would feel badly," said grandmother. "She told me that she had a plan about Solomon, and that if she didn't get too selfish, she 'sposed she was going to do it.' I don't know at all what it is."

Just then there came from the back door the sound of wild sobbing. Harriet came running in. "Mother, oh, mother!" she wailed. "Solomon has eaten up my ring! I put it on the railing of the back porch while I washed my hands, and Solomon just came right up and said 'Gobble, gobble!' and then he did it! Gobbled it right up! Just reached up his awful neck like this—and swallowed it down! Oh, dear, dear! Think of how dirty my hands will get! I think he's a dreadful wicked turkey to eat my gold remembrance ring that was just his own age!" and she sobbed afresh.

"Never mind, dear," said grandfather. "That settles it. I'll have to kill Solomon for Thanksgiving."

"Yes, but he's mine, grandfather," said Harriet, "and I was intending to kill him if I didn't get too selfish. 'Cause, you see, he has twenty-five pounds on him, and there are just twenty-five of those children at the Orphans' Home. That would be a pound of Solomon for each of them, and seems kind of suitable 'cause he is an orphan too. Seems some like being cannibals, don't it? But I have been parted from Solomon so long, that I haven't got much natural affection for him, grandfather—not as much as I have for my ring. Anyway, if he gets so he has got to have gold things to eat, it's going to be too expensive to keep him."

"All right, dear, then you shall help eat one of our turkeys, and I promise that those twenty-five children at the Home will enjoy Solomon as much as you enjoy wearing your remembrance ring to-morrow."

And they did.

Club Department

OFFICERS OF THE STATE FEDERATION OF WOMEN'S CLUBS.

President.....Mrs. May Belleville Brown, Salina
Vice-President.....Mrs. L. H. Wishard, Iola
Cor. Secretary.....Mrs. N. I. McDewell, Salina
Rec. Secretary.....Mrs. W. D. Atkinson, Parsons
Treasurer.....Mrs. H. B. Asher, Lawrence
Auditor.....Mrs. Grace L. Snyder, Cawker City

Our Club Roll.

Excelsior Club, Potwin, Kansas, (1902).
Women's Literary Club, Osborne, Osborne County (1902).
Women's Club, Logan, Phillips County (1902).
Domestic Science Club, Osage, Osage County (1888).
Ladies' Social Society No. 1, Minneapolis, Ottawa County (1888).
Chalisco Club, Highland Park, Shawnee County (1902).
Cultus Club, Phillipsburg, Phillips County (1902).
Literature Club, Ford, Ford County (1904).
Star Valley Women's Club, Iola, Allen County (1902).
West Side Forestry Club, Topeka, Shawnee County, Route 8 (1903).
Fortnight Club, Grant Township, Reno County (1903).
Progressive Society, Rosalia, Butler County (1903).
Pleasant Hour Club, Wakarusa Township, Douglas County (1899).
The Lady Farmer's Institute, Marysville, Marshall County (1902).
Women's Country Club, Anthony, Harper County.
Taka Embroidery Club, Madison, Greenwood County (1902).
Frentis Reading Club, Cawker City, Mitchell County (1903).
Cosmos Club, Russell, Kansas.
The Sunflower Club, Perry, Jefferson County (1906).
Chaldean Club, Sterling, Rice County (1904).
Jewell Reading Club, Osage County.
The Mutual Helpers, Madison, Kansas (1906).
West Side Study Club, Delphos (1906).
Domestic Science Club, Berryton, Shawnee County (1906).
Mutual Improvement Club, Vermillion, Marshall County (1903).
Centralia Reading Circle, Nemaha County.
(All communications for the Club Department should be directed to Miss Ruth Cowgill, Editor Club Department.)

Suggestions for Organizing a Club.

1. Talk the matter over with a few friends, decide on the kind of a club most needed, a suitable name, meeting place, amount of dues, a list of officers for the first year, etc., and set a date for organization.
2. Invite others to attend the organization meeting.
3. Draw up a simple constitution and set of by-laws.
4. When your friends have assembled for organization, call the meeting to order and appoint a temporary secretary. State briefly the object of meeting and invite remarks. After all have spoken who wish to do so, have the following motions made, seconded, and voted on:
 - (a) To organize a woman's club;
 - (b) the name of the club;
 - (c) adoption of constitution and by-laws;
 - (d) election of list of officers.

(Note.—The motions should be prepared in writing beforehand and handed to the temporary secretary after be-

ing read aloud, and the chairman will call for remarks upon each one before asking for the vote.)

5. The chairman will now hand the meeting over to the newly elected officers.

6. The president may address the meeting and call upon the other officers and members for brief remarks, after which she may appoint her committees.

7. The officers and members will sign the constitution and by-laws (previously written in a record book) and pay their dues.

8. Announcement of program for the next meeting, and adjournment.

Don't attempt anything elaborate at first; it is better to begin in a small way and gradually build up and improve.

The time of club meetings should be arranged so as not to interfere with the home duties of any member. Two meetings a month are sufficient, and these should not exceed two hours in duration.

In selecting a meeting place the comfort and convenience of all the members should be considered. If the club is very small it will save expense to hold the meetings at the homes of the members, but a rented club room always gives the sensitive woman a feeling of ease and equality and incurs no obligations.

In preparing club programs consult the individual members as to the parts they prefer to take, and never assign work to a new member without her consent.

A Woman's Club Letter.

Our woman's club was organized four years ago last April, through the enthusiasm and energy of Mrs. S. S. McCarthy. We all received invitations to meet at the home of her mother, Mrs. D. P. Holloway, for the purpose of organization, and all accepted in the face of a good deal of good-natured raillery from our husbands. The breath of spring was in the air; our hostess and her home were redolent of spring freshness and were charming. We organized our club and pinned on bunches of newly gathered violets provided for the occasion. We partook of a delightful luncheon and departed for our homes, two, four, and six miles distant.

At first we met every two weeks and had a subject for discussion and study. I can truly say that the intellectual uplift, the incentive to renew habits of study, forgotten amid years of household cares, were most refreshing. Equally grateful were the opportunities of becoming acquainted with each other, and there have been ties formed that will be lifelong.

We gathered from a distance of fifteen miles, with frequent visitors from Ogalalla, still farther away. Mrs. Annie Gray Clark, of Ogalalla, is an honorary member of our club and has been of great assistance to us. Mrs. William Smith was our first president. After her return to Illinois Mrs. W. H. Winterer became our very efficient leader. The idea of a library at Keystone was born, I believe, of the club, but the carrying out of that idea, as well as the erection of a library building, funds for which are now on hand, is due to the unflinching generosity of Mr. and Mrs. W. A. Paxton. Mrs. Paxton has given not only of her means, but of her strength and personal attention in unstinted measure. There are many more points that I could write about, but if I touch upon them it must be at a future time. Our library contains over 300 volumes.—Mrs. Jennie E. Leonard, Bertha, Neb., in Twentieth Century Farmer.

Miscellaneous Program.

Roll-call—The correct pronunciation of a word commonly mispronounced.

I. Canals—Panama, Suez, and Nicaragua.

II. Christmas and Christmas giving.

III. Reading.

There are so many mistakes made in pronouncing even the common, everyday words that the drill, which is the answer to roll-call, as indicated, will be splendid in making one familiar with the correct pronunciation, besides making one more careful in the use of these words.

I. A study of a subject like this so as to tell it by word of mouth or in writing is of great value to the one who prepares for it, and is instructive to the listeners.

II. As the Christmas time draws near, it is well to consider how to wisely prepare for it. A paper on this subject will call forth a lively discussion which will help in Christmas plans.

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Dairy Interests

Preventing Molds in Butter-Tubs.

BULLETIN U. S. DEPARTMENT OF AGRICULTURE.

There is probably no one trouble that causes butter-dealers so much annoyance as the growth of molds on the inside of butter-tubs. This is a trouble that is not confined to any one geographical section or to any one type of factory. It may be only an occasional outbreak, even in the best managed factory, or it may become a chronic condition which the butter-maker is unable to control.

Before discussing the methods of preventing the growth of molds in tubs, it will be well to consider briefly some of the characteristics of these tiny plants and the conditions under which they grow.

CONDITIONS FAVORING THE GROWTH OF MOLDS.

Molds are plants and obey certain fixed laws governing the group of which they are a type. They differ from the common plants with which we are familiar in everyday life in that they possess none of the green coloring matter by which the higher plants utilize the energy of the sun's rays in building up their tissues. Hence, they live as well or better in darkness than in light, but are limited for their food supply to materials that have been prepared for them by animals or by other plants. Almost any animal or vegetable matter serves them for food. We find them growing on bread, meat, bones, damp wood, leather, and many other things. Sugars and many of the acids may be used, and we frequently find a luxuriant growth of mold on foods containing sufficient sugar or acid to prevent the growth of bacteria or yeasts.

A certain amount of moisture is necessary for the growth of molds. Growth will not occur on the surface of wood or leather unless it is allowed to remain in a damp place.

Oxygen is necessary to the development of all living things. Some of the bacteria which live only under conditions that exclude air completely seem to be an exception to this rule. These forms, however, obtain their oxygen from certain constituents of their food. The molds are unable to do this, and, like the higher plants, live only where there is at least a limited supply of air.

While a certain amount of heat is essential to the growth of molds, there is a wide range of temperature under which growth is possible. Many of the molds grow most rapidly at blood heat, but continue to grow slowly at temperatures near the freezing point. Other varieties find the most favorable conditions at lower temperatures and grow

with comparative rapidity in ordinary refrigerators.

PROPAGATION OF MOLDS.

Molds reproduce themselves by yeast-like buds or by spores which correspond more closely to the seeds of higher plants. The buds, or conidia, as they are called, are easily destroyed; the spores, on the other hand, on account of their peculiar structure, resist for some time conditions that would destroy the mold itself almost instantly. Spores may be dried for years and yet under favorable conditions they will germinate and in a surprisingly short time produce a mycelium bearing millions of spores. They are able to endure much more heat than the mold itself, but are destroyed by a short exposure to boiling water. In a dry condition they are much more resistant.

Short exposure to disinfectants destroy the spores, but molds readily adapt themselves to unfavorable conditions and are frequently found growing in the presence of antiseptic sufficient to inhibit completely the growth of bacteria.

These spores and conidia are formed in enormous numbers, and on account of their minute size and exceedingly light weight are carried about by every movement of air. It is therefore almost impossible in practise to prevent entirely infection by molds. The most efficient means of holding them in check is to provide conditions unfavorable to their growth. This may be done by depriving them of one or more of the factors—food, air, moisture, or heat—which have been mentioned as essentials to their growth.

GROWTH OF MOLDS IN BUTTER-TUBS.

Tubs can not be made or transported without contamination, but if they are reasonably dry the spores will not germinate. If, however, the wood is not well seasoned, or if the finished tubs are held at the factory in a damp storeroom, the few spores grow and in a short time the surface of the wood is covered with a growth of mold. The tub may come from the factory in good condition and be stored in the creamery in a damp place. This may be in the ice house or next to the damp wall of the ice house or refrigerator. The growth of mold may not be noticeable without close examination. When the tubs are filled with butter, the air is excluded and the molds are unable to grow, but after a few days the evaporation of water causes the butter to shrink away from the tub, leaving a very small air space. Favorable conditions of food, moisture, and air are thus provided, and if the temperature is not too low, growth will begin again.

It is a common belief that moldy refrigerators are responsible for mold in butter-tubs, but from the nature of the package it is very improbable that the inside of the tub could become contaminated after it is filled. Temperature and moisture conditions that would allow molds to grow on the wall of a refrigerator would favor the growth of molds on the inside of the tub, but the infection must come before the tub is put in the refrigerator. The growth of molds on the walls could be prevented by occasionally wiping the wall with a cloth moistened in a 5 per cent glycerin solution of corrosive sublimate. This would give the wall a thin, sticky coating in which the floating spores would be held and destroyed.

PREVENTION OF MOLDS IN TUBS.

The growth of molds in the tub may be prevented more or less successfully (1) by storing the tubs in a dry place; (2) by storing the butter at a temperature below the growth point; (3) by treating the tubs in some way to destroy the molds and their spores; or (4) by treating the tubs with some

preparation on which molds can not grow.

The tubs may come to the butter-maker badly infected, or he may not have at his command suitable storage. Few creameries have refrigerators holding a temperature low enough to inhibit the growth of molds if other conditions are favorable. The butter-maker is therefore frequently forced to resort to the third method.

The method of steaming the tubs is often used to destroy the molds, but this has not been very effective. It is difficult to heat the tub thoroughly by a steam jet, and the sudden swelling of the tub frequently breaks the hoops.

Soaking in a brine containing about 5 per cent of formaldehyde is a method sometimes used, and one commission house recommends that the tubs be boiled in brine and that salt be rubbed on the inside before packing.

A few of the larger factories have recently begun coating the inside of the tubs and boxes with paraffin. This not only destroys the molds already present, but gives a surface on which molds will not grow.

TESTING AND COMPARISON OF METHODS.

Various methods were tested and compared by the writer in a creamery which had had serious trouble with molds all through the previous summer. The test was made in October, when the temperature conditions were becoming unfavorable to the growth of molds. The factory was a new one, in excellent condition, and the refrigerator, which was better than the average, was free from molds. However, the tubs were stored in a damp room on the north side of the creamery. The practise had been to submerge the tubs on the day before they were used in a saturated brine which was boiled by blowing steam into it, and to allow them to stand in the warm brine overnight. Before packing, the sides of the tubs were coated with salt. This had not proved entirely effective.

For the experimental work thirty 20-pound tubs were secured and divided into six lots of five each. Lot I was old tubs from various sources, all showing more or less mold, while some were very moldy. Lots II, III, IV, and V were new tubs received direct from the factory. Nearly all had a ring of mold where the tubs were in contact. The tubs of Lot II were purposely wet with an emulsion of moldy cheese. Lot VI was new tubs showing no mold.

The tubs of each lot were numbered from 1 to 5. Tub No. 1 in each lot was soaked overnight in cold water in the usual way; No. 2 was boiled five minutes in a saturated brine and left in the brine overnight; No. 3 was soaked overnight in a brine containing 9 per cent of commercial formalin; No. 4 was coated on the inside with paraffin, the paraffin being applied either with a paint brush or by pouring, while hot, into the tub, which was rotated until the fluid had flowed over the entire inside surface; No. 5 was immersed for a few seconds in a bath of paraffin at 250° to 260° F. In each case the liners were soaked in a salt solution.

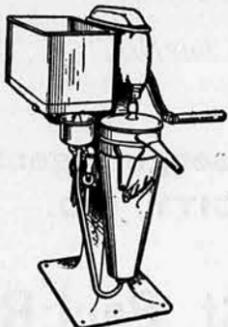
All of the tubs in each lot were filled from the same churning and all held in the creamery refrigerator until shipped. The first lot was held ten days, and the second nine, the third eight, the fourth seven, the fifth six, and the last lot five days before shipment. The butter was shipped in a refrigerator car and was received at Aurora, Ill., six days later and was examined the following day. The results of the examination are given in the following table. In this table the tubs are described as moldy only when there was an evident increase of the mold originally on the tub.

TABLE SHOWING RESULTS OF EXPERIMENTS IN TREATING TUBS FOR PREVENTION OF MOLD.

I.	1. Untreated.	Tub and liner badly molded.
	2. Hot brine.	No mold.
	3. Brine-formaldehyde.	No mold.
	4. Coated with paraffin.	No mold.
	5. Dipped in paraffin.	No mold.
II.	1. Untreated.	Tub and liner badly molded.
	2. Hot brine.	Tub and liner badly molded.
	3. Brine-formaldehyde.	No mold.
	4. Coated with paraffin.	No mold.
	5. Dipped in paraffin.	No mold.
III.	1. Untreated.	Badly molded. [liner.
	2. Hot brine.	Two small spots of mold on tub and
	3. Brine-formaldehyde.	No mold.
	4. Coated with paraffin.	No mold.
	5. Dipped in paraffin.	No mold.
IV.	1. Untreated.	Slightly moldy.
	2. Hot brine.	Mold on outside.
	3. Brine-formaldehyde.	Badly molded.
	4. Coated with paraffin.	No mold.
	5. Dipped in paraffin.	No mold.
V.	1. Untreated.	Tub and liner moldy.
	2. Hot brine.	No mold.
	3. Brine-formaldehyde.	No mold.
	4. Coated with paraffin.	No mold.
	5. Dipped in paraffin.	No mold.
VI.	1. Untreated.	Tub and liner moldy.
	2. Hot brine.	No mold.
	3. Brine-formaldehyde.	No mold.
	4. Coated with paraffin.	No mold.
	5. Dipped in paraffin.	No mold.

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It will be seen from this table that all of the untreated tubs became moldy. Of the six tubs treated with hot brine one was badly molded, one was slightly molded, and one had mold on the outside. Of the six tubs soaked in the brine-formaldehyde mixture one was badly molded. None of the tubs coated with paraffin showed any mold whatever, and the same was true of those dipped in paraffin.

It was evident that each of these methods checked the growth of mold materially, but that paraffining was much more efficient than the other two methods. If the temperature conditions had been more favorable to the molds it is probable that these differences would have been greater.

This test, so far as it goes, indicates that the formaldehyde treatment is more efficient than the hot-brine method. Salt is at best a weak antiseptic. Gripenberg has shown that while the growth of Penicillium, the mold most commonly found on butter, is retarded by 5 per cent of salt, it will grow slowly in 10 and even 20 per cent solutions. Twenty-five per cent of salt completely checked its growth.

To treat tubs by the brine-formaldehyde method or the hot-brine method a vat should be made large enough to hold submerged the tubs used in one day. The brine may be boiled by blowing steam into it. The cost of either of these two methods is insignificant, as the bath may be used repeatedly. The objections to these methods, in addition to their inefficiency, would probably be found in the discoloring of the wood and, with the hot brine, in the excessive weight and swelling of the tub.

With paraffining not only are the molds and their spores already on the tub prevented from growing, but the wood is covered with a surface from which molds can not get nourishment. The wood is made impervious to water, and the space between the tub and the liner remains filled with water, so that the molds which may be on the liner can not get the supply of air necessary to their growth. The appearance of the tub is unchanged and is better than that of tubs soaked in brine or water.

There is no advantage in dipping the tubs over coating the inside, except that the outside will not become moldy. Dipping has the disadvantage of extra cost and giving the outside of the tub a surface which can not be marked with a pencil.

METHOD OF APPLYING PARAFFIN

The paraffin should be applied in such a way that it will give an even, thin coating which fills all the cracks and at the same time sinks into the wood sufficiently to prevent the coating of paraffin from cracking off. The application may be made with a brush, but it may also be accomplished by pouring a small amount of the melted paraffin into the tub and rotating the tub until the paraffin has flowed over the entire surface, taking care that it does not run down the outside of the tub. By the latter method a thinner, even coating may be applied than by using a brush.

The temperature of the paraffin is important. If the temperature is too low, the paraffin will cool rapidly, making a thick uneven coating; if the paraffin is too hot, it will sink into the wood and the cracks will not be closed up. If the paraffin is melted by holding the receptacle in hot water or steam, it will be found advantageous to heat the tub over a steam jet.

The paraffin can be applied most rapidly and satisfactorily by heating it to 250° or 260° F. This may be done on an oil stove, but in creameries where steam is always available it will be better to arrange a small tank with a steam coil.

By connecting the coil in the bottom of the tank with the boiler and opening the waste valve only enough to allow the escape of the water of condensation, boiler pressure may be maintained in the coil and the temperature of the paraffin raised to the required point.

COST OF PARAFFINING TUBS.

The question of the cost of paraffining tubs will doubtless be brought up as an objection to this method. The amount of paraffin necessary to coat a 60-pound tub will vary with the method of applying and the temperature of the paraffin. If the paraffin is hot enough, this should not exceed three ounces per tub, and as a good grade of paraffin may be purchased at about 8 1/4 cents a pound the cost will be less than 2 cents per tub. But even this small sum would be a considerable item in a season's run and would be a serious objection in some factories. However, there is another factor which must be taken into consideration. In an ordinary tub the loss by evaporation from

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the outside and by absorption of water from the butter by the tub is an appreciable quantity. Coating the tub with paraffin makes it impervious to water, and this loss is reduced to a minimum.

To illustrate this point, 24 tubs were divided into two lots of 12 tubs each. One lot was paraffined in the manner previously described, and the other lot was soaked overnight with cold water in the usual way. The tubs were weighed before filling and again after the butter was packed. The 12 paraffined tubs contained at this time 767 1/4 pounds of butter and the 12 tubs soaked in water 766 1/4 pounds. These tubs were all filled from the same lot of butter, were held in the factory refrigerator three days, and were then shipped to the commission house, where they were weighed on the eighth day after packing. Each tub was weighed separately, and the average weight of three empty tubs was taken as the tare. The weight of butter obtained in this way was for the paraffined tubs 756 pounds, a loss of 1 1/4 pounds; for the soaked tubs 759 pounds, a loss of 7 1/4 pounds. In other words, by the use of about 15 cents' worth of paraffin the price of 6 pounds of butter was saved. In butter held in storage for any length of time this saving would undoubtedly be much greater.

It should be remembered, however, that paraffined tubs weigh from 1 to 2 pounds less than tubs prepared in the ordinary way, and unless the tare is actually determined this difference will be lost to the butter-maker. This possibility may be avoided by soaking the tubs before paraffining. To do this it is necessary to keep the paraffin very hot, so that it will displace the water in the pores of the wood, or the soaked tub may be heated on a steam jet before applying the paraffin.

The labor cost of paraffining need not be greater than in the usual method of soaking tubs in cold water or brine. The apparatus needed is simple and inexpensive.

SUMMARY.

The advantages of paraffining may be summarized as follows:

- (1) Certain prevention of moldy tubs; (2) prevention of mold on butter and liner by avoiding air space; (3) neater appearance of tub; (4) reduction of loss from shrinkage.

Results That Satisfy.

"I am getting now where I begin to feel satisfied and take some comfort in my business. It has been uphill work though. I have been digging in for years, with this one thing in view. It is worth while to be able now to see results that satisfy."

The man who said this started in about twenty years ago to get together a dairy that would come up to his standard. Just what he had in mind I do not know, save as I am able to judge by the herd he now has. From that standpoint it is fair to say that he had a good, high standard before him when he set out. And he had very little to work with at that time. I do

not know of any man who had less. He had no money to draw upon as a reserve. If he had, I can not help thinking that perhaps it might have been none the better for him. The experience of these years has been better than anything he could have bought with money. He began with a few cows of the commonest sort. He first bought the best bull he could find among his neighbors, to head his herd. I do not think it was a full-blood, but it was quite near to it. It was the best he could do. He took care of the calf so that it was all right when it became old enough for service. He had learned already that if we are to expect much from any animal we must do the fair thing by it. You can not get something out of what you have put nothing into.

That was beginning at the right point; but our friend did not stop there and wait for the new blood to get into his herd. He kept at it. Wherever he could find a good heifer calf or yearling he bought it if he could not trade something else for it. Now and then he gained his point by "swapping" some calf he had with a neighbor who had a good-looking calf that he intended to make a veal of. He made other dickers of that kind.

The breed he chose was the Jersey. He liked that kind of stock and he would have made a mistake if he had selected any other breed. Because he did like the Jerseys, he kept in mind the color, shape, and size he wanted to have when he reached the top of his ambition. The nearer a calf came to meeting his ideal, the more care and good keeping he bestowed upon it. Every calf that did not promise to be a little better than anything he already had was weeded out as soon as possible and replaced by something more hopeful.

The returns from this man's dairy began very speedily to be more satisfactory. He sent his milk to a creamery. The creamery was not doing the fair thing by the farmers and he helped to start a new one, and himself became an officer in the company. Especial care was paid to hiring a good butter-maker and to selling the finished product to the best possible advantage. It was not long before he bought a farm of his own. It was plain that things were looking up with him. His cows began to take on the distinctive color and other characteristics of a pure-bred Jersey herd. He wore better clothes. If he wanted a first-class cow now he went out and bought her. Not long ago this man told me that his cows were averaging him \$66 a head each year; but since then a neighbor has informed me that he now receives \$10 a year more, or a total of \$75 a head. And he has not yet stopped reaching out, although, as he says in the paragraph which stands at the head of this article, he is coming out of the woods where he can begin to take things easy.

This is no fancy story. I can show you the man and his herd any day. And it is just what you and I can do if we set out about it. The trouble of it is

we are too well satisfied with small things. It is easier to drift along than it is to go right out into the middle of the stream and work against the current. But that is what we must do, and what we will do if we once get a good, stout appetite for better things.

There will be disappointments and drawbacks. I am not foolish enough to suppose that the friends of whom I have been writing to-day did not often get discouraged. In fact, I know he must have. But disappointments only sharpened his desire to win. Twenty years seems like a long time to spend in working out a problem of that kind; and yet there is a lot of comfort to be had along the way. The only thing is to have a heart to appreciate the good things as they come along. That, after all, is the secret of living.—Edgar L. Vincent, Broome Co., N. Y., in Ohio Farmer.

Dairy Meetings in Missouri.

EDITOR KANSAS FARMER:—Under the auspices of the State Board of Agriculture of Missouri, a series of very interesting meetings were held in the town hall at Greenwood, Saturday, November 17, the lectures being by Prof. C. H. Eckles, of the department of dairying at the State University, and Dairy Commissioner R. M. Washburn. The attendance was remarkably good, and a great deal of interest was manifested in the addresses, which covered the entire range of dairy-farming—selection of cows, methods of feeding, care of milk, and profitable market for the output.

Remarks were made by the pure-food commissioner, Dr. Cutler, and the milk-inspector, Mr. Ambrose Wright, of the Kansas City Health Department, on "The Necessity of Better Sanitation in the Dairy." Mr. Wesley P. Lummis, of Pleasant Hill, gave an interesting report on some yearly milk records that he has been keeping. George C. Mosher, president of the Missouri State Dairy Association, gave an address on "The Commercial Advantages of Dairy-Farming Over General Crop Raising on High-Priced Land Situated as Near to a Large City as Greenwood Is to Kansas City." A number of other gentlemen took part in the discussion.

With the increased demand for milk, and the high price farmers are now receiving in this market, the dairy industry certainly has a promising future in Western Missouri. C. G. LYON, Kansas City, Mo.

There are some people who turn gray, but do not grow hoary; whose faces are furrowed, but not wrinkled; whose hearts are sore wounded in many places, but are not dead. There is youth that bids defiance to age, and there is kindness which laughs at the world's rough usage. There are they who have returned good for evil . . . Whom the gods love die young, and they die young because they never grow old.—F. Marlon Crawford.

The Poultry Yard

CONDUCTED BY THOMAS OWEN.

Poultry Pointers.

The Shawnee County Poultry Breeders at their last meeting decided not to hold their proposed show in Topeka, but to make a united effort to boom the State Show at Wichita. Three committees were appointed to further this object, one to hustle up the birds for the show, another to see about their transportation to Wichita, and another to properly advertise them en route and at the show. There is no doubt but that Topeka and Shawnee County will be well represented at the State Show.

The prospects for the show at this time are very encouraging. The secretary is preparing the premium list for publication and is meeting with very flattering responses to his appeals for assistance in making the show a great success.

It will pay any one raising poultry to attend this show, whether he has pure-bred poultry or not. If he has he should take them there and try to secure a prize, for a premium won at this great show will be a big advertisement to any breeder. If he does not raise pure-bred stock, he should go there and see the fine stock that others have, which will create in him a desire to be possessed of similar chickens.

Notwithstanding the fact that some people say they have no use for fancy poultry, because they don't want to breed for feathers, the fancy poultry breeders are the mainstay of the poultry industry of the country. There is not one among them but what believes in better poultry and more of it, but of larger eggs and more of them also, and while breeding to shape and feather is one of their objects, the main object always has been and always will be to get better flesh on their fowls and more eggs. Can you find one among them who does not believe his fowls are good egg-producers? Can you find one among them that does not believe his breed of fowls is the best breed for table fowls there is? True we have different tastes as to the color of the bird. Some prefer a white bird, another a black, another a buff, another a mixture of colors. Some like a medium-size chicken, another a large one; still all are aiming for the improvement of poultry in general, and their own favorite breed in particular.

As Thanksgiving approaches, the inquiries for turkeys and their prices increase. The prices are surely soaring higher and will reach their maximum next week. The retail price of turkeys is sure to reach 20 cents per pound, and farmers who have a surplus for sale would do well to bring them to town before Thanksgiving, as prices are liable to go lower after that period of feasting. It will not pay to keep them till Christmas hoping for better prices, for the chances are that turkeys will be lower in price at that time, for ducks and geese take their place in a great measure and consequently diminish the demand for them, and the supply and demand determines the price.

When the snow completely covers the ground, as it has the past week, the chickens are apt to suffer for lack of grit. When fowls have free range, and there is no snow, they can usually pick up enough gravel and stone to answer their purpose, without the help of the owner to provide grit. But when they are shut up in their houses with no possibility of securing any grinding material unless it is provided for them, grit is essentially a necessity. Chickens, as is well known, have no teeth, and their grain is ground in their gizzard, but unless they have some hard

substance in the form of grit, it can not be ground, no more than wheat can be ground in a mill without stones or rollers. If grit is not provided the fowl will be subject to indigestion, which will prove a forerunner of many different kinds of disease. Artificial grit for poultry is now easily procured and is for sale in most communities, but if it can not be gotten easily some substitute for it must be provided for the fowls. Sand or coal ashes will help out in a case of emergency, as clinkers are often mixed with the latter; anyhow something must be given the fowls with which to grind their food. It is more essential for them to have grit than food, for the lack of food for a few days will not necessarily cause them to be sick, but the lack of grit with lots of grain, undoubtedly will. The moral is plain.

If you are going to exhibit some birds at a show this winter, it would pay you to get a copy of the new Standard of Perfection, so that you may be sure not to send any disqualified birds. It is very humiliating to send birds to a show and find that the judge has disqualified them for a very trivial defect. By having a Standard and studying it, such annoyances could be avoided. The new Standard is a finely illustrated work and has all the descriptions of the standard varieties of land and water fowls. It is the poultryman's bible, and should be in the home of every poultry-raiser. It can be procured from The Kansas Farmer Company for \$1.50 postpaid.

If you have any chickens that you do not absolutely need for laying purposes this winter, or for breeding purposes next spring, you had better dispose of them right now, just before Thanksgiving, when a good price is offered for them. Turkeys are so scarce and high in price, that the ordinary family must depend on chicken for their Thanksgiving dinner, so if you have any surplus stock, see that it is sent to market at once.

Feeding Hens for Profit.

The right proportion of food for laying hens can be scientifically ascertained, but the relative question of the cost of the different foods must also enter into the question. According to some authorities fowls should receive about 60 per cent of grain, 15 of meat, and 25 per cent of vegetables. This proportion is not absolute, but relative. Now, the question of grain must be decided according to the locality and cost of the various grains. Where beans or peas can be obtained cheaper than grains, they take the place of the latter very acceptably if ground and fed in an attractive form. Mixed with ground beans or peas a little corn, barley, and wheat bran produce very desirable results. Corn, we know has the greatest amount of fat-forming material in it, and oats more muscle-forming material. Beans, however, exceed any of the grains in muscle-forming material, containing 38 per cent, compared to 22 per cent in oats. It is evident that in a corn-growing country, corn will be the cheapest and therefore most profitable food fed to hens. It would pay, however, to sell some corn and buy some other kind of food to mix with it. In a wheat-raising country, wheat of course should be the staple food of the hens, and there is no one grain that will come nearer to the ideal food for the laying hen, than wheat. Where oats are largely grown, they will be found a very profitable feed for poultry, especially if they can be ground. If they can not be readily ground, they should be soaked overnight before being fed to the fowls. Where Kafir-corn is largely raised, it will prove a very cheap and nourishing feed for the hens and is becoming very popular with poultry-raisers. Where beans, peas, and other legumes are raised extensive-



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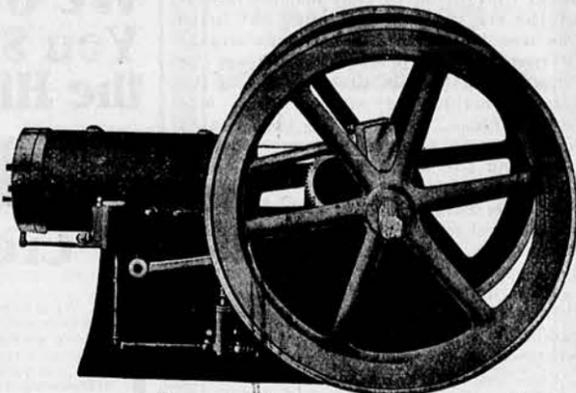
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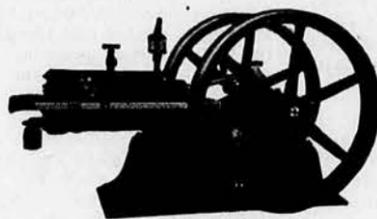
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ly, they can be fed very profitably to the poultry, and if wheat bran is added to the ration it will prove very beneficial. It is evident, therefore, that whatever grain is mostly grown in that neighborhood, that grain should form the main part of the chicken's food, remembering always that the fowls should have a due proportion of meat-scrap and vegetables in addition to the grain ration.

The Hen as a Scavenger.

One phase of the chicken business is often overlooked, and that is the immense amount of good done by the humble hen as a scavenger. There is hardly a home in this country but what has refuse enough in the way of table scraps to feed a pen of fowls, and thousands of such homes do keep chickens just to eat up such things as are left over from the meals, so as to secure fresh-laid eggs in their place. Such refuse, if thrown out and left to decompose in the yards, would soon breed disease and death to the neighborhood, but all of this is avoided when fed to the chickens. Just think of the waste there would be on every farm if there were no chickens to pick up the corn and wheat that are spilled when handling or hauling. The waste that is left after the horses are through feeding, the waste that is left after the cattle, and even the waste corn left by the hogs, is eagerly gathered up by the hen and converted into good, appetizing eggs. There is not another animal on the farm that will go around and pick up its own living from the left-over things of every other animal, like the hen. When you hear a farmer say that the hens are not worth their keep and are eating their heads off, you might bring these facts to his consideration and point out the fact that the hens nearly support themselves on what would otherwise go absolutely to waste. Not only does the hen pick up the grain, but she also picks up myriads of insects that would prove of great destructive power to his orchards and crops, converting them into an universal article of food and commerce. Besides the grain and insects, the hen picks up many a decomposing morsel of animal food, that might prove harmful to the health of the farmer or his family if left where it was thrown. But the hen looks after all these wasting materials, and makes them a source of wealth to her owner. These things ought to be considered and weighed when the results of the chicken business are under discussion.

A Popular Life Insurance.

EDITOR KANSAS FARMER:—I have several kinds of life insurance policies, some are old line, some new line, and some are out of line. To get the benefits of any of them I will have to die deader than a door nail. Then possibly some lazy scallawag will nail the widow and I—well, sir, I have about made up my mind that a poultry-raising wife is the best life insurance on the face of earth. To get the benefits we don't have to die and run chances on some mean scamp getting the boodle; to the contrary we grow fat on it as we go along. Just wait, reader, until I take a bite off that big piece of Battle Axe my wife brought home to-day, then perhaps I can inject some hen sense into this lingo.

While I think of it, let me mention that a poultry-raising wife is a good accident insurance as well as life insurance. If she accidentally gets a man that is not worth the powder it takes to blow him up, she can get along anyhow, even if she does have a free boarder and a star at that, but before I write any more until I have a smoke. You see eggs went up a couple of cents this week and my wife felt so rich that she thought I needed a new pipe.

As I was saying about accident insurance, there is nothing that is a better preventive to hard times than a poultry-raising wife. Well, sir, I have seen 'em where the man was too lazy to sit still, but let the wife feed him on chicken pie the year around. I have seen 'em where the man wouldn't furnish a peck of corn. On these same places I have seen the hens scratch the flag-stone doorstep for feed, have seen these same hens sing love songs and lay eggs when apparently no chicken feed was in existence. Yes, sir, and I have seen the poultry-raising wife sing songs, holler "shoo" at the hens, and get up a pretty good dinner at the same time. I am bothered again, reader. This time it is my corns, and wife brought home some cure to-day, the plaster kind, and of course she will have to put it on for me.

Well, now, that feels easier. As I was saying, a man don't have to die to give the other fellow the benefits when

he has a poultry-raising wife. They say a lazy man is good for invention. I don't believe the saying, but I do admit to planning ahead. You see a poultry-raising wife that has raised up a lazy husband is eminently competent to fight life's battles on her own hook. Take my word for it, she would have enough lazy husbands, in case she accidentally lost one, and she would stay a widow—a hope, you know, that all us bumps hope to the very last. Yes, sir, there is nothing like planning ahead, and now, young man, since our old benefactor, Horace Greeley, don't advise us to go West any more, the next best thing is to hook onto my kind of life insurance. **M. M. JOHNSON.**

Salt Does Not Kill Fowls.

In the issue of THE KANSAS FARMER of November 15, in answer to a correspondent, the editor of the Poultry Department says that too much salt at one time will kill fowls, and cites as an instance the case of a lot of fowls that had been deprived of all salt for some time and were killed by the salt contained in a lot of partially decayed fish which they greedily ate to get the salt. In my opinion it was the fish and not the salt that killed the birds. A new man on the job once neglected to put salt in the poultry feed for a couple of weeks before I discovered how he was mixing the feed. I told him to give the fowls enough salt to satisfy them at the time, and after that give them about the same as he would want in his own food. He gave them a liberal supply, just clear salt, and soon came running to ask if there was not danger of killing them, as they were eating it as if they were starved for it. He said they were fighting for it. I told him to let them have all the salt they wanted, which he did. They soon got their fill and not one of them was injured in any way.

There is no question in my mind that decaying flesh of any kind is dangerous feed for any animal that is ordinarily kept for domestic use. This season we have lost several hundred fowls, young and old, from ptomaine poisoning, which we think was produced by feeding blood meal. It took us a good while to decide where the trouble came from, as we had fed such products for years without previous trouble, but when we stopped feeding the meal the trouble disappeared and has not since occurred.

The value of salt for growing animals can not be overestimated. It certainly adds to the palatability of feed, and I think to the weight of the animal. A good many years ago, about 1875, I saw an illustration of the effect of the free use of salt compared with its absence, which seemed to me to go far to verify this theory. At that time there were, during the shipping season, a good many cattle-buyers at Dodge City who were able to closely estimate the weight of beef-cattle. One day a man who had two lots of steers, part raised on a salt stream and part on fresh water, was shipping, and as was a not uncommon occurrence, a lot of the buyers got to guessing on the weights of single steers as they were run over the scales. It was their habit to endeavor to guess the weight of a single steer within a narrow limit, perhaps five pounds, and usually a wager of a dollar was made on each guess. In this particular instance the guessing was all right and very close on the fresh-water-raised cattle, but when one of the steers raised on salt water was on the scales, they were wild on their estimates, and always away under the real weight. With a bulk that ordinarily would indicate a given weight, the salted steer might weigh seventy-five to a hundred pounds more. I do not know that any accurate experiment has ever been undertaken to determine the effect of salt on the weight of growing animals, but the experience in that case seemed to me almost conclusive that it added to the firmness and specific gravity of the tissues.

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W. R. TALBOTT, Prop.

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ROSE COMB RHODE ISLAND REDS—25 choice cockerels and a few pullets at reasonable prices if taken before cold weather. Mrs. Cora Churchill, Miltonville, Kans., Route 3, box 49.

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize-winning stock at the college show. Mrs. A. J. Nicholson, Manhattan, Kans.

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More prizes than any breeder in the state; 10 firsts this season. Eggs \$1.50. Cockerels \$2 to \$4. **T. F. WEAVER,** Blue Mound, Kans.

Light Brahma Chickens
Choice pure bred cockerels for sale. Write or call on **Chas. Foster & Son, Eldorado, Kas., Route 4**

MAMMOTH BRONZE TURKEYS.

MAMMOTH BRONZE TURKEYS FOR SALE—Inquire of B. B. Kauger, Pfeifer, Kans.

MAMMOTH BRONZE TURKEYS—I have young toms and hens for sale. Toms, \$5; hens, \$3. Large bone and frame. From the best strains of blood. Eggs for sale in season, 40 cents an egg. Letters of inquiry promptly answered. Mrs. A. D. Watts, Route 2, Box 24, Hallowell, Kans.

Eggs for Hatching.

M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2, \$1.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kans.

MISCELLANEOUS.

GREAT BARGAINS in fine poultry. Fourteen of the best varieties. Send for circular and prices. T. J. Pugh, Fullerton, Neb.

FOR SALE—All kinds of pigeons cheap. Toulouse geese, Rouen and Pekin ducks, white and pearl guineas, Bantams, 13 kinds of chickens. Write D. L. Bruen, Platte Center, Nebraska.

CHOICE BREEDING STOCK—Barred Plymouth Rocks, White Plymouth Rocks, Buff Cochins, Partridge Cochins, Light Brahmas, Black Langshans, White Wyandottes and Brown Leghorns. Single birds, pairs, trios, and breeding pens. All inquiries promptly answered and orders promptly filled with choice stock. Circulars free. Write your wants. A. H. Duff, Larned, Kans.

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520 ACRES of good land, 300 acres good farm land, 20 acres fine alfalfa, the rest good pasture land; 4 miles from Lenora. Price for a short time \$6400. Good terms. O. L. Register & Co., Lenora, Kans.

FOR SALE—220 acres in Sumner County, Kans., all river bottom, on the Cowskin River, three miles from Mulvane, Kans.; the best bargain in the state. Price, \$43.50 per acre. Call on or write C. S. Jaggars & Co., Wellington, Kans.

BLUE STEM PASTURE FOR SALE—1800 acres of excellent grazing and farming land in solid body 10 miles from Madison, Greenwood County, Kansas, at \$12.50 per acre. J. A. Jackson (owner), Syracuse, Kans.

OKLAHOMA FARM FOR SALE—120 acres rich land, near Muskogee, close to three railroads, grows cotton, corn, grain, alfalfa; bargain; terms satisfactory. Franklin Garland, Muskogee, I. T.

WE HAVE for sale one of the best ranch and farm propositions in Kansas. Write us for particulars. We are in the big four country. Corn, cattle, hogs and alfalfa. J. C. Hoyt, Eldorado, Kans.

WRITE W. J. O'CONNOR, Eureka Springs, Ark., for fruit and mineral lands in Northwest Arkansas.

CORN making 25 to 40 bushels per acre, wheat 15 to 35 and barley going as high as 45 bushels per acre, without irrigation. Land selling from \$8 to \$20 per acre; on the best of terms. Can locate you on a homestead or sell you good relinquishment. Excursion every first and third Tuesdays of each month. Address, Chas. P. Knight, Burlington, Colo.

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FOR SALE—260 acre bottom land farm on Blue River, 25 acres alfalfa; good producing land; \$50 per acre. Address Box 131, Irving, Kans.

BUY LAND OF OWNER—Save commission. Stock and Poultry farm for sale on Hickory Creek, Butler County, Kans. Address Benj. Mayfield, Latnam, Kans.

FOR SALE—Fruit lands, farms and timber. Stock do well in this section. German truck farmers can make big money. I can loan your money on good security. Campbell, P. O. Box 653, Van Buren, Ark.

LAND FOR SALE in western part of the great wheat State. H. V. Gilbert, Wallace, Kans.

FOR SALE AND EXCHANGE Merchandise and City Property, Kansas and Texas Lands. If you want any thing in this line write us. Quisenberry & Carlson, Marion, Kans.

FOR SALE—240 acres 2 1/2 miles from Glen Elder, Kans. Good six room house, stable, granary, well and windmill, well fenced and cross fenced, all smooth level land, 45 acres pasture. The best upland farm in this vicinity for sale at the price. Will sell 160 if desired. Price 240 acres, \$8,500. Reasonable terms. S. E. Hobart, Glen Elder, Kans.

FOR SALE—180 acre Eastern Kansas prairie farm, improvements nearly new. 1 1/2 miles from railroad, creamery, and school; rural delivery, telephone; 9 miles from the State or Baker Universities. Price, \$45 per acre. F. M. PIPER, Route 10, Lawrence, Kans.

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MITCHELL COUNTY, KANSAS FARMS—Also thousands of acres of the choicest lands in the western counties. Soil perfect and smooth, at \$6.00 and up; 20 years resident on the ground. Special opportunity at this time in Rooks county, on line of new railroad now being built. A choice creek bottom farm, near town, at \$24.00. Write me your wants; I can produce the goods and at best prices. W. P. Curtis, Beloit, Kansas.

FOR SALE—Lands in Lyon County, Kans., and adjoining counties. Everything considered, this part of the state offers more and better inducements than any other part of the country. Farms from \$20 per acre up; grazing lands \$12.50 to \$18. Write me, stating about what you want. J. T. BURTON, Emporia, Kans.

Choice McPherson County Farms and smooth level wheat land along the Rock Island line in Southern Kansas. Prices right. Roy T Glass, Canton, Kans.

DICKINSON CO. FARMS I have a number of choice farms for sale. Am 35 years a resident in the county. Reference, any bank or business firm in Abilene. Write W. D. NICHOLS, Agent, Abilene, Kans.

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For Sale, choice Irrigated Lands, all planted with alfalfa, \$35 an acre, on Installments, Kern County, California, the finest agricultural country in the state. For particulars write California Buyers Union, Inc., 916 Broadway, Oakland Cal.

FOR SALE Farms—Bargains; 500 farms, stock ranches. Kansas or Missouri. Before you buy, sell or exchange, write for my free lists. F. H. Humphrey, Fort Scott, Mo.

Torrence & Son, Emporia, Kansas High-class bottom farm, 178 acres, one-half mile from city limits. \$10,000 worth good improvements, 80 acres alfalfa, cuts 4 crops of 1 1/2 tons per acre; balance corn and wheat, price, \$100 per acre. Other farms of all kinds, from \$20 up.

Jewell County Morris & Woolsey Randall, Kansas Quarter section of good land at \$60 per acre; it is a bargain. Write for full particulars.

A CORN AND ALFALFA FARM. FOR SALE—One of the richest improved farms on Prairie Dog Creek. Soil is black loam that yields big crops every year. This year an average of 60 bushels of corn, about thirty acres in pasture and timothy, 15 acres in alfalfa, balance corn land. Good house and barn and other farm buildings. On account of change of business the owner desires to sell soon. Address M. E. BEALL, Woodruff, Kans.

A SNAP

320 acres, 4 1/2 miles from good railroad town, in Butler Co., all fenced and cross-fenced. 70 acres of good bottom land under cultivation, balance pasture and meadow, good 4 room cottage, barn, haymow, other out buildings, nice orchard, well watered, price, \$4,000, terms if desired.

The Nelson Real Estate & Immigration Co., 137 N. Main St., Wichita, Kans.

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Prices \$25 to \$50 per acre. Corn, wheat, alfalfa, timothy, clover and blue grass. Will pay ten per cent on investment. 160 acres five miles from county seat. 5-room house, fair repair, stable; lies fine, no rough land; price \$40 per acre. Owner will take rental property to amount of \$2,000 on exchange; must be worth the money. Write. I have all kinds of bargains. Eighty miles from Kansas City. W. K. Shaw & F. B. Graham, Garnett, Kan.

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SINALOA LAND COMPANY, Merchants Trust Building Department No. 1, Los Angeles, California

Norton County Alfalfa and Corn Farms

We sell Norton County lands where wheat, corn and alfalfa grow in abundance. Write us for list of farms and full particulars.

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ANSWER THIS.

- Do you want to buy a farm? Do you want to buy a ranch? Do you want to buy a stock of goods? Do you want to buy western land? Do you want to buy Texas land? Do you want to trade for anything? Do you want to get our list? Do you want to sell your farm? Do you want to sell your property? Write today.

The Dualap Land Co., Abilene, Kan.

ALFALFA RANCH

480 acre ranch in Scott Co., Kansas; six miles from Healy, about 100 acres creek bottom land, 2 miles running water, stone house, barn and cattle sheds, good timber. An excellent alfalfa and stock ranch. Price, \$4,000. Apply to Albert E. King, McPherson, Kans.

WE HAVE THE FARMS---How Is This?

80 acres, 60 cultivated, balance pasture, some timber and bottom; 4 room house, large family orchard, wheat brought \$24 per acre last year, \$15 this year; price \$1600. Write Minneapolis, Florence or Salina, Kans., for lists. We have all kinds and sizes.

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DICKINSON COUNTY, KANSAS FARMS FOR SALE

160 acres nice improved bottom farm, corn, wheat and alfalfa farms, price \$45 per acre. 320 acre bottom land, price \$50 per acre. 160 acre farm mostly bottom land, price \$35 per acre. 320 acre farm, price only \$25 per acre. If you want a farm, write what kind you want. I have several farms for sale, owned by non-resident people, also farms owned by estates that are for sale cheap. JAMES SHEERAN, Solomon, Kans.

Some Alfalfa Land

in Trego County, Kansas for \$10 an acre. This is a snap and will not last. Be quick! STEVENS & RUBY, Stockton, Kans.

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Around Topeka. Also Fruit farms and Stock farms for cattle, hogs and horses. Raise corn, wheat, oats, alfalfa, tame grasses. Unreasonably cheap; too cheap to last. Write for particulars.

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No. 1099 is a fine farm of 640 acres; well improved; with good house of 7 rooms; good barn and granary; 300 acres in wheat, all goes; 840 acres fenced; 2 good wells and windmills. Close to good market and in one of the best farming communities in Pawnee county. Price \$28.00 per acre. Come and see us and we will be pleased to show you this fine bargain.

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320 acres well improved farm adjoining small town, all good soil, corn, wheat, and alfalfa land; 20 acres now in alfalfa; farm under fence, good pasture and meadow, fine water, good orchard; 8-room house, cattle barn, 32 by 100, horse barn, 16 by 25, granary and implement house 22 by 130, calf barn 16 by 24, several other buildings; price \$12,000; terms, one-half cash, balance on time.

200 acres farm, bottom land, mostly under cultivation; 6 miles from Lindsborg; good buildings; \$10,000.

240 acre well improved farm, 4 miles from good market; \$8,500.

160 acre farm on Smoky Hill River, 1 mile from Lindsborg; \$11,000.

160 acre farm, one-half bottom, one-half upland, buildings, fences; \$5,500.

160 acre farm, 5 miles from Lindsborg; \$3,800.

160 acre farm, 7 miles from Lindsborg; \$2,800.

80 acres farm, 3 1/2 miles from Lindsborg, \$3,300.

160 acres good land in Meade County; \$1,000.

160 acres all level land, in Logan County, will be sold cheap.

Other bargains to offer, write for list and prices. JOSEPH A. BRANDT, Lindsborg, Kans.

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MAGNIFICENT TRACT OF LAND has just been brought under water in that DELIGHTFUL DISTRICT, and is to be sold at once, and upon EASY TERMS. If you are interested, and wish to be furnished with full particulars, drop a card to the

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LOOK AT THIS AND THINK

Where is Dickinson County? It is in Central Kansas. Look at its wealth, prosperity, best of people, fine climate, and the finest dirt out of doors. Come and look at our crops and judge for yourself. We have 1600 acres of land, all fenced, abundance of water, 2 miles from town; this will make a fine stock farm and is dirt cheap. We have two sections of fine smooth grass land, cheap as dirt. We have 80 acres improved land for \$8600. Try us for anything you want. HULL BROS., Hope, Kans.

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Kansas City, Mo. Opposite Union Depot. Everything first class Cafe in connection. Care for the Stock Yards, the up town business and residence parts of the city and for Kansas City, Kansas, pass the door. Solid comfort at moderate prices. A trial will please you.



WALNUT GROVE FARM ...FOR SALE...

Upon the advice of several specialists I am going to New Mexico for my health. On this account I must dispose of all my Kansas property, including the famous Walnut Grove farm, the most complete and profitable stock farm in Kansas. This includes 130 acres of the best land in Kansas, two miles from Emporia. Over 200 good O. I. C. hogs. All our Barred Plymouth Rocks, 36 Colliers, 44 head of cows, 8 head of horses, the best farm house in the State. Also one small farm house, 2 large barns, 2 large cattle-sheds, one 300-foot hen house, one 250-foot broiler house, 20 brooder houses, capacity of plant, 4,000. The best hog house in the West, double-deck cement floors; many small hog houses. This is not an experiment, but a successful stock farm. Price, \$20,000 cash. H. D. NUTTING, Emporia, Kans.

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer. Kindly give the age, color, and sex of the animals, stating symptoms accurately, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply all letters for this Department should give the inquirer's postoffice, should be signed with full name and should be addressed to the Veterinary Department of The Kansas Farmer, Topeka, Kansas, or to Dr. C. L. Barnes, Veterinary Department, Kansas State Agricultural College, Manhattan, Kansas. If in addition to having the letter answered in The Kansas Farmer, an immediate answer is desired by mail, kindly enclose a 2-cent stamp. Write across top of letter: "To be answered in Kansas Farmer."

Congestion of the Udder.—I have an old cow that I think will soon be fresh. Her bag is so large she can scarcely walk. The bag is hard and I can milk nothing out but blood. She is getting poor. Have been using lard and turpentine. What is the trouble and what shall I do for her? R. T. Rexford, Va.

Answer.—I think the cow has a little congestion of the udder and advise using the following: Put 1/4 pound of lard and 3 ounces of gum camphor in a kettle and melt together by heating, then stir until cool. Rub this on the cow's bag three times daily.

Lameness.—I have a horse with a lame foot. Was cut on wire two years ago. The horse is 5 years old, limps when walking, and rests that foot when standing. The sore has an offensive smell. The sore is at the top of the hoof and I have been unable to heal it. Have used carbolic acid and sweet oil and an ointment. F. E. Sula, Mont.

Answer.—Would advise your securing a four-ounce bottle of hydrogen peroxide. Place a tablespoonful of this in a cup of water. Inject this solution into the sore daily and then use an astringent healing powder on the surface wound.

Wire Cut on Horse's Foot.—Will you kindly give me remedy for wire cut on horse's foot, just above the hoof? It was cut last March on the left side of right front foot. The cut has healed, but a raw sore has extended around to the opposite side of foot with proud flesh in it. F. M. W. Clyde, Kans.

Answer.—I would suggest that you cut the bunch off of your animal's leg with a knife and then sear with a hot iron. Before the effects of the burning have worn off, use blue vitriol daily to keep down the proud flesh.

Lame Sows.—My yearlings sows have fall pigs. They are Duroc-Jerseys. One is down and the other two walk like stringhalt horses; thought trouble was kidney worms and gave turpentine, but do not now think that this is the trouble. M. S. Allen, Kans.

Answer.—Give each pig, according to size, a good dose of physic of raw linseed-oil. Keep them on slop made of milk, bran, and a little ground oats and see if that will not help them. They probably have some digestive trouble.

Thin Mares.—My brood-mares are thin in flesh. Feed seems to do them no good. They have worms. My sucking colts are affected the same way. Edna, Kans. J. S.

Answer.—Use the following general alterative and tonic: Iodide of potassium, pulverized, 4 ounces; pulverized nux vomica, 2 ounces; pulverized gentian, 4 ounces; pulverized iron sulfate, 6 ounces; salt, 8 ounces; sulfur, 8 ounces; pulverized glycyrrhiza root, 10 ounces; mix with 10 pounds of oil-meal and give a tablespoonful three times daily in ground feed.

Swelling on Hock Joint.—My 6-year-old mare has swelling on hock joint; got lame suddenly. Swelling was soft at first but is now rather hard. P. S. Ralston, Okla.

Answer.—Would advise using the following liniment: Alcohol, 1 pint; gum camphor, 6 ounces; fluid extract pytolacca de candria, 4 ounces; mix and rub into affected part daily. Give absolute rest. Write us again if you get no improvement.

Lumps on Cattle's Jaws.—We have had five calves out of a bunch of one hundred and thirty to become affected with some kind of throat trouble. They have a rather peculiar wheeze, and when a little excited they can scarcely get their breath at all. They make more noise than a broken-winded horse. All have enlarged larynges and the trouble seems to extend on down the wind-pipe. I have done nothing but apply a costly and severe blister, but they do not seem to get entirely over it. Any information you could furnish would be quite a favor.

Could you send me the formula for some severe liquid blister to use to reduce these loose lumps so common on the jaws of cattle? These knots we usually lance, and after removing the thick clot of pus, inject tincture of iodine and carbolic acid, half and half. We seldom have any more trouble with them, but occasionally one assumes a sort of granular form that a good blister will remove. P. K. L. Troy, Kans.

Answer.—A very cheap liniment that will blister is made by using 1 pint of turpentine 6 ounces of tincture of capsicum, and 6 ounces of raw linseed-oil. I believe this applied thoroughly over your animals' jaws will reduce the enlargements.

Mare Has Itch.—I have a mare, 6 years old, that has something like the itch. She rubs and gnaws herself almost all the time. The hair has come off in little spots and her hide seems thick. She has been affected this way for almost a year. Her appetite seems quite good. Please tell me what ails her and what will cure her. J. T. H. Okay, Ark.

Answer.—We are sending you a press bulletin that contains a formula for a lime and sulfur dip which I think you should use on your animal that has the scales coming off of her body. Use according to the directions.

Stringhalt or Curb.—Will you please send me press bulletin on stringhalt or curb? W. A. M. Paola, Kans.

Answer.—We have no press bulletin on stringhalt or curb, but would recommend that you employ a competent veterinarian to properly treat your animals for this affection. If the curb is of long standing and you have no veterinarian in your town, you can apply a fly blister to the curb every three weeks until you have given three applications.

Lame Cow—Horse With Cough.—My 5-year-old cow, a good milker, became lame about a month ago. I can find nothing in the foot. She lies down a great deal of the time and walks with difficulty, but appetite is good.

I also have sorrel mare with dry, hacking cough. She runs at nose and the discharge is dark, dirty-looking matter streaked with light; seems to be worse mornings and evenings. Plevna, Kans. C. C.

Answer.—Would advise poulticing the cow's foot with bran or linseed-meal, changing the poultice as often as it gets cold. If you find the poulticing has no beneficial effect, write us again and we will be glad to give you particulars about a foot-packing which has been found very satisfactory for removing inflammation from the feet.

I would advise you having the following medicine put up for the mare: Two ounces of chlorate of potash; 1/2 ounce of pulverized digitalis; 4 ounces of pulverized glycyrrhiza; 2 ounces of pulverized fennel. Mix, divide into 6 doses, giving a dose morning, noon, and night, in feed.

Mare Has Affected Feet.—I have a bay mare, 6 years old, that is very stiff at times. When lead from the barn she acts as though her feet were tied together and steps as if they were sore. When standing, she braces her front feet forward and her hind feet backward. She has had hard scales on the bottom of her feet. I feed her alum in her oats as that was recommended by some one. Have bathed her breast and front legs in vinegar and salt, but this did not seem to benefit her in the least. She did her share of the work on the farm this summer and stood it real well. She did not lose flesh at all and seemed to feel real well as she would run and play with the other horses. I would very much appreciate it if you can tell me what to do for her or if there are any hopes of her being cured, as she is a good horse. M. E. S. Dana, Kans.

Answer.—I believe that you should examine your horse's feet and see if she has some chronic affection there. After making a thorough examination of her feet, let me hear from you again.

Horse With Swollen Knees.—I have chestnut sorrel mare, 6 years old, with swollen knees (fore legs). She has been in this condition six or eight weeks, but the swelling was not noticeable until lately. She seems worse after driving on the road. E. S. Osborne County.

Answer.—Try the following liniment: Compound soap liniment, 1 pint; spirits of camphor, 4 ounces; fluid extract of belladonna, 6 ounces; 4 ounces of pytolacca decandia—fluid extract. Mix together and apply several times daily with considerable rubbing. C. L. BARNES.



Go Santa Fe to Chicago

In that way you'll learn just how good its service is. There's no other way. You'll find modern equipment—Chair cars and Pullmans; and Harvey meals. Several trains to choose from. A low rate will be made from December 1 to 4 inclusive. \$16 to be exact. Why not make your trip then?

International Live Stock Exposition December 1-8

T. L. KING, Agent,
The Atchison, Topeka & Santa Fe Ry. Co.,
Topeka, Kansas.

Golden State Limited . . .

It is contemplated to resume daily service of this popular train on November 11, 1906, for the fifth season.

We take pleasure in announcing that it will be composed of entirely new equipment throughout—the latest designs from Pullman shops, including many new features.

Mission style dining cars, stateroom and drawing-room sleeping cars, and new unique buffet-observation cars—also finished in Mission style.

Daily from Chicago, St. Louis and Kansas City to Los Angeles, Santa Barbara and San Francisco.

A Quality train for the "Quality."
Won't YOU plan to try it this season?

A. M. FULLER, G. P. A.
Topeka, Kansas.



Farmer's Account Book and Five Year Diary of Events

An Indispensable Book

Providing for a record of exact information about every item of transaction or event on the farm for five years. It is divided into two divisions, Diary in one and Accounts in the other. In the Diary there is space for five years. Here it shows you the occupation of the day; here are any special incidents that you wish to remember the date of.

The Account part is indexed (read indexes) handy arrangement we think.

Hired help. This is for your labor account; shows the name of the one hired, time worked, wages paid, how paid, etc.

Expense; shows all the outlay for such items as Groceries, Labor, Clothing, etc. You can tell when you paid your Insurance, Taxes, how much they were; in fact, this department will show to a penny what it costs you to run the farm and also what you get for every cent of it.

Live-stock account has a double ruling, sales and purchases for each kind of stock being side by side, and as this is to be for five years it makes an interesting comparison. Then over here you have a history of each deal that you make.

Grain and fruit are ruled and printed in the same way, also space for sales on butter and milk or cream, eggs or poultry, in fact there is space for everything raised on a farm and all you have to do is to make the figures. It certainly is an easy matter to have your affairs in shape if you have a system like this.

The inventory sheets are short but businesslike, you fill in under the proper headings the value of the different kinds of stock, grain, tools, buggies, wagons, etc., and the total is of course, the amount of your resources; then under this other heading you fill in anything you happen to owe on these things, and the difference is your actual worth. This is left in the book and the next year you do the same thing and the difference is your profit for the year.

Bound in Leather and Cloth, or heavy board cover, and delivered to your express office, including a year's subscription to THE KANSAS FARMER and THE HELPFUL HEN.

Leather and Cloth \$2.50.

The Account Book alone without the Five Year Diary of Events, in Heavy Board, \$1.50.

The Kansas Farmer Co.
Topeka, Kansas

Gossip About Stock.

We call particular attention to the eighth annual sale of 100 Percheron stallions and mares to be held at Sioux City, Iowa, December 12 and 13, 1906. It is a high-class offering of stallions. Twenty of these stallions are strictly first-class, 2- and 3-year-olds, weigh from 1,700 pounds to a ton, and a number of them were leading State fair winners this year. For catalogue address, C. M. Dent, Mgr., Rock Rapids, Iowa.

Burton & Burton, breeders of Holsteins, Jerseys, Kentucky saddle horses, and Duroc-Jersey hogs, Topeka, Kans., have just sold to C. E. Garner, Butler, Mo., a choice herd of Holstein-Friesian dairy-cows, consisting of seven mature cows and a 2-year-old bull. We have not learned the exact price of individuals, but the average was more than a hundred dollars per head. Good Holsteins are in great demand now all over the West.

Volume 66 of the American Shorthorn herd-book is just off the press. It contains the pedigrees of bulls numbered from 252478 to 257708 inclusive, and the pedigrees of 7057 cows. Volume 67, which contains about 12,000 pedigrees, is now on the press, and Volume 68 is filled and ready for the printer. The price of Volume 66 to non-members is \$3.30 postpaid, or \$3 at the office. Write John W. Groves, secretary, Live Stock Record Building, Union Stock Yards, Chicago, Ill.

Our readers are invited to look at the volume of horse advertising that now appears in the columns of THE KANSAS FARMER. This is exceeded by no other paper of its class in the United States and means but two things. First, THE KANSAS FARMER territory is an excellent one in which to sell good horses, and second, THE KANSAS FARMER is the best advertising medium for this class of live stock in this territory. We are proud of our horse advertisements because they all represent the best horses of their kinds that are obtainable, and because the men who own these horses are perfectly reliable.

Gus Aaron, owner of Oak Grove Herd of Poland-Chinas, Leavenworth, Kans., has some of the best herd-boards known to the breed. In Nemo L's Dude, Sir Darkness, and The Picket, the latter of whom is a son of the great On and On, he has a combination of merit that needs fear no competition. In connection with John Bollin, whose hogs are bred the same, he will hold a bred-sow sale on February 25, 1907. The sows and gilts in this offering will be bred to the three boars named above, and those breeders who want the best can well afford to wait for this sale and be present. Watch THE KANSAS FARMER for further announcements.

Have you written to C. W. Hurt, Arrowsmith, Ill., for catalogue of the three-days' horse sale to be held in Bloomington, January 9, 10, and 11, 1907? The breeders making this sale are some of the men that have made Central Illinois famous as the greatest draft-horse producing district in the United States. They have studied the draft-horse business since the first importations of European horses, and have watched and studied the business till they understand how to breed and develop the highest type of their favorite draft breed. Get your name on the catalogue mailing list at once, and as soon as they are out you will receive one. Mention THE KANSAS FARMER when writing.

The Chicago Daily Live Stock World offers to agricultural college students for written articles concerning the principal departments of the International Live Stock Exposition of 1906 a series of prizes aggregating \$300 in cash. Only undergraduates can enter, and the composition will count 50 points and the description 50 points in a scale of 100. The prizes will be offered for articles on either cattle, horses, sheep, or swine, and will be divided for each class into \$25 for first, \$17.50 for second, \$12.50 for third, \$10 for fourth, and \$7.50 for fifth. These articles must be delivered to the general manager of the exposition on or before the Tuesday immediately following the close of the exposition. The judges will be two practical stockmen and one newspaper man. Each contestant can select his own subject. Kansas ought to get a lot of these prizes.

Charles Morrison, owner of the Phillips County herds of Red Polled cattle and Poland-China swine at Phillipsburg, Kans., writes: "We have just shipped to J. W. Spencer and H. W. Steinmyer, of Alta Vista, Kans., one fine yearling Red Polled bull and ten cows and heifers, all of milking strain. These gentlemen have been using a registered Red Polled bull in their herd and are very much pleased with the results. Over 90 per cent of the calves are hornless and of a solid red color. Red Polls are growing in favor with the general farmer, as the cows are good milkers and raise calves that are of the easy-feeder kind, gentle disposition, and quick sellers on the market. We have sixty-seven head left in herd with four extra good yearling bulls for sale and a few good young cows and heifers, sired by Actor 7781. His sire was Iowa Davyson 10th, the World's Fair champion. Actor weighs 2,250 pounds and is a very fine individual. We have a few of his heifers bred to our young herd-bull, Launfal 13221, that we will spare. THE KANSAS FARMER gets credit for the above sale. We also shipped a fine Poland-China boar the same week to Eskridge, Wabunsee County, and one to Goodland, Kans. The Poland-Chinas are doing fine, and we had a good trade this fall. Our customers all inquire for large bone and plenty of length. That is the kind the farmer wants who has plenty of alfalfa to grow them on."

The Oregon Development League, composed of the commercial bodies of the entire State of Oregon, is sending

a book of views, free upon request, to all who are interested in the farming opportunities of that State. The only condition is that in the request THE KANSAS FARMER is mentioned. Address the League at its head office, Portland, Oregon, and be sure and mention THE KANSAS FARMER.

The Great Western Land Company.

Located in a region of unsurpassed climate, inexhaustible water supply, and rich and productive soil, the Great Western Land Company, of Garden City, Kans., has a great field of operations. Regarded as a desert but a few short years ago, the Arkansas Valley of Western Kansas is now a garden spot where a new agriculture, evolved by a study of conditions, brings profitable returns to the intelligent farmer at a minimum expenditure of labor. While it will produce anything in abundance that will grow in that latitude, this valley is especially adapted to the growing of certain kinds of crops, and these are the most profitable. Nowhere does alfalfa find conditions better suited to its perfect development. Nowhere do cantaloups and all kinds of melons, cucumbers, etc., grow more abundant crops of both fruits and seeds, and nowhere can better or more abundant crops of sugar-beets be grown. Orchards and forests do well here, wheat and other small grains give abundant harvests, live stock thrives on the cheap and abundant feeds, and the corn-belt now includes it. Men who first came here did not understand the conditions, but those who stayed and learned have prospered and many have grown wealthy.

With the opening of the new million-dollar beet-sugar manufacturing plant and the establishment of the Govern-



The private Pullman sleeping car run by the Great Western Land Company between Chicago and Garden City, Kans., the first and third Tuesday of each month.

(Photograph by The Kansas Farmer man.)

ment irrigation plant here, a new impetus has been given to this region, and new settlers and more capital is coming in each day. Men who have laid by a competence by farming in other regions; those who have tired of the city and desire a country life where their activity will bring good returns from the cultivation of the soil; shrewd capitalists who have money to invest and the young man who is in search of a home have all turned their eyes to this, the Nile Valley of Kansas, as soon as they have learned of its facts and possibilities.

Casual visitors have told of this region, editors have written of it, the State Board of Agriculture has reported upon it, and the Santa Fe Railroad has advertised it, but most potent of all the influences that have developed this valley and made possible the beautiful city, the thriving farms, and the great beet-sugar manufacturing plant has been the real estate man. He it is who really advertises a country. He it is who makes men go to see and be convinced.

Most enterprising of all the real estate agencies with which the writer has come in contact is the Great Western Land Company, of Garden City and Kansas City. This company is composed of three young men who are brimful of energy and resource. Messrs. R. A. McCray, H. C. Wiley, and D. A. Fleming compose the company, and they serve their customers by maintaining offices in the cities named, by running a free sleeping and dining car twice each month from Chicago to Garden City, and by maintaining a whole garage of automobiles with which to drive the land-seeker about the country. This company is now making especially attractive offerings of irrigated lands, though they have plenty of un-irrigated farms for sale. All their irrigated farms are within easy hauling distance of the sugar-beet factory or the grain markets. This company owns all the land they offer for sale and they plat it in lots of from 40 acres up to ranch size. Mr. Fleming, who is general manager of the company, was formerly cashier of the United States Sugar and Land Co., who own the factory.

Please notice the handsome, full-page advertisement of this company and see what propositions they make that will interest you. The sleeping car shown in the picture herewith is ready, on the first or third Tuesday of each month, to take you to Garden City.

Insure Your Stock.

Attention is called to the advertisement, found on the breeders' page of this issue, of the Indiana and Ohio Live Stock Insurance Company, of Crawfordsville, Ind. It insures live stock against death from any cause—making a specialty of horses, mules, and cattle. This company is reliable and trustworthy, having been in business for twenty-eight years, and has paid all its losses promptly. It is the only company of the kind doing this business in Kansas by permission of the

Superintendent of Insurance of the State. The capital of this company is \$100,000.00 fully paid, and it has on deposit with the State Auditor \$100,000 in bonds, besides \$25,000.00 surplus, which makes its liability to the assured \$125,000.00. Though this company has only been doing business in our State since last April, it is meeting with great success, for good stockmen know the value of insurance. They keep their buildings insured—which may never burn—and are now realizing the necessity of insuring their live-stock—which is sure to die—some time. O. P. Updegraff, of Topeka, has been made State Agent on account of his acquaintance with stockmen and general fitness for this line of work. He has appointed some agents but wants an agent in every city and town in the State, but only men who are industrious, reliable, and willing to work earnestly need to apply. For any information write the State agent at 1130 Western Ave., Topeka, Kans.

The Shawnee Breeders' Sale.

On January 9, 1907, at the State fair grounds in Topeka the Shawnee Breeders' Association will hold its annual sale of Shorthorn cattle.

It is a pleasure to be able to announce that this sale will be made up of cattle from some of the best known herds in Eastern Kansas. Alysedale, "beautiful Alysedale" herd will be drawn upon for a number of its choicest bulls, and Mr. C. W. Merriam says he never raised better. Prospect Farm, owned by H. W. McAfee, who is one of the oldest Shorthorn breeders in Kansas, will contribute eight bulls and females. D. H. Forbes, owner of Cedar Crest Shorthorns, will sell five head, of much the same breeding. Purdy Bros., of

HOW TO ORGANIZE TELEPHONE COMPANIES

is the name of a telephone book we are sending out to farmers, showing how to organize a company, build the line, and description of the strongest, safest, best talking phone made for farm use. It gives information that is valuable to the man desiring a farm telephone for private use or a complete company line. It tells all about tools, special telephone parts, and gives the price. If you are interested at all in telephones, write to-day for book No. 56.

B-R ELECTRIC & TELEPHONE MFG. COMPANY
504 Delaware St.,
Kansas City, Mo.



The Kansas State Agricultural College

OFFERS courses in Agriculture, Domestic Science, General Science, Mechanical Engineering, Electrical Engineering, Architecture, and Veterinary Science. Also short courses in Agriculture, Dairying, and Domestic Science. Admission direct from the country schools. A preparatory department is maintained for persons over eighteen. Necessary expenses low. Catalogue free. Address

PRES. E. R. NICHOLS,
BOX 50. MANHATTAN, KANS.

Cownie Fur Coats

Are the only Fur Coats Made that have a two year written Guarantee

NOT one skin is used in a Cownie coat that is not taken off in Dec. or Jan. when the fur is the best. Not one drop of strong acid or chemicals is used in the tanning of these hides. That's why we can guarantee a Cownie Coat twice as long as any other fur coat made. If your dealer cannot supply you write us.

J. H. Cownie Glove Co.,
Des Moines, Ia.

as it does, at this time of the great discoveries of oil, when it is a question with the producer what to do with it. The consumption of it as fuel will open up a great market, which has heretofore been practically closed; and at the same time furnish a cheap, clean, safe fuel to the people.

The oil used is absolutely non-explosive and can be bought at a cost of \$1.85 per barrel of fifty-two gallons. The oil companies are prepared to furnish an abundance of crude-oil as soon as there is a demand for it.

The Wichita Oil Gas Burner Company wants district managers in every county in the United States to represent it. It is prepared to offer a splendid proposition to the right parties. Write it at once for full particulars, and mention THE KANSAS FARMER.

Good Lands Cheap.

Osburn & Barnard, of Wichita, Kans., call the attention of our readers to several fine specialties which are advertised in this issue of THE KANSAS FARMER.

This firm has some fine farming lands for sale at reasonable prices and can suit you in quality, price, and location. Their advertisement will appear in our real estate department from week to week. Watch for it and see what

A Successful Oil Burner.

We wish to call the attention of the readers of THE KANSAS FARMER to the advertisement of the Wichita Oil Gas Burner Company, which starts in this issue of THE KANSAS FARMER on page 1264. We believe that in this burner we have the first successful solution to the problem of burning crude-oil for heating and cooking purposes. This burner converts the oil into gas, and actually consumes every bit of the smoke, thus eliminating the great objection, the clogging of the stove, flues, and pipes with soot. This burner is constructed on purely scientific principles; is indestructible, can be fitted to any heating stove or furnace, burns with a flame as clear as gas and with an intense heat.

The writer has carefully inspected this burner in operation, and it seems to be a complete success. There are hundreds in use in Wichita in all kinds of heating stoves and furnaces, and the company is worked to its utmost capacity trying to supply the demand.

We believe this burner will be of great value to the people of the West where fuel is scarce and high, coming

they have to offer. Take advantage of the excursions that will be run to the Southwest the first and third Tuesdays of each month, and go and see them.

New Announcements.

- The regular and faithful advertisers need no introduction as they have been tried and found worthy. The new advertisers this week inviting the attention of THE KANSAS FARMER readers are as follows:

The J. H. Cownte Glove Co., Des Moines, Iowa, whose advertisement begins in this issue, calls especial attention to the quality of the fur coats made by it.

Good Farm For Sale.

Jagers & Co., of Wellington, Kans., call the attention of the readers of THE KANSAS FARMER to one of their great specialties this issue.

Use Stannard's Processed Oil.

There is no feed that will give you satisfactory results unless your cattle, hogs, and horses are free from lice and mange.

Cancer and Tumor Cured

With a Combination of Oils. Write to the Originator for his free books. Beware of Imitators. Address Dr. D. M. Bye, 316 N. Illinois St., Indianapolis, Ind.

Kansas City Grain Market.

Wheat receipts yesterday were light for two days. At the same time they were much better than a year ago.

the market was a good one without being snappy. By sample on track here at Kansas City:

- No. 1 hard, 3 cars 71 1/2c; No. 2 hard, 1 car 72c, 1 car bulkhead 71 1/2c, 5 cars 71 1/2c, 2 cars 71 1/4c, 5 cars yellow 71c; No. 3 hard, 2 cars Turkey 72c, 2 cars 71c, 5 cars Turkey 71c, 4 cars 70 1/2c, 4 cars 70c, 1 car 69 1/2c, 6 cars like sample 67c, 1 car poor 67c; No. 4 hard, 2 cars Turkey 70 1/2c, 3 cars Turkey 69 1/2c, 4 cars Turkey 69c, 1 car 67 1/2c, 3 cars 67c, 8 cars 66 1/2c, 4 cars 66c, 11 cars 65 1/2c, 4 cars 65c, 3 cars 64c; rejected hard, nominally 60@66c, 3 cars 64 1/2c, 4 cars 64c, 4 cars 63c, 1 car 62c, 2 cars 61 1/2c, 1 car poor 60c; no grade hard, nominally 60@64c.

No. 2 red, nominally 71 1/2@72c; No. 3 red, nominally 67@71c, 1 car like sample 67c; No. 4 red, nominally 64@68 1/2c, 1 car 67c, 1 car poor 65 1/2c, 1 car like sample 64c; no grade soft, 2 cars live weevil 67 1/2c.

Mixed wheat, No. 2, 1 car durum 65c; No. 3 mixed, 1 car 69 1/2c. Durum wheat, No. 2, 3 cars 65c, 1 car bulkhead 64c.

White spring wheat, No. 3, 1 car 66c. Corn market was very good yesterday, and prices ruled from 1/4@1/2c higher.

Oats.—A fairly active and steady market was had yesterday. The receipts were good, but they were all wanted and placed without trouble.

Barley.—No. 2 nominally 44 1/2@45c; No. 3, 2 cars 44c.

Flour.—Steady but slow sale. Quotations: Hard winter patents, \$3.50@3.65; straights, \$3.30@3.40; clear's, \$2.75@3; soft patents, \$3.60@3.95; straights, \$2.75@3; clear's, \$2.75@2.80.

Cornmeal.—Firm but slow sale. Quoted at 86@88c per cwt., sacked. Corn-Chop.—Higher but dull. Quoted at 77@78c per cwt., sacked.

Bran.—In good demand and higher. Mixed feed, 92@93c per cwt.; straight bran, 91@92c; shorts, 94@98c per cwt. Flaxseed.—Receipts none; same time last year, none. Unchanged, at \$1.07 per bushel in carlots, upon the basis of pure.

Cottonseed-Meal.—At all points in Kansas and Missouri, taking Kansas City rates, \$27.25 per ton in carlots. Castor Beans.—In carlots, \$1.35 per bushel. Ground Oil-Cake.—Steady. Carlots, \$28; 2,000-pound lots, \$29; 1,000-pound lots, \$15; 100-pound lots, \$1.60.

Kansas City Live-Stock Market.

Kansas City, Mo., November 26, 1906. Cattle prices have been changed a little in the last week, fed steers selling a shade lower to-day, bids in some cases 10@15c below the close of last week.

KANSAS FARMER.

Established in 1863. Published every Thursday by the Kansas Farmer Co., Topeka, Kansas.

SUBSCRIPTION PRICE: \$1.00 A YEAR. Entered at the Topeka, Kansas, postoffice as second-class matter.

ADVERTISING RATES. Display advertising, 20 cents per line, agate (fourteen lines to the inch). Continuous orders, run 1 the paper, \$1.82 per inch per week.

KANSAS FARMER CO., 635 Jackson St., Topeka, Kans.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week.

CATTLE. WANTED—A car load of high-grade Shorthorn heifers coming twos. Write giving weights and price to Hennessy Bros., Elaine, Kans.

FOR SALE—5 registered Holstein heifers and bulls, 6 registered Jersey cows and heifers and bull, 10 grade Jersey-Holstein heifers. Burton & Burton, Topeka, Kans.

FOR SALE—Bull calves from prize-winning Holstein cows. Good ones and cheap to early buyers. Hughes & Jones, Route 2, Topeka, Kans.

RED POLLED BULLS—Four fine fellows 12 to 20 months old. Must sell as I have no stableroom for them. H. L. Pellet, Eudora, Kans.

SPECIAL SALE—4 extra good Angus bulls, aged 18 to 20 months, at low prices for quick sale. These are low blocky bulls, good herd headers. Also heifers bred of open. Write for prices. R. H. Clay & Son, Pleasant Hill, Mo.

WANTED TO BUY—One bull, and four to six cows of heavy milking breed. Write to Thomas W. Houston, Leavenworth, Kans.

SPECIAL SALE—5 straight (Cruckshank) Shorthorn bulls for sale at bargain prices for quality. H. W. McAfee, Topeka, Kans.

REGISTERED GUERNSEY BULLS—Ready for service. Also pure-bred Scotch Collie puppies. Dr. J. W. Perkins, 422 Altman Bldg., Kansas City, Mo.

ABERDEEN-ANGUS CATTLE and Percheron horses. Stock for sale. Garret Hurst, breeder, Peck, Sedgwick County, Kansas.

POULTRY. FOR SALE—Standard Golden bred Wyandotte cockerels. A few Mammoth Bronze turkeys. Prices reasonable. Mrs. H. B. Grant, Emporia, Kans.

FOR SALE—High-class poultry. White Wyandottes, Silver Laced Wyandottes and White Plymouth Rocks. Prices reasonable. R. F. Meek, Hutchinson, Kans.

FOR SALE—Single Comb White Leghorn cockerels. Wyckoff laying strain. Price, 75 cents and \$1. Henry Martin, Newton, Kans.

WHITE WYANDOTTE COCKERELS—\$1, \$2 and \$3 each. Great grandsons of Old Duke. Thirty three premium at three shows. Order direct from this ad. Hattie A. Weld, Greeley, Kans.

BARRED ROCK COCKERELS—Pradley strain. Few exhibition. Also breeding cockerels and pullets. Write for prices. Mrs. W. A. Scheeler, Argonia, Kans.

FOR SALE—A limited number of S. C. White Leghorn cockerels; pure bred birds bred for laying and size. Price \$1, if sold at once. Mrs. T. R. Wolfe, Route 2, Conway Springs, Kans.

PARTRIDGE COCHINS \$1 each. Address W. F. Swift, Ottawa, Kans.

Examine any fowl bought of us at the express office. If not satisfied return and get your money less express charges one way. Our fowls are strictly tops. Buff Back and White Langshans, five varieties of Leghorns, and many other breeds to select from. Get busy or your choice will be gone. Write J. A. LOVETTE, Prop., MULLINVILLE, KANS.

REAL ESTATE.

FOR SALE—Texas lands in Palmer and Bailey Counties, located three miles from Texico, 1 and 1/2 level, roll a dark loam from 2 to 6 feet deep, 2 to 20 ft. to water. Land will grow alfalfa, corn, wheat, oats, and bargain at the price, \$15 per acre; \$6 per acre down, balance long time, easy terms, excursions first and third Tuesdays of each month.

HORSES AND MULES. FOR SALE—2 Kentucky Gaited Saddle yearlings. Both registered stallions. Burton & Burton, Topeka, Kans.

TWO JACKS FOR SALE—3 and 4 years old. Missouri bred. Address S. C. Hedrick, Tecumseh, Kans.

HORSES—For Sale six Imported Stallions, two Belgians and four Percherons, three to six years old, weight from 1,700 to 2,000 pounds, each stallion guaranteed. Address Lee Roy Judd, Dawson, Nebr.

FOR SALE OR EXCHANGE for clear land, seven head of Standard bred race horses, mares, geldings, stallions, several cows, Shorthorn bull, also a good homestead 160 in Kansas, Wallace County. Will sell furniture and fixtures and give a lease for a term of years on the best Hotel in Nebraska. Miller Hotel Co., Wymore, Neb.

FOR SALE—At reasonable prices, Black Imported Percheron stallions. E. N. Woodbury, Pawker City, Kans.

FOR SALE—One black team, 6 and 7 years old, weight 2600 pounds. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

SWINE. FOR SALE—Duroc-Jerseys. Good color, fine blood, low prices. Burton & Burton, Topeka, Kans.

FOR SALE—A registered Poland-China male hog, as fine an individual as there is. A. A. Adams, Phone 3 on 12, Berryton, Kans.

POLAND-CHINA BOARS—Of serviceable age, choice April farrow. Now ready for sale. Write or call on H. C. Horner, 1333 Lane St., Topeka, Kans.

FOR SALE or exchange for Poland-China sows or gilts, Shorthorn bull calves one yearling and a two year old. These bulls are registered and mostly feds. Write or call on W. R. Dowling, Norcatar, Decatur Co., Kans.

FOR SALE—Duroc-Jersey boars sired by Packer Boy a son of the Great Packer Mac, winner of first prize at Kansas State Fair 1904. White & Tomson, Route 8, Topeka, Kans. Phone Ind. 4692.

FOR SALE—Thoroughbred Duroc-Jersey pig, boars large enough for service. Prices right. I. W. Poulton, Medora, Kans.

SCOTCH COLLIES. COLLIES—More of those richly bred pups, ready to ship; sired by a grandson of Ormskirik Galopin. From \$4 to \$7. A. P. Chacey, North Topeka, Kans.

SHEEP. FOR SALE—Oxford Down sheep of high quality one ram 2 years old, a few ram lambs, a few ewe lambs, a few bred ewes, at reasonable prices; all stock registered. Perry Goodell, Hutchinson, Kans.

FOR SALE—Two pure-bred Cotswold ram lambs. Address W. Guy McCandless, Cottonwood Falls, Kans.

MISCELLANEOUS. FOR SALE OR TRADE—Choice alfalfa farms, Clydesdale Horses, Shorthorn and Jersey Cattle, Poland-China, Duroc-Jersey and O. I. C. Hogs, 40 varieties of poultry and pet stock. Pure seeds and nursery stocks. Full particulars in catalogue. 10c brings it. Merchandise wanted; what have you to trade. A. Madsen & Sons, Atwood, Kans.

WANTED TO SELL—Old established weekly newspaper and job office in one of the best Southern Kansas gas towns; cheap at \$1500. Address E. E. W. care Kansas Farmer.

WANTED—Ladies to work on piece work, \$3 per dozen. All material furnished. No canvassing; steady work. Stamped envelope. Best Mfg. Co., Champlain Bldg., Chicago, Ill.

ECHOES FROM THE GRANGE—Fifty new gems for literary programs. Useful and appropriate Christmas gift for grangers, teachers or club women. Handsomely bound. Cloth, \$1; Paper 50 cents; postpaid. Mrs. I. A. Gilman, Meredith, N. H.

6,000 FERRETS—Some yearlings, especially trained for rats. Book and circular free. Levi Farnsworth, New London, Ohio.

HONEY—8 cents per pound. Write A. S. Parson, 514 S. Main St., Rocky Ford, Colo.

WANTED—Non-union moulders. Call or write Topeka Foundry, 318 Jackson St., Topeka, Kans.

WANTED—A good second-hand grain separator. Dr. Barker, Chanute, Kans.

Stray List

Week Ending November 22. Greenwood County—W. H. Bonnett, Clerk. Heifers—Taken up by J. E. Davis in Otter Creek tp., October 27, 1906, one red and white spotted heifer, upper cut in left ear; also one red heifer, with white face, valued at \$15 each.

Wanted!

YOUNG MEN in the country to become interested in our business and furnish us names of residents in their districts; we work up the business, you share the profits with us; no experience necessary on your part. If you want a good thing and mean business, write us before your territory is taken. Chicago Standard Merchandise Co., 62 C Dearborn St., Chicago, Ill.

RIVERSIDE HERD DUROC-JERSEYS

Hogs for sale. Yearling sows and gilts and young boars. Address Crow Bros., 200 East Osborn St., Hutchinson, Kans.



AMERICAN CENTRAL POULTRY PLAN

DUROC-JERSEYS

Woodlawn

We have just 10 head of spring boars left for sale and we are going to make very LOW prices for the next 30 days to close them out. They are sired by Fancy Chief 24922, the great show boar FANCY TOPNOTCHER 49339, first in class at Kansas State Fair and by PRINCE WONDER 42455. They have the size and are sure to suit you.

JNO. W. JONES & SON,

Concordia, Kansas

Nemaha Valley Herd Durocs and Polled Durhams

70 good strong pigs by such boars as Valley Chief 15211, Kant-Be-Beat, Wont Be Beat Again, Lewiston Top Notcher and others. If you need a boar write me. I also offer my herd bull GLOSTER CHIEF 4th, sired by Gloster Chief 2d, for sale. This is a deep red fellow with plenty of size and finish. Young stock for sale at all time. Bred sow sale February 6, 1907.

PIONEER HERD

OF DUROC-JERSEY SWINE

Herd headed by Red Chief, 1st prize winner at Hutchinson, assisted by Chief Grand by Ohio Chief. Sows of equal merit. 15 large growing males and 25 sows, some bred. To these males I breed big-boned, quick feeding females. Describe what you want and write for prices.

N. B. SAWYER, Cherryvale, Kans.

Lone Star Durocs

We will have over 50 fine boars for sale this fall, representing the best blood lines in the country. Orders booked after July 1, and shipments will be made to responsible parties on approval.

J. L. WILLIAMS, Bellaire, Kansas

Ward Brothers Republic, Kans.

Spring Durocs for sale sired by Model H 37967, the best son of the great Higgins Model; also Shakespeare 3d, and other noted sires; also some fall boars that will be a credit to any herd. Write for prices.

Elm Creek Herd Duroc-Jerseys

Herd headed by Parker Mac 23233. First prize winner State Fair 1905 and Kansas Wonder 2d 43263. In my herd are such sows as Loudens Bird 48482, Miss Orion 55668, and Rose Wonder. 100 spring pigs for sale now. Write me.

J. E. JOINES, Clyde, Kansas

O-Ta-Top-Farm Durocs

Herd composed of best blood in the west. Headed by O-Ta-Top Notcher, out of Tip-Top Notcher who sold for \$5,000. Spring pigs for sale price \$15 to \$25.

John W. Taylor, Edwardsville, Kansas

Vick's DUROCS are bred for usefulness. Two yearling herd headers for sale sired by Improver II, dams Kansas Belle, by Morton's Prince 16797, two yearlings sired by Meddoc, dams Prairie Queen 106772, also spring pigs by Vick's Improver 47385, Red Top 32241, Fancy Chief 24922 and other noted sires. Correspondence invited. Visitors coming to Junction City and phoning me will be called for.

W. L. Vick, Junction City, Kansas

COUNTY LINE HERD OF DUROCS.

Herd headed by Smith Wonder 46985. A fine lot of boars and gilts for sale, carrying the blood of Kansas Wonder 20753, Jumbo Jr. 28015, Orion 5293, 2d Citmax 23361, Joe 29271, Oom Paul 2d 17679 and Second Surprise 20289. Phone from Silver Lake.

O. N. Wilson, Silver Lake, Kans.

Duroc's

This stuff is the cream of my herd and I am pricing it right. Grant Chapin, Greene, Kans.

POLAND-CHINAS

ELM GLEN FARM POLAND-CHINAS.

Size, breed, character and fashionable breeding. Stock all ages for sale.

WM. KNOX, South Haven, Kans.

CEDAR GROVE HERD

Of pure-bred POLAND-CHINA HOGS.

We will have some bargains this season to offer the public. J. A. Hebrew, Stockton, Kans. Mention Kansas Farmer when you write.

Decatur County Herd of Poland-Chinas

Fall boars all sold; am now booking orders for March and April pigs; sixty head to select from; also a choice lot of bred sows at farmer's prices. A square deal guaranteed. Write me your wants.

R. H. WEIR, Route 3, Oberlin, Kans.

A. J. Hinckley, Milo, Kan.

Breeder of fashionable Poland-Chinas

Will have some fine boars for sale this fall. Write for breeding and prices. Mention Kansas Farmer when you write.

POLAND-CHINAS

UNGLES' HOGGETTE

The great preventive and cure for HOG CHOLERA. Indorsed by more good breeder's than any other remedy. We also put out a Dip at \$1 per gallon, in 5 and 10 gallon cans. Freight prepaid. Guaranteed as good as any Dip on the market or money refunded. Address

UNGLES HOGGETT CO. Lincoln, Nebraska

Stalder's Poland-Chinas

I have pigs for sale from the leading strains of the country. Prices reasonable. Write for full particulars.

O. W. Stalder, Salem, Neb.

A. and P. SCHMITZ, ALMA, KANS.

Breeders of Poland-China Hogs.

We have for sale at reasonable prices 10 gilts bred to Challenger 38349; also a boar pig by Compromise 88203. Write us for prices and full description.

East Creek Poland-Chinas

Stylish Perfection 40313, sweepstakes boar at Nebraska State Fair, 1906, at head of herd. Bred sow sale February 13, 1906. H. B. Walters, Wayne, Kan.

The Useful Type of Poland-Chinas

Herd headed by Model King 34830, by Mischief Maker. Growthy spring pigs for sale.

E. D. Morris, Bern, Kansas

John Black, Barnard, Kas

MY POLAND-CHINAS

are the big prolific kind that the farmer likes to raise. Will have some fine boars for sale this fall. Write for prices. Mention the Kansas Farmer.

J. T. ELERBECK, Beatrice, Neb.

Square Deal Stock Farm

Wm. D. Calder, Prop., Bancroft, Kans.

We have for sale pigs by Square Deal 36749, he by Highland Chief Jr., others by Calder's Chief 40896, grandson of Kansas Chief 28250.

Cedar Lawn Stock Farm

My herd is headed by the Great MAJOR M. 31527, by Blaine Tecumseh 29338. We breed the big fellows with plenty of finish. Our sows are all heavy boned animals and producers of large litters. If you want to breed the large type, write us for prices on boars and gilts.

J. R. Triggs, Dawson, Neb.

Yukon Polands

Spring pigs for sale sired by the great boar Perfect Tecumseh 27889 S. and out of sows of equal breeding. Also a few choice ones by a son of Meddler. Write me for full particulars.

J. B. Myers, Canton, Kansas

.. Axline's .. POLAND-CHINAS

Best Breeding and Individuality.

E. E. AXLINE, Oak Grove, Missouri.

JOHN BOLLIN,

Route 5, Leavenworth, Kans.

Breeds and Sells Popular Poland-Chinas

The State and World's Fair winning boars Nemo L's Dude and The Picket in service. Bred sows and serviceable boars for sale.

B. M. BELL, - Beattie, Kansas

Poland-Chinas.

Herd boar, Bellmetal by Expansion, assisted by Highland Prince.

200-For Sale; 80 Boars, 120 Gilts-200

Competent judges have said that I have the largest and best lot of spring pigs in the country. Write me and come to see them.

Dawley's

Poland Chinas are a distinct type of their own. Herd headers for sale sired by E. L. 2d, Spellbinder, Grand Chief, Sunflower Perfection, On and On, Keep on, Nonpareil and other noted sires. Prices moderate and satisfaction guaranteed.

Frank Dawley, Waldo, Kansas

Maple Valley Stock Farm

The grand breeder Mo. Chip 2d is at the head of my Poland-China herd. My foundation stock is the best that money can buy and I guarantee my stock. Have a few more sows and gilts bred for spring farrow at reasonable prices. Correspondence solicited and visitors always welcome.

C. P. BROWN, Route 2, Whiting, Kans.

Belleville Herd of Heavy-Boned Poland-Chinas

Headed by Grand Chief 34410, one of the good sons of Chief Tecumseh 3d. I have 100 spring pigs from this old fellow, the mothers are from Expansion-Mogul and other boars of such renown. Correspondence and inspection invited. Annual boar sale November 15.

W. H. Bullen, Belleville, Kansas

POLAND-CHINAS

Kansas Herd of Poland-Chinas has bred gilts and W. H. U. Leghorn cockerels. F. P. Maguire, Hutchinson, Kans.

Oak Grove POLAND-CHINAS...

Nemo L's Dude, prize-winner and sire of winners, and Sir Darkness out of Darkness and by Chief Perfection 2d in service. A few ears for sale.

GUS AARON, Route 5 - Leavenworth, Kans.

Popular Poland-Chinas

Chief Perfection 2d and other fashionable blood lines. The Champion American Royal 1906 is our type, this sire is a half brother to a number we offer. Some excellent spring boars and gilts ready for buyers.

P. L. WARE & SON, Paola, Kansas

ON AND ON BOARS

Several choice boars for sale. One spring boar by On and On 61738, dam by Chief Perfection 2d 42559. One fall yearling grandson of Mo.'s Black Perfection. Dam 50 per cent Chief Perfection 2d, and others extra good. Also a few young Galloway bulls and several young Holstein bulls.

H. N. HOLDEMAN, MEADE, KANS.

Frank Michael, Summerfield, Kan.

BREEDER OF

[Pure Bred Poland-China Swine

Size and quality are the requirements of my herd. Write me your wants.

Mention Kansas Farmer

C. F. Hutchinson, Bellaire, Kansas

Thirty Years a Breeder of

Poland-China Swine

We raise the big fellows that farrow large litters. The kind that fills the pork barrel. Write us for list of our winnings at Nebraska and Kansas State Fairs. Our herd boar Bright Look weighs 1,000 pounds in show condition. Stock for sale. If you want the big kind write us.

Shady Lane Stock Farm.

The home of the western champion, Peerless Perfection 2d 38664. Poland-Chinas of fashionable breeding and individual merit for sale. Book orders now for sows bred to Peerless Perfection. There will not be enough to supply the demand and first in get them.

HARRY E. LUNT, Burden, Kans.



Write or call on H. C. DAWSON'S SONS, Endicott, Jefferson Co., Nebraska.

POLLED DURHAMS

Polled Durhams FOR SALE

Nice, good bulls ranging from a few days to 14 months sired by Kansas Boy 2585. Write or come and see my stock.

D. C. VanNise, RICHLAND, KANSAS

13 WEEKS FREE

Or 15 Months for Only \$1.00

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I accept your trial offer to new subscribers to send me THE KANSAS FARMER three months free. At the end of the three months I will either send \$1.00 for a full year from that date or write you to stop the paper, and you are to make no charge for the three months' trial.

Name

P. O.

D. M. TROTT, Abilene, Kans., famous Duroc Jerseys and Poland-Chinas.

COUNTY SEAT HERD DUROC-JERSEY SWINE

Geo. Briggs & Son, Clay Center, Neb. Young stock for sale.

DUROC-JERSEYS - Large-boned and long-bodied kind. Spring pigs either sex. Prices reasonable.

E. S. COWEE, Route 2, Scranton, Kans.

SUNFLOWER HERD OF DUROC-JERSEYS - Fall and spring pigs for sale, of both sexes, sired by Klondyke Prince, an 800 pound hog. Samuel Boston, Prop., Smith Center, Kans.

Gold Standard Herd. 75 head of pedigreed Duroc-Jersey spring pigs for sale cheap. Chas. Dorr, Route 6, Osage City, Kas. Mention this paper.

10 Duroc-Jersey Boars for Sale

The best of breeding. Fine and large pigs farrowed in March and early April. I can please you. Write me now. Geo. F. Dorsch, Cook, Neb.

Pigs Shipped on Approval.

200 head of Durocs, all ages, representing the blood of Combination, Valley Chief, and a son of Kant-Be-Beat.

T. L. LIVINGSTON, Burchard, Neb.

Ireland's Durocs

Herd headed by Young Model 33111, a son of Higgins 2251. Pigs for sale from such sows as Antelope 97663, a granddaughter of Ohio Chief, Fancy Xenia 47490 and Lela H. 87086. Z. Ireland, Chester, Neb.

Registered Duroc-Jersey Swine

Up-to-date breeding, choice individuals. Farrowed from February 27 up to October 1. Either sex, pairs or trios, not a-kin, at \$12.50, \$15, \$20 and \$25 per head, for 60 days only. G. E. NEWTON, Whiting, Kans., (Successor to Newton Bros.)

Orchard Hill Herd of Duroc-Jerseys

Fall and spring males, and the gilts bred and to be bred, for sale. Blood lines: Top Notcher, Ohio Chief, Improver 2d and the Wonder family.

E. F. NORTON & SON, Clay Center, Kans.

Duroc-Jerseys

Big, blocky, handsome boars of March and April farrow. Write

Buchanan Stock Farm, Sedalia, Mo.

OUR SPRING PIGS are now ready, sired by Crimson Wonder Jr. 38755, Kerr's Champion 34469. Trios not a-kin at \$35. September bred gilts, bred to Crimson Wonder, at \$15 to \$20 each, registered. Mr. and Mrs. Henry Schrader, Wauneta, Kans.

Egypt Valley Durocs.

Herd headed by Egypt Lad 34023. Stock always for sale. Choice fall boars and gilts, reasonable. Also six fine gilts, bred to Lora's Lad, to farrow in April; will also sell some tried sows. Write for prices and particulars. H. W. STEINMEYER, Volland, Kans.

STAADT'S DUROCS

FOR SALE-Orion 49173 by the great Orion 5298, dam Maude's Choice 95173 by Young John 22575, guaranteed a sure breeder and all right. Also good spring boars of the choicest breeding and individuality at reasonable prices. J. F. Staadt, Ottawa, Kas.

Peerless Stock Farm DUROC-JERSEY HOGS

Correspondence solicited. Inspection invited.

R. G. Sollenbarger, Prop., Woodston, Kans.

Fairview Herds Durocs and Red Polled

My herd bull, Expansion, for sale. No swine for sale now. Spring sale, February 13, 1907.

J. B. Davis, Fairview, Brown County, Kans.

Eureka Manor Herd Duroc-Jerseys

Choice breeding stock for all. For the breeder, the stockman and the farmer. Prices the lowest, quality and breeding the best. Herd headed by EUREKA TIP-TOP 48641, sired by the great World's Fair grand champion, Tip-Top Notcher 20729; and FENICLESSE 27247, by Josephus 19125, the Kansas State Fair grand champion. Write your wants or call and inspect my herd. Address

J. F. ENSOR, Olathe, Kans.

Oak Grove Herd of Durocs

Herd headed by Choice Goods F. 36471 by Hunt's Model, and Corrector's Model 34331. Forty fine spring pigs for sale from such sows as Labaugh's Choice 46682, Oak Grove Queen 12004 and Miss May 132006, a granddaughter of Improver II. If you want good ones write me.

SHERMAN REEDY, Hanover, Kans.

WILSONS' DUROCS

I have for sale a few gilts and boars sired by Ohio Chief. I also have a number of fine boars carrying the leading blood of the Duroc breed. Can please you in something good.

R. L. Wilson, Chester, Nebraska.