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TABLE OF CONTENTS.

PAGE 2—THE STOCK INTEREST.—Feeding Wheat to Steers. American Fat Stock Show.
PAGE 3—AGRICULTURAL MATTERS.—Potatoes. How a Letter in KANSAS FARMER Produced a Useful Machine.
PAGE 4—IRRIGATION.—Great Bend Irrigation. The Inexhaustible Water Supply.
PAGE 5—IRRIGATION (continued).—State Irrigation Meeting. . . . FAMILY DOCTOR.—Foot-Gear. Answers to Correspondents.
PAGE 6—THE HOME CIRCLE.—Incense (poem). For Baby's Outings. Almond Macaroons. Pretty Tea Cloths. Pineapple Recipes. Steaming the Face.
PAGE 7—THE YOUNG FOLKS.—The Eagle's Reverie (poem). Great Men at Play. An Indian Reservation. New Alaskan Boundary.
PAGE 8—EDITORIAL.—Let Wheat Feeding Proceed. Balanced Ration for Milch Cow. Importing Mexican Cattle.
PAGE 9—EDITORIAL.—North American Bee-Keepers. Publishers' Paragraphs. The American Jack Stock Stud Book. The Future of Irrigation.
PAGE 10—HORTICULTURE.—The Cultivation of Orchards. The Fruit Industry.
PAGE 11—IN THE DAIRY.—The Wisconsin Dairy School. . . . THE POULTRY YARD.—Poultry at the State Fair.
PAGE 12—Gossip About Stock.
PAGE 13—THE VETERINARIAN. . . . Market Reports.

BREEDERS' DIRECTORY.

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FLORA CROCKETT—Brown mare, foaled 1889; by Col. Crockett (2:29 1/4) 11940, dam by Darwin 587, granddam by Hartford Hambletonian, great-granddam by Fearnaught Hambletonian.
BLACK COLT—Foaled 1894; by Domineer (2:19 1/4) 8575, dam Flora Crockett above.
BLACK COLT—Foaled 1893; by Crecco 4908, dam Flora Crockett above.
MAMBRILLE—Chestnut filly, foaled 1891; by Boniface (2:22 1/4) 16635, dam by Abstract 2230, granddam by Bob Diddle 794.
Mares and fillies stunted to high-bred stallions and supposed to be with foal.
DAVID POTTER, Emporia, Kas.

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In writing to our advertisers please say you saw their advertisement in the KANSAS FARMER.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

OCTOBER 31—Martin Melsenheimer, Poland-China swine, Hlawatha, Kas.

FEEDING WHEAT TO STEERS.

(September Report Kansas State Board of Agriculture.)

A well-known and practical feeder at Fairfield, Iowa, writes to the *Live Stock Report* of Chicago, thus: "What fattening qualities has wheat? How would wheat do to feed cattle, say giving them three or five pounds a day with ear corn soaked, grinding the wheat or having it chopped fine? Which would do the steer the most good, three pounds of oil cake or three pounds of wheat?"

Referring these queries to Prof. W. A. Henry, of the Agricultural Experiment Station at Madison, Wis., the *Report* has from him the following:

"With corn ranging in price equal or even higher than wheat, it is not surprising that inquiries of this kind are rising in the minds of stockmen. We are all accustomed to thinking of wheat as *par excellence* the food for human beings, and that there is something inherently wrong in feeding it to live stock. If there is anything wrong it is in the times, which seem out of joint, but not in the grain itself. Wheat is just as good feed for stock as for man. Let us consider the digestible components of wheat and corn:

	Protein.	Carbohy- drates.	Fat.	[Total.]
	Lbs.	Lbs.	Lbs.	Lbs.
100 lbs. corn.....	7.1	62.7	4.2	[74.0]
" wheat.....	9.2	64.9	1.4	[75.5]
" wheat bran.....	12.6	44.1	2.9	[59.6]
" oil meal.....	27.0	32.2	7.1	[66.3]

"Protein goes to build up muscle (red meat), or it may be used for fat. The carbohydrates and fat cannot build up muscle but may be used for heat or fat. Fat has at least two times the feeding value of carbohydrates. From this we realize the great fattening power of Indian corn, with its relatively low muscle-building properties. Wheat is a better balanced food, as shown by the table. While its fattening properties are somewhat less, its muscle-building constituents are larger than with corn. With the by-products of wheat—low-grade flour, bran and middlings—the protein bears a larger proportion to the whole than in the natural grain. I should say, therefore, from the study of this table and from our knowledge of the two grains, that wheat is the superior food article for growing stock, and corn leads for mere fattening.

"The question as to which will give the best gain when mixed with corn, three pounds of oil cake or three pounds of wheat, is an eminently proper one, but not easy to answer. If it will pay to feed corn at anything near the present price, then it will pay well indeed to feed the amount of oil meal or the amount of wheat named. That fact is certain. Both the oil meal and wheat go nicely with the corn. If the oil meal costs somewhat more than the wheat, and I think it will, then I should feed the wheat; but if both cost about the same, I do not see much difference. If possible, roll the wheat. Do not attempt to feed whole. As indicated, I believe it will pay well with current prices for food to mix some grain with the corn, for the combination will go further than either article fed alone. I urge those holding wheat by all means to use as feed all excepting the choicest grades. It is folly to force low-grade wheat on the market for what such will bring in these times."

In a later report the same correspondent writes: "It appears to me that from the small amount of fat in wheat it would not be an extra feed for fattening steers. Should it be ground coarse or fine? The Professor says, 'If possible, roll the wheat.' How fine? is the question. Our farmers all want wheat ground fine for hogs."

To this Professor Henry makes further the reply, as follows:

"As to the fine or coarse grinding of wheat, I cannot give definite information. In general, for cattle, I do not see why we should grind the grain fine, since grain cracked, or slightly crushed, seems very palatable and is well liked

by most feeders. I admit there is great diversity of opinion on all these points, and one can get any sort of an answer he searches for. I think wheat rolled or broken rather coarse by grinding (chop feed) will prove very satisfactory for steers, and that they will less often cloy on it than when ground into a flour, which is apt to make a pasty mass on mastication unless well mixed with bran or corn.

"I know of but a single experiment in feeding wheat to steers. Prof. William Brown, of the Ontario Agricultural college, fed damaged wheat to twenty-months-old steers averaging 1,030 pounds. He says: 'It was a miserably dried up, shriveled and badly damaged sample of fall wheat. Millers would not even take a present of it.' He found it required five pounds hay, twenty-three pounds roots and four and one-half pounds wheat to add one pound live weight. This is a rather small amount of feed, all round, for a pound of increase.

"At the Wodburn Experiment Station, England, Doctor Voelcker fed wheat three seasons to fattening sheep, in comparison with grain, oil meal and cottonseed meal, and concluded that wheat produced the cheapest gain, at current prices for food stuffs in England.

"A number of experiments have been conducted in this country in feeding wheat to hogs. At the Dominion experiment station, Ottawa, Prof. Robertson fed wheat injured by frost to hogs, with a gain varying from nine to fourteen pounds of live weight from

Holstein Cattle for Small Farmers.

In order to arrive at a proper conclusion in regard to this subject one should first decide just what the small farmer wishes to use the cattle for. The phrase, "small farmer," means, generally speaking, and for the use of this article, a farmer of small means, living on forty to 160 acres of land. We will suppose him to be an honest, industrious laboring man, with the average family of, say, five persons. He looks around to see what kind of a cow he wishes to buy. He has not acreage enough nor force enough to expect to make much raising beef. His ordinary market for butter, at 10 or 12 cents a pound, precludes the idea of buying a cow, expecting to gain much income by that means.

Now, what does he do? Unconsciously he is forced to adopt Henry Clay's great "American system," and dispose of his products by providing a home market. This he does by being forced to supply the demand of his little ones for food. A good, strong, healthy cow, one that gives the year round a good, generous flow of milk, will do this. As the farmer himself is, in a majority of cases, obliged to work in the fields early and late, some female member of the household is expected not only to milk, but to care for the milk in all its details. Hence the cow should be a kind, docile animal. His little ones demand a large quantity throughout each twenty-four hours for their existence, therefore the small milker is

embraces Thoroughbreds, standard-breds, French Coach, Cleveland Bays, Hackneys, German Coachers, Morgans, gaited saddlers, roadster stallions, Shetland and other ponies in the light horse department, and draft horses from France, Clydesdales, Belgians, English Shires and grade draft mares and geldings, and draft teams to trucks, in the heavy horse department.

There are also rings for carriage pairs, four-in-hand, tandems, hunters high jumpers, etc. Every evening there will be an exhibition of driving to carts, coupes, victorias, broughams, drags and tally-ho coaches. A number of the finest and most stylish rigs in Chicago have already filed their applications for entry. A total of \$15,000 in prizes is offered, and is equitably distributed among the several classes.

The railroads of the State have agreed to a special Fat Stock show rate for both passengers and exhibits.

Grind Feed for Stock.

In presenting the illustration, "The Home of the Peerless Feed Grinder," made by Joliet Strowbridge Co., Joliet, Ill., it is proper to give a few facts why it pays to use this class of machinery as a matter of economy in stock feeding.

It is admitted by all intelligent farmers and stock feeders, that to get the full benefit of grain is to grind it. The question, however, whether the cob is worth grinding is no new one. The experience of our best informed farmers, and actual experiments on the subject is, that cob ground with the corn makes much better feed than when ground alone. Shelled corn alone is too strong when fed heavy, and is apt to cause indigestion. If you would get the benefit of feed there must be perfect digestion. To feed meal alone it often goes into the stomach and passes off without being re-chewed. With cob, however, it being of a coarse nature, forces the animal to re-chew the food, and this is essential to perfect digestion. Stock-raisers claim that the grinding of the cob with corn effects a saving of from 30 to 40 per cent. Cattle are "off their feed" less and will put on one third more fat.

Pampford and Woodstock (Conn.) Farmers' Club report from experiments in feeding ground feed to hogs as follows: Three and seven-eighths pounds of ground corn and cob meal produced one pound dressed pork. Five and one-half pounds corn meal without cob produced one pound dressed pork, and it took over six pounds of grain corn to produce one pound of pork. Thus the corn at the then prices fed whole, brought 59 cents per bushel; 66 cents when shelled and ground and 71 cents when ground with the cob. As an argument that the cob is at least harmless to stock, every farmer knows that stock, especially cattle, eat corn in the ear, cob and all. This is nature's argument that cob is beneficial.

Pigs are benefited by having cob meal mixed with their food.

The Cincinnati *Commercial-Gazette* says in its agricultural columns as follows: "Pigs are found to do much better on finely ground cob meal than upon clear corn meal. The reason being that they digest their food better when it goes into their stomach in a porous condition. The cob separates the particles of meal, so the gastric juice can circulate through the mess."

The *Drainage and Farm Journal* says, in speaking of an experiment tried by them wherein they fed ground corn and cob to milch cows, increasing their flow of milk one-half: "Several winters in succession we have fed ground corn and cobs, which increased the flow of milk as above. We were then convinced it paid, and the experience above mentioned indicates that ground ear corn fed to milk stock is better feed than whole ear corn, and enough to justify the expense of a cheap feed mill on the ordinary sized farm."

Large sheep owners report in experimenting on ground feed that ear corn ground for feed is worth one-third more, for the simple reason that sheep feed more regularly in flock than if fed shelled corn. They cannot eat it up so quickly, the stronger ones getting more than their share. They say: "We prefer it before shock corn, or corn and oats. Take ear corn and shell it, where it will feed 200 sheep, grind the same, cob and all, and it would feed 300 head."

The Peerless Grinder will grind either fine or coarse, as desired, and can be regulated while in motion. It will grind ear corn, either dry or damp, shelled corn and oats. Testimonials show that this mill, fully guaranteed by the Joliet Strowbridge Co., is one that no farmer need hesitate to purchase.

Five World Beaters.

"SICKLES" BRAND HARNESS. All genuine stamped with this "Trade Mark." Made in five styles at \$6.50, \$9.00, \$10.00, \$15.00 and \$25.00 per set complete. The best harness for the money on the market. Ask your harness dealer for them. Manufactured only by J. B. Sickles Saddlery Co., St. Louis, Mo.



one bushel of shrunken wheat, the larger gain from a bushel being with growing pigs, and the smaller with heavy hogs. At this station we have conducted some experiments with wheat in comparison with corn, the results of which have not yet been published. I may say, however, that a combination of wheat and corn gave a higher rate of gain with hogs than either grain fed separately.

"As to the relative merits of wheat and corn, it is hard to draw any exact comparison, for we can only compare things which are alike. For growing animals I place wheat from 10 to 25 per cent. above corn; for simply fattening growing hogs I doubt if it will go any further, pound for pound. A mixture of wheat and corn, ground, will make more pork than either alone, I am quite sure.

"I desire to call especial attention to the feeding of low-grade flour at this time. In England horses are sometimes fed bread, but more commonly our low-grade flour is fed there. Prof. Primrose McConnell reports, in the *Agricultural Gazette*, of London, that he has fed American low-grade flour for six months, and is rather surprised at the beneficial results."

Dr. C. S. Webb, Liberty, Mo., says: "I have been using Ayer's Pills for over twenty-five years, and recommend them in cases of chronic diarrhoea, knowing their efficiency from personal experience, they having cured when every other medicine failed."

Agents wanted for Gearhart's Family Knitter. For particulars address J. E. Gearhart, Clearfield, Pa.

not sought after. His barn is small and several cows must be put into it. Butter and cheese are almost a necessity, therefore he will look for a herd that will the nearest meet all these requirements. He also would, when his steers grow up, have one he could put into beef for home consumption. Occasionally a veal is relished by the small farmer.

Taking all these positive necessities, all of which he must supply, what breed of cattle most nearly fills the bill? We answer without fear of successful contradiction, the Holstein-Friesians. What cow of any breed will so nearly support a family—the first consideration the farmer has—and furnish any better means to cut off his outside cost of living?

This, from *Farm, Stock and Home*, expresses our ideas exactly. They have occupied our pages for many years, and this is the reason why Holstein cattle are popular in the West.—*Colman's Rural World*.

American Fat Stock Show.

The Illinois State Board of Agriculture has drafted a full list of premiums for the American Fat Stock Show to be held at Tattersall's, in Chicago, November 22 to December 1, and the copy for the list is now in the hands of the printer. This exhibition will also embrace the American Horse Show and the American Poultry Show. A full classification of prizes is offered for cattle, light and draft horses, sheep, swine and poultry, including the slaughter prizes. The horse show will be a great feature, and the prize list

Agricultural Matters.

POTATOES.

EDITOR KANSAS FARMER:—In your paper, a short time ago, a writer told us his experience in raising potatoes from the same ground twice, and stated that the second crop furnished the best potatoes to grow a crop from. I believe he is correct, but he leaves a false impression on his readers' minds. There are but a few varieties of potatoes that can be grown twice in one season and on the same ground, and he fails to state the one he used.

Most of us readers of the valuable paper known as the KANSAS FARMER, live here in Kansas, and we all would like to profit by anything that would help us along on life's ladder in this great and fertile State. We can only do so by experience and heeding the experience of others. It would please me very much to provoke a general discussion upon farm crops, especially upon potatoes, and as I know but a little about growing them, I must depend upon reading the experience of others on them. I have had practical experience with only twelve varieties, and of them all only the early Ohios can be raised twice in the same year and the same ground. Every man who has made any study of potatoes knows the Early Ohio at a glance. I consider it the best early potato in my knowledge. There are many other early varieties that can be used as early as the Ohios can, but to my mind they are not strictly an early potato, as the vines continue green and they grow lots after the Ohios are all dead.

This year I tried two new varieties—the Early Freeman and the new Late Irish Daisy, catalogued by Wm. Henry Maule, of Philadelphia, Pa.

I have had lots of experience with this man and his dealings, and I just want to say right here to all who read this that his dealings are all on correct business principles, and every one sending him an order for seeds will get just what he sends for, also full value for his money, and he always presents them with some new variety of seeds.

I planted these two varieties alongside of the Ohios and several other kinds, all on the same day and upon the same ground and side by side, and tended them all just alike and visited them nearly every day and noted the different characteristics of the tops as they grew. The Ohios were the first to have the vine die.

Mr. Maule claims the Freeman is the earliest of all varieties. Now, as a matter of fact, they keep up a vigorous growth of both tops and tubers till long after the Ohios are dead. While they can be eaten when small, and possibly as soon as the Ohios, yet I do not consider any potato as early unless they mature early.

So eager am I to give the Freeman and the Irish Daisy another trial that I can hardly wait till spring; in fact, I commenced to prepare my ground for them next year about July 1 of this year, and am still at work on it, also my melon ground for next year.

I raised the best melons in the county this year, as proven by the two fairs, and intend to beat my record next year. I have already put in about two months hard thinking and reasoning and will try a plan next year that I have never heard of before.

But, to return to potatoes. It is not generally known that we have a pure and distinct variety here in Kansas that was originated here from the seed balls, that for general usefulness excels all other varieties for this climate, but we have, and it is called the "Early Kansas."

Mr. Maule says that the Irish Daisy yielded on his trial grounds over two to one more than any other of the known varieties, or some thirty-six kinds, and I wish to go on record as saying that the Early Kansas will out-yield the Irish Daisy and all other kinds at the rate of two to one. I tried the Kansas and Daisy side by side, only thirty inches apart, and know just what I am talking about. By this I do not wish to belittle the Daisy; on the contrary, I wish to fully sustain all Mr. Maule says about it, but to also add

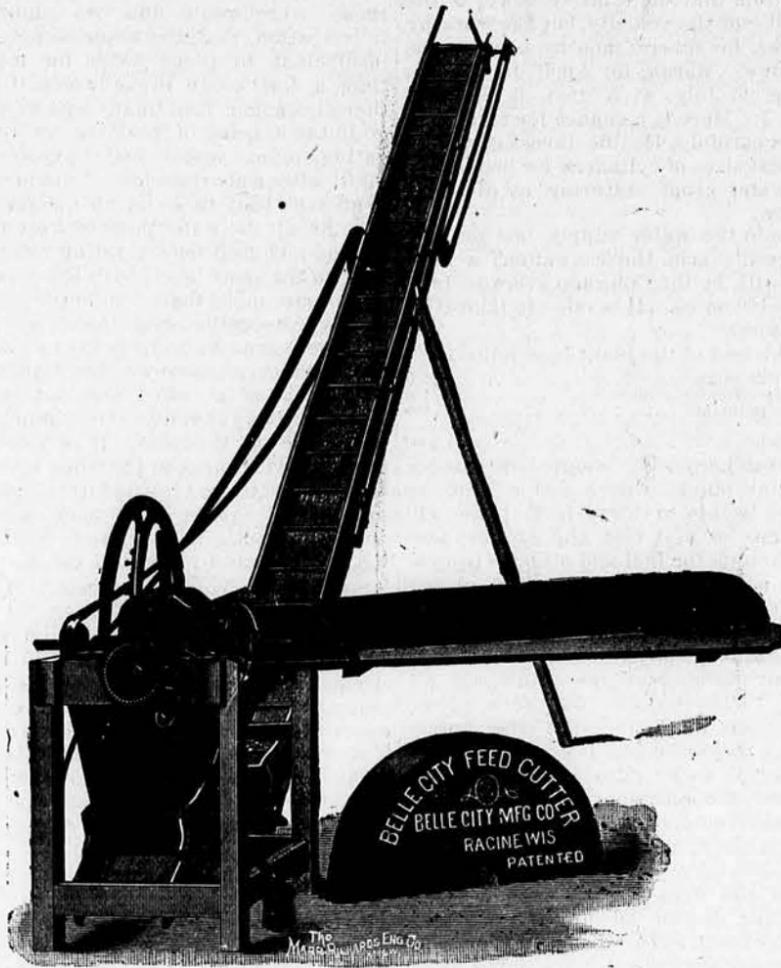
that he was not acquainted with the Kansas. I wrote him about the merits of the Kansas, and he wrote me if I would send him some seed he would give them a fair trial on his trial grounds at "Briar Crest," and I have sent him, express paid, about a peck of fine specimens and am very anxious to hear of his success, in 1895, with them as compared with the records of well-known varieties.

The Kansas is about twelve to fourteen years old, and was originated by a man living north of Toronto from potato ball seed taken from the Peach-blow potato. Rev. Wm. Hankins, of Iola, Kas., is a brother-in-law to the originator, and he brought three potatoes to Iola in his pocket about twelve years ago. From these three tubers comes the great Early Kansas potato, the potato that is destined to be the best known of all since the Early Rose. They are called "Early" because they are fine table potatoes as soon as any other known variety, yet they do not ripen up till about the middle of August or September, according to how early they were planted.

Old growers and men who make a business of potato-raising say they will

planted it could be dug up and eaten after it had raised a crop.

Now for a few questions for some one to answer: What is the cause of scab on potatoes and is there any preventive? Will scabby seed produce scabby potatoes? I have heard that the government has sent out a recipe to dip seed potatoes in to prevent the scab, at the cost of about 50 cents per acre. Can any one give it to me? Has any one tried it? Why do Colorado Red Peach-blows seldom ever show any scab? I have raised them in the next row to others that were scabby and I never saw a Red that was scabby. A potato is a root stem and not a seed, therefore will a small one produce as well as a large one? Will some one else give his experience with Early Kansas? How much seed will it take to plant an acre, either drilled or checked, and if the latter, which is the best distance and what advantage does it have over drilling? Will potatoes mix or cross in the field? Will like produce like, or in other words, do potatoes ever throw back, or produce a sport? I have for years planted Colorado Reds and every time I dig them there are a few hills of white Peachblows, but they are always small. C. J. NORTON.
Morantown, Kas.



BELLE CITY FEED-CUTTER.

out-yield all other kinds and that all others are simply out of sight.

Our merchants at Iola have for a long time paid 10 cents per bushel more for these than for any other kind, and I will state right here that I sent to Mr. Maule recommendations from all the prominent grocers in this county to the effect that the Early Kansas potato was the best all-round potato and that they were acquainted with all the leading varieties. I can get a bushel of testimonials from growers about their enormous yields, but I look for Mr. Maule's results with the greatest interest.

The Kansas is a longish-square potato, entirely free from any knobs or projections, russet in color, with the skin quite rough when fully ripe, eyes rather deeper than in the Ohios and about the same as the Peachblows, and the eye is always pink, and if of any other shade than pink, it is not a Kansas. The vines grow a little larger than the Ohios and blossom out in full bloom with handsome flowers resembling the blow on a peach tree. They grow very large, often weighing three to four pounds on river bottom, and keep perfectly solid till July or August of the next year. Although such good keepers, yet they are the very best of table potatoes from the time they are as big as marbles till they are a year old. I verily believe that if a large one was

How a Letter in Kansas Farmer Produced a Useful Machine.

EDITOR KANSAS FARMER:—Last summer you published a letter from me, calling the attention of inventors to the need of a machine for harvesting Kaffir corn. This was noticed by a mechanic of Fort Madison, Iowa, Mr. R. B. Franklin, 1612 Front street. This led to some correspondence between us, which has resulted in the manufacture of a complete machine for heading Kaffir corn, propelled by two horses, heading one row at a time, at the rate of an acre per hour, leaving the fodder standing, which can subsequently be cut and shocked with horse and sled, the same as any corn. The price of the machine is expected to be so low that a grower of five to ten acres of Kaffir corn cannot afford to do without it, while the saving of labor in heading fifty to one hundred acres would pay for the machine.

Heretofore the saving of the seed of Kaffir corn has been a great drawback to its cultivation, as it is a tedious and laborious job to separate the heads from the stalks by any process that could be devised without machinery, and I am greatly mistaken if the invention of Mr. Franklin does not greatly stimulate its cultivation.

It is the inventor's desire to put it into the hands of farmers without the



M. Hammerly, a well-known business man of Hillsboro, Va., sends this testimony to the merits of Ayer's Sarsaparilla: "Several years ago, I hurt my leg, the injury leaving a sore which led to erysipelas. My sufferings were extreme, my leg, from the knee to the ankle, being a solid sore, which began to extend to other parts of the body. After trying various remedies, I began taking Ayer's Sarsaparilla, and, before I had finished the first bottle, I experienced great relief; the second bottle effected a complete cure."

Ayer's Sarsaparilla
Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.
Cures others, will cure you

aid of implement dealers, and he desires correspondence with all who feel interested in the success of his machine. D. P. NORTON.
Council Grove, Kas.

Experiments with wheat at the Illinois Experiment Station for 1893-4 are reported in Bulletin 34, just out. At this station the varieties giving the largest yields per acre were New Michigan Amber, 48.4; Yellow Gypsy, 46.5; Crate, 45.5; Rock Velvet, 45; Royal Australian, 44.7; Currell's Prolific, 43.7; Diehl Mediterranean, 43.7; Missouri Blue-stem, 43.6. The fact that above forty bushels per acre can be readily produced by giving the proper conditions, makes the small average of ordinary farming seem ridiculous.

Belle City Feed-Cutter.

Most farmers and stock-feeders, on account of the long-continued drought of last summer, need a fodder cutter, for cutting feed during the winter. By doing this they will not only economize in feed, but will also benefit the stock by feeding in this way. The Belle City Manufacturing Co., of Racine, Wis., have an advertisement in this paper, and we gladly recommend any of our readers who are considering this matter to send for their catalogue regarding same. They will furnish their full line of printed matter and illustrated catalogue, free, to all inquirers who mention this paper. See illustration on this page.

"Howdy, Stranger!"
Is the Texas Welcome.

Texas will say "Howdy" to you, if you will run down and give her hospitable citizens half a chance to get acquainted with you.

Besides being a pleasant place to visit, it does not take a back seat as a wealth-producer.

G. T. Nicholson, G. P. A., Topeka, Kas., will furnish free pamphlet describing Texas. Write for it.

This is a good chance to see northern Texas, low round-trip rates having been made for Texas State fair and Dallas Exposition, over the Santa Fe Route, October 19, October 26 and November 2. Inquire of nearest A., T. & S. F. agent.

CONSUMPTION SURELY CURED.

TO THE EDITOR—Please inform your readers that I have a positive remedy for the above named disease. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy free to any of your readers who have consumption if they will send me their express and post office address. Respectfully,
T. A. Slocum, M.C.,
No. 183 Pearl Street, New York.

Irrigation.

Dates of Irrigation Conventions.

NOVEMBER 9-10.—Inter-State Irrigation Association, at Kansas City.
NOVEMBER 23-24.—Kansas State Irrigation Association, at Hutchinson.

GREAT BEND IRRIGATION.

Remarks of H. V. Hinckley, Irrigation Engineer, before the Barton County Irrigation Association, September 29, 1894.

Not expecting to make a speech, I have none prepared, but will speak at random from memoranda which I have jotted down since entering the court room.

You have heard many enthusiasts speak of turning the Missouri river from its bed away up in the Dakotas and bringing its waters to western Kansas for purposes of irrigation. There are two reasons why this will never be done. First, Pierre, South Dakota, for example, is 400 feet lower than Great Bend and 1,400 feet lower than Garden City, and it is hard work to push water up hill in open channels. Second, there is ten times as much land between any point of diversion and western Kansas as the entire flow of the Missouri will irrigate, hence, as an economic government proposition, the Missouri waters can never irrigate western Kansas.

We also hear much about the proposed reservoir storage in the Rocky mountains, and the share of water that Kansas will sometime get from those reservoirs by immense canals across the plains. When those reservoirs and canals are built it will be found that the water won't come half way to the Kansas line, for there is from four to six times as much land on the eastern Colorado plains as the rainfall on the eastern slope of the Rockies can ever irrigate; but don't think for a minute that I am attempting to discourage irrigation enterprises. The water supply is ample to keep us busy as long as we shall be here. My desire is simply to discourage the impracticable schemes.

The whole Arkansas valley can be successfully irrigated. I do not say that there is sufficient permanent water supply to give an artificial covering to the whole valley of thirteen to twenty-four inches per annum, but I do say that by diversifying crops the entire valley can be successfully cultivated and sure crops obtained. For example, if you will irrigate twenty acres of alfalfa one year or two years, along with other stuff, you can then leave it to get its own water from below, and you can irrigate another twenty acres. Again, spring garden truck requires spring water. Orchards require water distributed through a longer season. By studying how to make water go as far as possible, the entire valley can be eventually made to grow sure crops.

You hear many theories and statements about the mysterious, inexhaustible underflow. I desire to say to you positively (and have it so understood) that there is no mystery about the so-called "underflow." It is not supplied from the bowels of the earth, but by the rainfall, and further, that the only source of water supply from the Rocky mountains to the Missouri river is the rainfall. The depth of the underflow or sheet water has nothing, absolutely nothing, to do with the permanent supply for irrigation. The Arkansas valley sands (bearing water) have been sounded in places over 1,000 feet deep and in other places less than 100 feet deep. One hundred is just as good as 1,000. Some people think the sand and water in the Arkansas river are flowing rapidly down stream. The fact is the sand, as a rule, does not move, except at the surface. The water carried in sand does flow if it has a sloping surface caused by topography, pumping or drainage. Where the slope is seven feet per mile, as in the Arkansas, the flow is approximately a mile a year, varying from a half mile to two miles, depending on coarseness of sand or gravel.

We need a State board of irrigation to investigate the problems of water supply, conservation and usage.

There are scientific questions of runoff, evaporation, etc., that are in western Kansas unknown quantities at the

present time. For instance, the books give a half inch a day as a maximum evaporation from a pond surface, while a man in Wallace county (who is apparently reliable) gives me accurate data to show that the evaporation on his pond in one day of twelve hours, in June, 1893, was fourteen and three-fourths inches.

With such meagre information, it is (generally) entirely unsafe to build storage reservoirs for the conservation of storm waters in the large ravines. I notice in the press dispatches that you are going to build a canal at Great Bend that shall irrigate 200,000 acres. I don't wish to discourage any enterprise, but I will say that it is not possible to build a canal at Great Bend (at no matter what cost) that shall give permanent and ample supply for the irrigation of 200,000 acres. If the canal is to be fed by an open reservoir I shall be agreeably surprised if it furnishes a permanent reliable supply for one-tenth of that acreage. I do not know of any open reservoirs that are a success as feeders, though they can be made a success by sufficient intelligent expenditure.

As to diversity of crops, I want to mention that the relative power of the wind (not the velocity, but the working power) for several months is about as follows: March, 15; April, 12; May, 7; June, 6; July, 4; August, 3; September, 7. Here is a chance for study and for a careful scientific investigation as to best sizes of cylinders for windmills to water crops maturing at different dates.

As to the water supply test on Mr. Cowgill's farm, the 300 gallons a minute will, by the Colorado average, irrigate 150 acres. It is safer to take it at 100 acres.

The cost of the plant is as follows:

Gasoline engine.....	\$530
Rotary (Wonder) pump.....	170
Drive point, etc.....	100
Total.....	\$800

or \$9 an acre. For rough estimate for similar plants, where water is to be lifted twenty to thirty feet, I use \$10 an acre for first cost and \$2 per acre per annum for fuel and other expenses. And when crops can be raised giving returns of \$20 to \$100 an acre a year, there would seem to be no question as to whether it pays.

The gasoline engine catalogues all say: "We guarantee one horse-power for 1 cent an hour," but the horse-power they give you is not a net horse-power of water lifted. You have to deduct the efficiency (or rather the non-efficiency) of both the engine and the pump, so that in mechanical work done the horse-power costs from 2 to 4 cents and even higher. Don't buy a gasoline engine of anybody at any price except under the condition that the seller shall furnish the pump, belting, etc., complete, and shall guarantee so much water actually lifted so many feet high for so much gasoline.

One more point and I'm done. You hear people suggest that when we get to irrigating perhaps we can change the climate. The evaporation from the irrigated fields will perhaps make more clouds and more precipitation. The experience of the world under similar conditions is that while the moisture is necessarily taken up into the air, the whole amount so taken up is so little compared with the whole arid area that there is no change in cloudiness or in precipitation—the moisture going to the mountains to be precipitated. We don't want any change of climate. It is the maximum of sunshine, the maximum of fresh breezes and the right amount of water at the right time that give the farmer his golden opportunity to raise a maximum crop. The water supply in western Kansas, meagre as it is, has a value of at least \$100,000,000, and steps should be taken to develop it. The east end of the State owes the west end (from the last Legislature) over a half million dollars. We shall ask for a part of that for western Kansas during the coming winter.

"Hope lures us on," sings a Western exchange, "toward our fate, which plainly says if we want grain we've surely got to irrigate."

When writing our advertisers please mention the KANSAS FARMER.

IRRIGATION SUPPLIES.



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GASOLINE ENGINES, ETC., ETC.



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The Inexhaustible Water Supply.

EDITOR KANSAS FARMER:—I see by the tone of most of the articles written for publication that there is a great fear existing among those who would like to embark in irrigation, that the water supply is insufficient to afford water for more than a few, or, in other words, that there is danger that many who might go to the expense of building an irrigating plant, would find themselves "left" after a short period. I would say to all such that there is no danger of this, for all the water pumped from the ground and used for irrigating returns back to the same level, with the exception of not more than 5 to 10 per cent. lost by evaporation, and that is a good deal more than made up by the rainfall. For instance, suppose we are situated in the head of a valley, and put in a pump on every twenty acres, and use that water on the flat. It permeates the soil and returns to the same water-bearing strata that it came from, ready to be raised by the next man below, and so on until it reaches a flowing stream that carries it out of reach.

So it is with running streams. You may dam a stream and take out all of the flowing water, and use it on the land and it will all get back into the stream again inside of a few miles, ready to be used again, so the same water can be made to do duty hundreds of times, before it gets out of the State.

The only way the people can be robbed of their natural water is by taking the water out of a stream high up and carrying it in a ditch over the divide into another valley that will carry it to another stream, or by taking the water out of a stream and conducting it in a ditch a long way down stream before it is used on the land and by so doing deprive those immediately below of their water rights.

My experience in southern California was that in every case where the stream was deprived of all the running water, that a few miles below where it was used on the land the volume of water was as large as before.

The sub-strata of water can be largely augmented by damming the draws and holding the surface water back and giving it time to permeate through the soil and find its way to the sub-strata instead of running off on the surface. Let me give you an illustration of the inexhaustibility of the sub-strata of water in this State. There is running, in sight of the writer as he is penning these few lines, two twelve-inch walking-beam pumps on a five-foot lift on the same ten acres. They have been running two and one-half years, night and day, and the water has not been allowed to again permeate the soil, but has been carried off into Spring river and the volume of water is the same as at the beginning. Where the sub-strata is sand or sedimentary sandstone, your water supply is permanent and the volume will increase instead of decrease as soon as pumping takes place.

J. S. SHERMAN.

Galena, Kas.
The subject of the recovery of the water used in irrigation has received

some attention by both practical irrigators and scientists in Colorado. It has been found that a considerable proportion of the water used returns to the stream or the sub-stratum from which taken. Unless, however, excessive and hurtful quantities are applied to the land a large per cent. is used by the plants grown. It has been roughly estimated, and pretty generally conceded, that for every ton of dry matter in the crop produced, the average plant must take in through its roots and transpire through its leaves 100 tons of water. If then the crop make, as is often the case with alfalfa, five to eight tons per acre, it uses in its growth and liberates into the air 500 to 800 tons of water for each acre, equal to 16,000 to 24,000 cubic feet per acre, for a maximum crop, say about six acre inches. Besides this, which may be said to be used in forming the crop, considerable water is evaporated from the surface of the land without doing useful work in the promotion of plant growth. So also much is wasted by transpiration through weeds, etc. The entire quantity of water passed off into the air must, therefore, be larger than estimated by Mr. Sherman. If twenty-four inches be applied in irrigating, more than one-fourth of it doubtless goes into the air. But in all Kansas, east of the center, the average annual rainfall is over twenty-four inches, and the proportion which gets into the underground reservoirs and streams is doubtless greater than the requirements of plant growth and for necessary waste, so that when account is taken of the beneficial use of the rainfall made by crops in all this region there is annually added to the sources of supply quite enough water to irrigate all of the land to the fullest desirable extent. True, the engineering difficulties which stand in the way of delivering this water to some of the land where it is desirable to use it can be overcome only at such expense as in many instances to be prohibitory. But our correspondent is eminently correct as far as this great region is concerned in his conclusion that the supply is abundant, and it may be added that it is greater than will ever be fully used.

A similar consideration of the situation in the western half of the State indicates that in the first fifty miles west of the center the supply is annually replenished to such an extent that if the available water were the only question to be settled three-fourths or more of the entire area of this belt might be irrigated; in the next fifty-mile belt sufficient water can be obtained to irrigate half or more of the entire area; in the third fifty-mile belt nature supplies enough water to irri-

WATER PIPE.

Our Hard Burned Vitrified and Glazed Clay Pipe is everlasting. With our Improved Joints this pipe will stand same pressure as iron and costs about one-fourth as much. Write for particulars.

W. S. DICKEY CLAY MFG. CO.,
Makers of all kinds of Burned Clay Goods.
Office 800 N. Y. Life Bldg., Kansas City, Mo.

ONE CENT PER HOUR IS CHEAP.
That is what "WEBER" GASOLINE ENGINES COST to run per horse-power. Simple, Safe, Reliable, Economical. GET POSTED.
Weber Gas and Gasoline Engine Co., 459 Southwest Boulevard, Kansas City, Mo.

gate one-fourth or more of the entire area, and in the fourth or westernmost fifty-mile belt enough for 10 to 15 per cent. of the entire area. This water is not so distributed that in every part or any of these western belts the areas for irrigation can be selected with the regularity of school sections. Indeed, there are areas, like the Arkansas valley, for instance, which have available far more than their proportional share of the waters of the region. In these the entire area can be and doubtless will be irrigated, while other regions in the same longitude have large areas in which the engineering difficulties will be found so great that the profit of irrigating the land will not repay the expense.

But as a general proposition, it may be stated that the water available for irrigation in the western half of the State is so replenished by nature's supplies that it will forever be sufficient to irrigate approximately half of the land; that this is more than will be fully developed by the end of the first quarter of the next century; that it is not worth while to begin worrying about the exhaustion of the water supply until we have made sufficient development to use at least 1 per cent. of it; that there are certain to be formed wealthy and prosperous communities whose resources will be the magnificent soil, the immense and easily-accessible supply of water and the magnificent sunshine of the plains of Kansas.

State Irrigation Meeting.

Apropos of the next meeting of the Kansas State Irrigation Association, the following circular has been issued: HUTCHINSON, KAS., October 5, 1894.

On the 23d and 24th of November the Kansas Irrigation Association will hold its second annual convention in this city, under the auspices of the Hutchinson Commercial Club. Our convention of 1893, held at Wichita, was pronounced by the Director of the United States geological survey the most substantial and intelligent irrigation convention he had ever attended. Many conventions have been held since, but we propose to make this the most interesting and instructive of all. The formality of a basis of representation will be waived, and the whole State will be invited to be here. No State in the Union is paying so much attention to individual pumping plants as Kansas, and nowhere else will the immediate field for irrigation machinery be so prolific. We want all makers of pumping, irrigation and farming machinery to be on hand with complete exhibits, both for the instruction of visitors and the commercial benefit resulting to the manufacturer and dealer.

This ample notice is sent in order that no complaint may be entered as to lack of time.

Space and water will be furnished free to all exhibitors, and a half day will be set aside for the special examination of the exhibits. We suggest the propriety of bringing an abundance of printed matter and having a representative present who can give figures for a pumping plant (power and pump) capable of filling the requirements of any prospective irrigator present.

We suggest the necessity of every exhibit being ready on the 22d, so that visitors who come especially to see machinery may do so Friday morning. We have reasonable assurance of one fare for visitors. Please advise at once whether we may expect you to make an exhibit so we may know about what to advertise.

COMMITTEE OF ARRANGEMENTS.

For the Association, H. V. Hinckley, Topeka.

For the Club, B. S. Hoagland, Hutchinson.

Address your reply to B. S. Hoagland, Hutchinson, Kas.

For one fare on exhibits from any point on Santa Fe or from St. Louis via the Frisco, write at once for instructions to C. R. Hudson, Assistant General Freight Agent, Topeka, Kas.

The Weber Gas and Gasoline Engine Co., of Kansas City, Mo., was given the highest award and diploma on the 6th inst. by the Finney County Irrigation and Agricultural Society, at Garden City, Kas., for the most economical and simplest gasoline engine for irrigation purposes. The Weber Company are justly proud of this honor, as there were quite a number of exhibits of gasoline engines and like machinery at this fair.

The Family Doctor.

Conducted by HENRY W. ROBY, M.D., consulting and operating surgeon, Topeka, Kas., to whom all correspondence relating to this department should be addressed. Correspondents wishing answers and prescriptions by mail will please enclose one dollar when they write.

Foot-Gear.

A correspondent asks if pointed or high-heeled shoes are either one injurious to the feet; and, also, how he can take care of his feet to prevent them from becoming so very tired all the time. He signs himself "A Young Man."

While it is no crime to be a young man, yet it is often an exceedingly inconvenient thing. It is an age of martyrdom, of self-sacrifice and immolation on the great altar of mode, of fashion. Out of that has grown the proverb that one "better be out of the world than out of the fashion." Fashion is such a tyranny. If the law enacted by the Legislature put any young man's feet in the pinch and cramp that fashion's law does, there would be a tremendous and successful rebellion on foot at once. If our statutes decreed that men should wear those tooth-pick toes and stilted heels that the votaries of fashion trig themselves out in, there would be the awfulest kick that men ever heard of. The kick against taxation without representation would be a very tame affair by the side of it. St. Paul said it is hard to kick against the pricks, but fashion's votaries do it right along. Of all the abominable, senseless and idiotic freaks of fashion, the human foot comes in for the most outlandish and outre. We ape the poor benighted so-called "Celestials" to such a foolish and absurd extent that next to them we can show more crippled and distorted feet to the acre or mile than any people on earth. To be sure, the frog-eating Frenchmen come hobbling and limping along close behind us, on their stilted heels.

Yes, my dear "young man," those pointed toes are a positive menace to your manhood and to your success in life. Did you ever know any kind of a cripple to get on in this hurrying world equal to the person of like qualifications who was not a cripple? Surely not. Alexander H. Stephens was a paralytic and yet a great man, but Alexander Stephens, in the full possession of all his natural physical endowments would have been President of these United States. Lord Byron, but for his club foot might have been Premier of England, and would not have died a morbid misanthrope. He would have been a leader of men. And St. Paul, but for his hunch-back affliction, probably would have been Emporer of Rome and a greater leader than Hannibal or Xerxes or Alexander the Great. No man with a kangaroo gait ever walked into the respect and confidence of his fellow men. No pigeon-toed man among the Caucasians ever led an army or sacked a city. Napoleon walked like a King and Marlborough like a Prince.

Let me tell you what sharp-toed shoes do for people. Instead of allowing the toes to rest, each for itself, on the ground or floor or shoe sole, and give fine, manly poise to the body, the toes are forced to a point, cramped together so often one toe overrides the other. The effect of trying to walk with the toes piled on top of one another is to create all those ugly, painful distortions of the joint where the great toe joins the foot, called and cursed as bunions. The bones being forced out of line strain the joint so that the resulting slow inflammation builds up that great unsightly hump, like half an apple, just where a beautiful curve should be found in your shoe. It pulls the little toe in so far out of line with the outside of the foot that those acres and acres of achers are produced on the little toe at and below its junction with the foot, and another beautiful curve is spoiled in the foot, as well as in the face, for the wild grimaces of corned people are pitiable in the extreme. Then the toe next to the little toe is so often undermined and ousted and thrust upwards that it produces another large crop of corns. And I have in some cases been called upon to amputate it to get rid of the intense suffering caused by its distortion. The man whose toes are cramped down to a point has always a wobbling, crippling, jerking gait, much like a lame turkey. He cannot possibly stand erect, well-poised and still, like a trained gladiator. He is like a reed shaken with the wind. Another very serious effect of narrow-toed shoes is what is known as Morton's disease. The bones of the foot are pressed so close together that they pinch the nerves running to the third and fourth toes, creating a neusoma or knot on the nerve, which becomes so exquisitely painful that it must sometimes be cut out and leave the toes paralyzed, in order to cure it.

No sculptor ever asks a cripple footer to sit for a foot model nor to stand for a well-poised symphony of outlines. No painter ever asks him to sit for any kind of a sketch, except one of foot-hills and corn fields to be placed in a dime museum for gawks to gaze at.

As to the cowboy heels, you would be a

bigger idiot than the cowboy himself if you should undertake to wear them. He can sit all day in the saddle and wear such crazy heels with little injury, for he does little walking. He rides, and lays them off or lies down in them at night. But for a sane man to undertake to rise in the world by pegging sole-leather to his heel is the very surest way not to rise. All well-balanced minds despise such heellantics, just as they do any other sort of human monkey shine.

Nature gave water its level on the planet, and water is always sensible enough to maintain its level if permitted to do so. So all the feet of animals and men and birds have been given their level for perfect locomotion, and when that normal level is maintained, men have as much resiliency in their walk as a panther or roebuck. Let that normal level of heel and toe be distorted and the foot and gait are both crippled. Set the foot up on a peg heel and the weight of the body is pitched forward from the heel to the ball of the foot, and great ugly sole-leather-like pads and callosities are formed on the ball of the foot, which I have known to become extremely painful and incapacitating. I have sometimes had to remove them by a surgical operation.

It has been observed by oculists that ladies addicted to French heels are frequently afflicted with distorted and weak vision, and the high-heeled nearly all complain of aching ham-strings from the undue strain on certain muscles of the legs. They produce kangaroo limp and the Grecian bend.

How much could Sandow lift, think you, if he wore tooth-pick toes or cowboy heels? With broad, flat soles and heels, and his heels and toes on nature's level, he lifts two and a half tons. Put him on stilted heels and in narrow toes, and, like Samson, he would be shorn of his great strength and be but a plaything in the hands of the athletic Philistines. Fancy Jim Corbett or Mitchell in such gear! No great physical achievement was ever accomplished in the world in such foot-wear. Imagine a dancing master cowboying over a waxed floor, going through the several attitudes of a jumping-jack, or the clog-dancer keeping time to a hundred beats a minute in such pedal frippery.

When the United States took that gigantic contract to put down the rebellion, it put a million men in low heels and broad soles, and let their toes have room to go at ease without crowding each other, and our soldiers traveled thousands of miles and carried tons and tons of war's paraphernalia on their backs, and those who came home could out-walk and out-carry all the strong men left at home. Had the soldiers of the North been shod in French heels and sharp toes the war would surely have gone against us. We should have had practically an army without feet. So the fate of the nation was certainly due to the help the troops got from the old army shoes.

The great Lincoln knew the worth of a broad, roomy shoe or boot, and the story is told of him that going up Pennsylvania avenue one day towards the capitol, he was accosted by a bootblack who solicited a job, and seeing that his boots were not in first-class condition he sat down and put out his foot to the little "shine artist" for a shine. The boy took one good look at the boot before him, called out to his mate, "Say Jimmy, lend me a spit; I've got an army contract." But that broad, easy boot bore the hero and idol of sixty millions of people. No French folly pinched his toes or put corns and bunions on the foundation of his physical greatness.

The aching feet! There's the pinch, There's where folly puts her cinch. How they throb and ache and beat, How they thrill and burn with heat, How they ache and puff and swell, How they break the charm and spell, How they murder peace and sleep, When to bed you groaning creep; How they spoil domestic joy, How they plague each girl and boy, How they ravish nature's plan, How they torture maid and man, How they call you from your prayers, While the skeptic groans and swears; How they spoil your pretty speech, When proposing-time you reach; How they fling an angry whirl In the answer of your girl; How they leave you in the lurch When you want to sleep in church; How they make you cringe and twist At the theater and whilst; How they make you sigh and groan When you're sitting all alone; How they stir your spleen and gall In the concert-room or ball; How they fling you into strife With your aching-footed wife; What a fool they make you be When you've company to tea, And before the grace is through Make you hustle off your shoe; And it beats the very Jews How such achers in your shoes Leave you any time to snooze Or to read the morning news.

No, my dear young man, don't be an idiot before your time. Many a gray-headed man before you has gone into tight shoes and backed out. He has been through all the fads and follies of foot-gear and come out limping, lame and lumbagoed. The girls will not admire you any the more for your vanity or imbecility. If you have neither brains nor fortune no sensible girl will ever bring you either just because you limp

WEAK WOMEN

and all mothers who are nursing babies derive great benefit from Scott's Emulsion. This preparation serves two purposes. It gives vital strength to mothers and also enriches their milk and thus makes their babies thrive.

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along in fashion's fad, with a top-knot sticking out from under your hat and another from under your heel. Sensible girls never dote on any such dandy. They will only laugh you to scorn, and would as soon think of marrying an anthropoid ape. Don't spend your time thinking about such follies. Think about getting your mind to a point, and let that point be an unalterable resolution to be manly, noble, courageous, industrious. Leave all extra lifts off your heels and put all possible ones on your mind. When all the narrow-minded young men refuse to wear narrow-minded shoes then those crazy pedal geometers, the shoemakers, will place on the market "walkinfasts" and "restingwells" and "komfortkeepers" and "loftyleapers" and "heavylifters" or any other sensible style you can think of.

Since your foot is that tremendous engine that takes up your body and flings and hurries it across the fields or along the highways at the tremendous rate of the sprinter or with the majesty and grace of a Chesterfield or Beau Brummel, you should respect and cherish it, should cultivate its full capacity for beneficent action, that you, too, may walk like a King among men.

"Incedit dea," said Virgil—"she walks a goddess." Let the ladies take the hint.

Answers to Correspondents.

(NUMBER 35.)

FAMILY DOCTOR:—About fourteen years ago I was taken ill with a severe pain in the muscles of my left limb, from my hip down to my ankle, but have had no pain in the knee or hip joint. For three years I was unable to do much work, but finally I recovered partially, but am never entirely well. It hurts me to walk much and I am never able to follow a team in the corn field except by distressing myself, and at times I am laid up with a severe pain and can get no relief except to keep quiet. Am nearly 50 years old and sound in every other respect, but have lost ten to fifteen pounds of my weight since this trouble began. Have tried many remedies but got no permanent relief. If you can do me any good please answer through the KANSAS FARMER. Blaine, Kas. M. O'K.

Your trouble is what is known as sciatica. It can generally be cured, though it has long been held to be practically one of the incurable diseases. There is no cure-all for that any more than any other form of rheumatism. They are all hard to cure except by careful, close study of the personality and constitution of the patient. Most rheumatisms depend on some depravity of nutrition. Some chemical element in the body is either deficient or excessive in proportion to other elements.



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The Home Circle.

To Correspondents.

The matter for the HOME CIRCLE is selected Wednesday of the week before the paper is printed. Manuscripts received after that almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

Incense.

In the sweet woodland ways, and by
The brook that mirrors clear the sky,
I find the last dear flowers growing,
The last blue asters bravely blowing;
And, floating in a silver mist,
In opal, rose, and amethyst,
A golden cloud of incense drifts,
And in the soft air wafts and lifts.

Balsamic scent of pine and fir
Salutes the forest breeze, astir
With birds which leave the empty nest,
And sail away in eager quest
Of summer in some land afar
Where yet the glowing roses are,
Through branches drooping amber leaves,
Past fields and meadows shorn of sheaves,
O'er uplands fair, in valleys deep,
The spicy breaths of autumn creep.

The vines are bent with purple bloom
Of clusters dusky in the gloom,
And giving back the noontide's sheen
In fiery lustre through the green
And tangled foliage of the grape,
O perfume rare, and perfect shape,
Swing wide and free, ye censers fair,
The year's best wealth is garnered there.

Ere long the blue fringed gentian's flower
Will light for us a waning hour;
The pink marsh-mallow's torch will shine
Upon the swamp-land's glimmering line;
The common path will wave with gold,
Superb and lavish, bright and bold,
And wayside hard and fading sod
Laugh out ere pales the golden-rod.

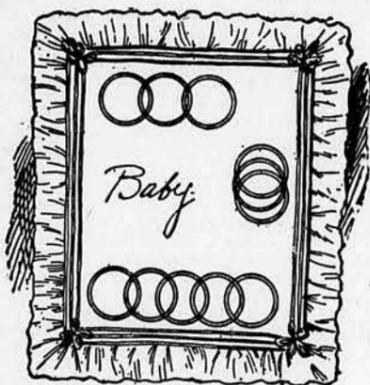
From spring to autumn every mile
Hath known the bliss of Nature's smile;
From spring to autumn, day by day,
Who would, 'neath Nature's roof might pray.

The earth is but a splendid shrine
For worship of the One Divine,
And every plant its censor lifts,
And every tree its incense drifts,
Where stream and wood and hill and road
Thrill to one chord, the praise of God.
—Margaret E. Sangster, in Harper's Bazar.

FOR BABY'S OUTFITS.

Three yards of cheese cloth of the better quality, which comes in exquisitely light colors and is fine in sheer and texture; one roll of cotton wadding, two rolls of daisy ribbon and an envelope of sachet powder give sufficient material for a pretty baby coverlet at a cost of 75 cents.

Physicians have decided that perfumes contain ozone or oxygen, which



AUTOGRAPH COVERLET.

invigorates the atmosphere, so white rose, violet or heliotrope may be used without stint. A yard of cheese cloth will be found a desirable size for the little comfortable. Spread this upon a table and overlay it with sheets of cotton wadding, liberally sprinkled with sachet powder. Finally cover the cotton with a second yard of cheese cloth, turn in the edges and baste them together, after which they may be overhanded or stitched about on the machine. The entire coverlet should then be basted through and through to hold the cotton in place.

A circle, a square or a diamond, in ample size, should next be cut in paper as a pattern. Decide somewhat the nature of the design, keeping in mind that it must be sufficiently intricate to serve as quilting for the coverlet.

A row of circles overlapping each other across the top and bottom of the coverlet is effective, with "Baby" basted out in your own autograph in the center. It is simple work to follow out the basted pattern with daisy ribbon, sewed firmly down to hold the cotton inside in place. The last yard of cheese cloth is utilized as a ruffle for the edge. This frill should be three inches deep, made double, and the fuller it is the jauntier when set about the coverlet. A single row or several of daisy ribbon will hide the stitches that join the ruffle to the coverlet. These ribbons may be tied in little bow-knots at the four corners.

A pretty and convenient pocket for the perambulator can be made of white, blue or pink china silk embroidered with forget-me-nots, rosebuds, violets or daisies. Neatly made up and completely lined satin ribbons an inch wide should be run in a casing, sewn out for the purpose, at the foot of the ruffle. These ribbons should draw at either side to open and shut the bag, reticule fashion.

The bag may contain several essentials—a couple of safety pins, the child's bottle of milk for emergency, with a bit of absorbent cotton tucked inside the nipple to keep it from leaking, an extra bib and a handkerchief, a flannel square against sudden cold.

Here is a dainty gift for an infant: Three yards of two and a half-inch wide satin ribbon is required. The strap proper is made of two lengths of ribbon, the one used for the outside embroidered with forget-me-nots, violets or pansies.

The two pieces of ribbon are carefully overhanded together and one end sewed up, making a bag the width of the ribbon and a half yard long; this is tightly stuffed with thoroughly sacheted cotton, and the open end closed. The remainder of the ribbon is made up into two full rich rosettes, each having short pennant ends jockey fashion.

A yard of ribbon, a quarter of an inch wide and matching in color, may be securely fastened to the elaborate strap beneath the rosettes, and will



POCKET AND STRAP.

serve to adjust the strap to the carriage in lieu of the buckles which fasten the leather straps. These straps are prettily made in linen and are embroidered and finished in the same manner, and serve nicely for summer use.

Another dainty trifle is a gauze screen for outdoor use. This may be made of a two yards square of pointe d'esprit or of wash blonde, as many people think dots injurious to young eyes.

A frill of pointe d'esprit lace four inches deep may be set about the square. The sewing is to be covered with a border of braiding with daisy ribbon run in it. Several rows of braiding run with ribbon will give a very dressy effect. The four corners may be finished with tiny bow knots or rich rosettes.—Boston Globe.

Almond Macaroons.

Pour boiling water over half a pound of shelled almonds, remove the outer skin and plunge into cold water for a few minutes, then pound them to a smooth paste, adding a teaspoonful of lemon essence; add a pound of pulverized sugar and the beaten whites of three eggs. Work the paste together, dip the hands in water and roll the paste into balls the size of large nutmegs. Lay on buttered paper an inch apart. Dip hands in water and pass finger tips over macaroons to make them smooth and shining. Set in a cool oven for forty-five minutes. These macaroons are very nice, and if made right are as good as those made by confectioners.

A simple but often effective way of relieving nervous headache is to bathe the head freely in water as hot as can be borne. This should be applied not alone to the temples, but to the back of the ears and the back of the neck, where the nerves are very numerous. The effect is, in most cases, soothing and beneficial.

Read our sewing-machine offer—page 15.



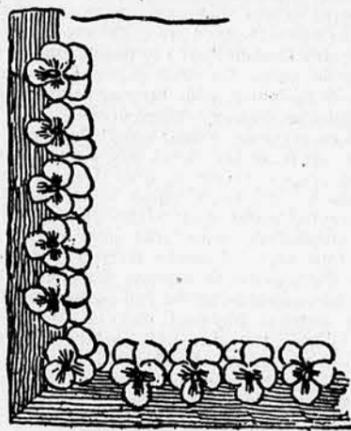
FORTY MILLION CAKES YEARLY.

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Pretty Tea Cloths.

The fashion in five o'clock tea cloths ordains that a cloth of fine white linen should have a deep border of rich brocade, the seams where the two materials join being covered by a row of large single flowers embroidered in crewel stitch. The linen center is then covered with tiny stars embroidered in the color of the brocade. Thus a cloth with a pale mauve brocade border has a row of embroidered pansies covering the seam and pale mauve stars in the center.

Lace braids are more and more used in embroidery, on the ground that they furnish the appearance of fancy stitches without the trouble of making them. An afternoon tea cloth recently presented to a bride was of white silk,



TEA CLOTH BORDER.

bordered with white and silver brocade, with an insertion of beautiful lace between the silk and the brocade. In each corner of the silk center was an exquisite group of the bride's name-flower worked in raised white silk embroidery, outlined with silver thread. In the center her monogram was worked, and it was surrounded by a garland of the same flowers tied with a true-lover's knot.—N. Y. Tribune.

Pineapple Recipes.

The most important thing to know about pineapples is how to cut them, and ignorance of the proper manner in which this should be done is responsible for much of the distaste awarded to this tender and delicious fruit.

The pine should first be peeled, taking care to cut well inside the eyes to remove the sharp spear which each eye contains. Then stand the pine on end and wring off the crown or top, never cut it off.

With a sharp knife then cut the pine in thin slices from top to bottom and keep turning the pine around and slice to the core. Put the slices in a dish and let stand until ready to serve, when sugar may be added if desired. Under no circumstance add the sugar until the last moment, as it draws out the juices of the fruit and injures the flavor. This is a tender point and one not generally known, but if you will follow these directions fully the result will be a dish incapable of harm to anyone, both tender and delicious.

Pineapple shortcake is a tempting dessert and is made as follows:

Take half a cupful of butter, one cupful of sugar, half a cupful of milk, two cupfuls of flour and two teaspoonfuls of baking powder. Bake in two layers and spread chopped pineapple between the layers after the cake is cold. This recipe is very popular down where the pines grow, but any recipe for strawberry shortcake will do as well by substituting the pine for the berries.

Another and still more delicious use for this fruit is known as pineapple bignets:

Cut the pine into pieces the size of a

silver quarter dollar and a quarter of an inch thick. Let these steep for an hour in brandy, sweetened with powdered sugar, then dip in batter and fry in boiling fat until they are quite crisp and of a golden yellow color. Take them up in a strainer and put them in a hot baking tin, sprinkle with confectioner's sugar and set in a hot oven to glaze. When they look bright and glossy dish on white paper and serve hot.—N. Y. Herald.

Steaming the Face.

Have the teakettle boiling for you at a certain hour. Take a newspaper, fold down the middle, pin two of the ends behind and put it over your head like a big hood, letting it come well over your face in front.

Rub your face thoroughly with any good cold cream, sit down by the kitchen range, your paper bag over your head and your nose as close to the spout of the boiling kettle as you dare to. Don't tempt fate too far, or you may burn your face. Keep turning first one cheek and then the other, so that all parts of the face may be steamed equally. Keep this up for fifteen or twenty minutes or until you have perspired freely. Now don't rub this grease and perspiration off with a towel, but take a silver-bladed knife and gently scrape the debris away, even as a man scrapes whiskers from his features.

After every bit is removed bathe the face with warm water in which a few drops of sweet-scented benzoin have been poured. If you are going outdoors dash the face with cold water to prevent chapping, but if you are going to remain at home rub a little cold cream under the eyes, over the eyebrows and behind the ears, for these are the quarters in which the telltale wrinkles first begin to come. Then go lie down and take a nap and waken refreshed and as glowing as a sixteen-year-old girl.—Health.

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The Young Folks.

The Eagle's Reverie.

This morn I wakened from my rest
And soared adown my mountain crest.
My pinions swift
The ether kissed,
And billows of light above me rolled
As I lit amidst fair freedom's fold.

There was music sweet in swaying trees,
Symphonies borne on each passing breeze,
But undertones of the refrain
Swelled forth into a strain
Of discord jarred with that unrest
That beats in labor's troubled breast.

And under anarchy's threatening hand
Stretched cloud-like o'er a suffering land,
While capital and labor bent to sup
A parting draught from stirrup cup,
Like horsemen bound their separate way—
Took I some smaller notes that day.

I saw what always me distresses,
Long-necked women in low-necked dresses,
Our nation's pearls,
Gum-chewing girls,
Our nation's gold, silk-hatted youths,
Arrayed in white, tan toothpick shoes.

O, yes, I saw boys, even with moustaches,
In feminine style of neckties and sashes,
Blowing cigarette ashes,
Showing diamond flashes,
Hair central part, enough long and hot
To cook the brains that they have not.

It is not time whose touch has turned
To charcoal fires that in me burned,
When my clarion yell
Died with Liberty bell
Proclaim to all "peace and plenty," nor said,
"Twas plenty work and small piece bread.

It is not age whose ready oar
Has steered me near the shining shore;
My day is done,
My race is run,
My voice shall never more be heard,
This is the last of freedom's bird!
—Emily F. Smith.

GREAT MEN AT PLAY.

The majority of the world's great men have been very healthy boys, who loved boyish sports and wholesome exercise, and yet by no means were their ideas of pleasure bounded by a day's fishing, game of football or holidays; as, for example, Abraham Lincoln, who bears as great a reputation for physical strength as tall, broad-shouldered George Washington.

Lincoln, when a boy, cordially hated the farm work, and yet faithfully accomplished his share of it, looking forward every day to a twilight hour with his books. When the last of the rough, tiresome chores were done, tall Abra-



ABRAHAM LINCOLN'S AMUSEMENT.

ham would drag his chair into the doorway, and, tipping it back by propping his feet against the side of the house, forget his labor in reading the dictionary. His only other books were the Bible, "Aesop's Fables," "Robinson Crusoe," "Pilgrim's Progress," a life of Washington and a history of the United States. When these lost interest he would walk to the nearest town, and on precious bits of paper copy down such extracts as he could make from ponderous law books in the constable's office, in order to have fresh reading material. Even his dictionary studies had to be given up in winter, when there was no twilight and no candles; so on the back of the wooden fire shovel, with a piece of charcoal, he would amuse himself by working out mathematical problems and writing essays, that could be shaved off, leaving him a fresh surface. Another of his favorite amusements was making speeches to men working in his father's fields.

Sir Rowland Hill, perhaps most American boys and girls do not know, was the man who, in the early part of Queen Victoria's reign, reorganized the postal service of Great Britain, from which ours is adopted, and made it possible to send a letter for a few cents to any part of the country. He was the

son of a school-teacher, but so delicate he was not permitted to study with his brothers. He suffered from loneliness a great deal, yet found perfect contentment in lying flat on his stomach on the hearth rug adding up tremendous columns of figures. Later in life he was celebrated for his knowledge of mathematics, and held important posts under the government, for which he was knighted.

Mr. Gladstone, when he went to Eton, was considered the prettiest little boy in the school, but he was not very popular, as he cared very little for outdoor games. His companions rarely ever saw him run, and a boat he had for sculling on the river he invariably locked up and rarely loaned it to other boys when he was not using it. What he dearly loved, however, was to make long addresses on most serious subjects in the school club of which he was a member. Then for amusement he helped to edit an Eton magazine, for which he wrote a great number of poems, editorials, translations and essays.

Thomas Jefferson as a boy rode well and played the violin, but he most sincerely loved to study. When very young he went to college and gave fifteen hours a day to his books, and for exercise at twilight would run for a mile out of the college grounds and back again.

Cuvier, the great naturalist, used to make for his schoolfellows the tiniest but most perfect maps of bits of colored cloth or paper pasted on a sheet and then drawn over with dots and lines to represent mountains, rivers, towns, etc.

A water clock and a sun dial, this last marked out on the side of his landlady's house when he went to boarding school, were made by Sir Isaac Newton, who, as a little boy, was forever inventing something. He contrived a curious little mill, the arms of which were made to move by a pair of mice imprisoned in the mill's tower. Though for a time at school he was rather a lazy boy, when, later, he went to live on his mother's farm, he shirked his daily duties often to stop and build wonderful little water wheels by the brook's side, or lie under a shady hedge and study out long mathematical problems.

Louis Agassiz was so expert a fisherman when a little boy he could catch them in his hand, fascinating them first by strange motions of his fingers. He kept a number of pet fish in a stone basin behind his father's house, and was clever at taming field mice and all sorts of little animals and insects. He was an expert little cobbler and cooper, could make water-tight barrels as well as a man, and manufactured pretty shoes for his sister's dolls.

Perhaps of all things Daniel Webster when a boy loved best was to read aloud. He never remembered when he first began to read, but as a very tiny boy he read the newspaper regularly to an old British soldier, who used to carry him about on his shoulder. One day his schoolmaster offered a prize of a jackknife to the boy who could learn the greatest number of Bible verses, whereupon the next morning Daniel got up and rapidly spoke off so many verses that the master had to beg him to stop, and promptly presented the knife.—St. Louis Republic.

An Indian Reservation.

The following description of a Nebraska Indian reservation, from the pen of Dr. A. P. Marble, Superintendent-elect of the Omaha schools, is taken from the Worcester (Mass.) Spy:

"When the Chicago, St. Paul, Minneapolis & Omaha railroad was built, passing through Sioux City, Iowa, it crossed the Missouri at Blair, and from that point a branch extended northward through the reservation of the Omaha Indians. About sixteen years ago that part of the reservation lying west of the railroad was purchased by the United States government and opened to settlers, leaving that portion lying east of the railroad to the Indians, and they now occupy it, receiving an annuity from the government and for the most part owning the land in severalty; they have been endowed with the franchise. Some of them lease their land to the whites and others live in houses and cultivate the land themselves. As you travel north the reservation is on the right. I had to reconstruct all my ideas of an Indian reservation, for a more beautiful tract of country than this is not to be found. Imagine the smoothest slope of ground you ever saw, like Mr. Perry's or Mr. Pond's farm on

Highest of all in Leavening Power.—Latest U. S. Gov't Report.

Royal Baking Powder

ABSOLUTELY PURE

Vernon street, and suppose this to cover the whole landscape as far as the eye can reach, and you have an idea of this reservation, the town of Pender and Thurston county, Nebraska.

Among the crowds on the street at a recent barbecue were the picturesque figures of scores of Indians. Some of them appeared as well as ordinary people in a crowd. I noticed girls 12 or 16 years old with muslin dresses, jet black hair, Oxford ties and fine black stockings that would do credit to Worcester sidewalks; but the older women, though dressed in the ordinary costume of American women, wear no hats and delight in shawls of bright red woolen, which they wear over their head. One toothless old woman had gray hair; one woman had a skirt gaily trimmed with beads of bright colors sewed on quite artistically. The men usually wore broad-brimmed felt hats, and some of the younger men had on belts decorated with beads to look like embroidery. But few wore blankets, and nearly all of them seemed to prefer moccasins to shoes or boots. These aborigines are the only true original Americans. They have abandoned the tribal relation. They make no more disturbance than ordinary ignorant men. They have a council, chosen by themselves, to protect their interests. There are 1,200 of them on this reservation, which contains, I was told, some 240,000 acres. This land is worth on the market, if it could be sold, about \$25 an acre, amounting to about \$6,000,000, or \$5,000 for each Indian. Last year the government distributed to them in bounties \$98,000. Indians are well off, you see. They may lease the land for farming purposes, but they cannot part with the title till the expiration of twenty-five years from the date of the treaty. The leasing must be approved by the Indian agent in charge of the reservation. There is a difference of opinion as to the benefits to the Indian from leasing. Some believe that by the association with white men and their thrifty ways the Indians will learn the value of their property, and, at the expiration of the twenty-five years, become industrious and frugal. Others say that they are lazy and will always remain so. They certainly are a filthy, lazy set at present; and the problem of raising them to even a low plane of civilization is not easy of solution. If all that splendid tract of land, extending twenty or thirty miles to the Missouri, was open to white settlers, in a few years it would be occupied by an enterprising and industrious population, and be far better for the country—and, perhaps, the Indians would be just as well off to be fed and clothed by the government on some barren mountain region. But this is a serious problem.

New Alaskan Boundary.

Our new Alaskan boundary, says the New York Sun, if it is, as that hitherto accepted, a meridian, will be one of the longest of the many straight boundaries between this country and her neighbors. Boundaries by meridians and parallels distinguish the political geography of the new world and especially of North America. The eastern boundary of Alaska is a meridian of about 600 miles.

There is only one longer bit of straight boundary between this country and any other—the parallel running along our Canadian border westward from the Lake of the Woods to Puget Sound. It is the longest straight boundary line in the world, though a meridian boundary of western Australia is nearly as long, and one British-American line is not more than 150 miles shorter. No European boundary runs half so far in a straight line, and the same is true of South American lines. There are few straight boundaries in Asia or Africa.

The longest straight boundary line wholly within the United States is the parallel running westward from the southeastern corner of Kansas to the southwestern corner of Utah, and separating Kansas, Colorado and Utah on the north from Indian Territory, Oklahoma, New Mexico and Arizona on the south. This line is nearly 1,100 miles in length, or about 400 miles longer than any other straight boundary wholly within the United States. The next longest is the parallel separating Idaho and Oregon on the south. It is about 700 miles long. The longest straight boundary line between two States is that running south-

east from Lake Tahoe to the Colorado river, between California and Nevada. It is 400 miles long, and has recently been surveyed and marked at frequent intervals with boundary stones.

There is only one very long straight boundary line east of the Mississippi, the parallel running west from the northwestern border of South Carolina to that river, and separating North Carolina and Tennessee on the north from Georgia, Alabama and Mississippi on the south. It is nearly 500 miles long. Carelessly drawn maps seem to indicate a considerably longer straight line between Virginia and Kentucky on the north, North Carolina and Tennessee on the south. But this line is not throughout its length a single parallel. It has several kinks, each with a more or less interesting diplomatic history. There are half a dozen other straight boundary lines east of the Mississippi from 150 to 250 miles in length. New York's southern boundary is one of these.

The most famous boundary between any two States of the Union, and, all things considered, one of the most notable in the world, is the parallel, about 275 miles in length, between Pennsylvania on the north and Maryland and West Virginia on the south. It is, for the greater part of its length, the Mason and Dixon's line of history, first famous as commemorating a quarrel between the Penns and the Cecils, dating back more than 200 years, and having its origin even earlier, and later more famous as expressing the popular conception of the boundary between the slave States and the free States. Not even our long-disputed northwestern boundary has been so much in men's mouths as Mason and Dixon's line.

It is entirely probable that the survey of this early line set the precedent for boundaries by parallels and meridians, for although British kings had before, in their large-headed way, made grants in the new world from parallel to parallel, Mason and Dixon's line was about the earliest long boundary to be carefully surveyed. The first complete survey of the line dates to about 1767, though attempts had been made at it some years earlier, and the western boundary of Delaware, which is, to all intents and purposes, part of the same line, had been surveyed with rare accuracy for that period.

The only States or Territories bounded wholly by meridians and parallels are Wyoming, Colorado and Utah, and only the first two are true rectangles. Indeed, perhaps, properly speaking, only Colorado is, since the Yellowstone Park occupies the northwestern corner of Montana. New Mexico narrowly escaped a boundary solely by parallels and meridians by the interposition of the Rio Grande for a few miles on the south.

We know whereof we affirm when we state that Ayer's Pills, taken promptly, at the first symptoms of colds and fevers, arrest further progress of these disorders, and speedily restore the stomach, liver and bowels to their normal and regular action.

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KANSAS FARMER.

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An extra copy free fifty-two weeks for a club of six, at \$1.00 each.

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All advertising intended for the current week should reach this office not later than Monday.

Every advertiser will receive a copy of the paper free during the publication of the advertisement.

Address all orders
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Subscribe now for one year and receive the FARMER free for 1894. One dollar pays for the paper from now until January 1, 1896.

Any present subscriber who will send us one new subscriber and \$1, can have his or her present subscription extended thirteen weeks for this good act.

We want our readers to secure for us thousands of new subscribers for the KANSAS FARMER and we will pay well for such work. If you will get up a list, write this office for liberal terms.

The fact that exportation of gold has within the last few days been resumed and the fear that a considerable movement in that direction is imminent is creating some uneasiness in American financial circles.

The Missouri Valley Horticultural Society, which is an inter-State association in which Kansas has a large interest, made a magnificent display of fruits at the St. Louis exposition, which closed last Saturday.

There is no better sewing machine sold in Kansas than the "Kansas Farmer Improved" machine, which we offer with a year's subscription for only \$20. The machine is fully guaranteed. Such a bargain is the opportunity of a lifetime. Get up a list of fifty yearly subscribers at \$1 each before Christmas and we will make you a present of this elegant machine.

A. E. Jones, dairy editor of the KANSAS FARMER, last Monday made a public sale of a draft of eleven cows, one yearling and three calves from his famous Oakland herd of Jerseys. All except two were registered. The eleven cows, some of which were only two-year olds, brought an average of \$58.95, the range being from \$46 to \$90. The yearling heifer brought \$45, and a five-months calf \$25.50. Details of the sale will appear in the dairy department next week.

A dispatch from Butler, Bates county, Missouri, states that H. C. Koehnle, representative of Mrs. E. A. Scully, of Lincoln, Ill., has been in that county the past three weeks buying land. Thirty farms have been bought by him, consisting of over 9,000 acres, for which he paid \$240,000. It is understood there that the purchases are made simply as an investment. Real estate men in eastern Kansas report a lively demand for land at what may be considered fair prices. There is no better investment now in sight than good farming land, and it will be well if the realization of this fact by capitalists does not lead to a rapid absorption of a large proportion of the land by comparatively few owners before the end of the century.

LET WHEAT FEEDING PROCEED.

Estimates on the world's wheat crop and requirements for the current cereal year continue without abatement. The following detailed statement of estimates of the situation in Europe has been given as an evidence of a situation which must insure better prices before another harvest, since it shows a deficiency of 120,000,000 of bushels:

	Crop of 1894.	Requirements.
France.....	343,000,000	350,000,000
Russia.....	310,000,000	289,000,000
Austria-Hungary.....	217,000,000	190,000,000
Italy.....	123,000,000	149,000,000
Germany.....	113,000,000	125,000,000
Spain and Portugal.....	110,000,000	115,000,000
United Kingdom.....	62,000,000	289,000,000
Roumania.....	44,000,000	15,000,000
Bulgaria.....	31,000,000	20,000,000
Holland.....	16,000,000	25,000,000
Denmark.....	5,000,000	35,000,000
Other countries.....	54,000,000	8,000,000
Totals.....	1,488,000,000	1,553,000,000
Deficiency.....		120,000,000

If Europe had no means of supplying this deficiency from abroad a great and rapid rise in price as well as considerable suffering would be inevitable if these figures are correct. In that case the American farmer might well hesitate about feeding his wheat to swine and declare that he would have for it a dollar a bushel or no sale. But the world's commercial relations are so intimate that a deficiency in one section, in one country, or even in one entire continent, is quickly supplied from the surplus in other sections, or countries or continents. The wheat crop of the United States, while it has been officially estimated at a smaller figure, is probably not short of 500,000,000 bushels, while this country carried over from the last harvest not less than 50,000,000 above the necessary reserves, making available at least 550,000,000, while the requirements of this country for food and seed for the year may be roughly placed at 350,000,000, leaving an exportable balance of 200,000,000 bushels, 80,000,000 more than is necessary to supply Europe's deficiency. To swell this amount other countries outside of Europe, as Argentina and India, contribute. The more conservative writers place the excess of the total amount of wheat available for consumption at some 127,000,000 above the world's requirements for the year, while others estimate it as high as 212,000,000 bushels, and some at even a higher figure.

The KANSAS FARMER is, like its patrons, interested in highest prices, remunerative prices, for wheat, and, like its readers, it is interested to a still greater extent in knowing as nearly as can be known the elements of the situation likely to affect the wheat market. It avails nothing against such figures as the above to say that the price is now below the cost of production. In the presence of so great a surplus, cost of production cuts no figure. The farmer who faces the cold facts and shapes his course accordingly is more likely to achieve success than he who declares that things ought to be different and then pursues the course which would be rational if things were different.

True, the entire surplus amounts to only 5 to 8 per cent. of the entire production and would doubtless be all consumed were all bread-eaters fulfilled. But this is another branch of the economic problem, and one in the solution of which the enlightened wisdom of the ages has made only slow progress, while the present condition of the wheat market is upon us and has to be met now. In view of these conditions and the demonstrated value of crushed wheat as a producer of meat, can there be any doubt about the expediency of turning as much of it as possible into pork and beef? It has been shown that in this way wheat can be made to bring from 50 to 90 cents per bushel—that eleven to seventeen pounds of meat can be made from a bushel of wheat. Let wheat-feeding proceed.

The KANSAS FARMER of last week contained an interesting and instructive paper on "Science vs. Nature," and credited it to the publication from which it was taken, namely, the *Millers' Gazette*, of London, England, in which journal it appeared as original, on September 26. It now appears that this valuable paper was printed in the *Modern Miller*, of Kansas City, on Sep-

tember 8, and was written by the able editor of that journal, Mr. Augustine Gallagher. The *Modern Miller* justly complains of the piracy of the English journal, and the KANSAS FARMER is glad to be in position to inform its readers that the paper in question was written near home.

BALANCED RATION FOR MILCH COW.

EDITOR KANSAS FARMER:—What is the balanced ration for a milch cow?
Vidette, Kas. ALEX GARDNER.

The question of balanced rations is very properly attracting much attention of late. It has been ascertained that the requirements of the animal body demand certain kinds of foods, and there is little doubt but that these requirements are most perfectly met when the various kinds of food are given in about certain fairly well-established proportions. Foods so proportioned are called balanced rations. Animals of different classes, and also those of the same class but differing in ages, require the food ingredients in different proportions. So also a milch cow does best with a somewhat different ration from that which would be recommended for a fattening steer.

For the purposes of considering their food properties, the ordinary feeding stuffs have been studied with reference to their digestible constituents, and these are divided, according to their compositions, into three classes, and are by scientists designated as protein, carbohydrates and fat.

Protein is pre-eminently the muscle-builder and conduces to make lean meat and to give strength. Carbohydrates—starch, sugar, etc., go to produce fat and heat. Fats in foods go to much the same purposes as the carbohydrates. The last two are on this account often considered together in discussions of rations.

The principal constituents of milk are water, casein—a nitrogenous substance and in this respect resembling protein—fat and milk sugar—a carbohydrate. In milk about 11 to 16 per cent. of the entire weight consists of these three, viz., casein, fat and sugar. In 100 pounds of these "solids" there will be about 25 to 26 pounds of casein, 28 to 38 pounds of fat and 36 to 46 pounds of sugar, with a small amount of other substances which, on account of being left after milk has been burned, are by chemists called "ash."

These substances the cow must get or manufacture from the food, besides replacing the constant waste of her body and maintaining its heat, and it has been found that she does this to best advantage when the food constituents are present in about the proportions which are termed the balanced ration. Feeding standards for various animals have been worked out by Dr. Emil Wolf, an eminent German experimenter, and have been widely used in preparing balanced rations.

Dr. Wolf's standard for a milch cow calls for:

Protein, pounds.....	2.5
Carbohydrates, pounds.....	12.5
Fat, pounds.....	0.4

A balanced ration, according to this standard, may be made from many combinations of the ordinary feeding materials. Many analyses of grains, grasses, hays, fodders, roots, ensilage, etc., have been made and tables have been published giving fairly accurate averages of the compositions of each with especial reference to the compounding of balanced rations for all purposes. The most economical ration to use at any given time and place will depend much upon the relative market prices of the various feeding stuffs, so that each owner of stock ought to provide himself with the requisite information to enable him to calculate rations with a view to getting the best results for the money expended. If it is desired to make a very simple ration for the milch cow, and alfalfa hay and corn (better crushed corn) are available, very nearly a balanced ration may be made as follows:

	Protein.	Carbohydrates.	Fat.
Alfalfa, 10 lbs.	1.43	4.27	.22
Corn, 10 lbs.	1.02	6.93	.49
Total.....	2.45	11.20	.71
Requirements.	2.50	12.50	.40

This ration would be brought rather

nearer to the standard by giving a little more of the corn—say eleven or eleven and a half pounds.

It should not be inferred that the cow will do her best if confined to this as an unvarying ration, but it is given as one of the simplest with which it is possible to supply the requirements of the feeding standards.

If our correspondent will send to this office a list of his feeding stuffs with a statement of the money value of each on the farm, the editor will try to designate some economical rations from which good results may be expected.

IMPORTING MEXICAN CATTLE.

The fact that some 22,000 head of Mexican cattle have been shipped into the United States and that there is information of about 50,000 more to follow has turned attention of stockmen to that source of possible, probable or even imminent competition in our markets. The present cost of a three-year-old steer in Mexico is about \$8, the import duty is 20 per cent., so that the purchase price of the steer should be figured at \$9.60 if he is to be brought into this country. To this will have to be added transportation charges.

If this were the price of a fat steer, ready for the butcher, serious competition with the home producer would be inevitable. But the Mexican steer never gets fat in his own country but must be brought north and grazed and fed. Whether he will thus compete seriously with the home producers is yet undetermined. But it is certain that a very large part of his value will have to be added by means of American feed and with the care and at the profit of people on this side of the line.

An important consideration in this connection is the fact that these Mexican cattle are conveyors of splenic fever, and on this account will come under the sanitary regulations of Kansas and other States. To cover this case the Kansas Live Stock Sanitary Commission recently issued a bulletin, as follows:

To the Managers, Agents and Conductors of Railroad and Transportation Companies, and Stockmen of the State of Kansas:

WHEREAS, It has been determined by the Live Stock Sanitary Commission of Kansas that certain droves of cattle, brought into the State of Kansas during the year of 1894 from the State of California and the republic of Mexico, were infected with an infectious disease known as splenic or Texas fever;

Therefore, It is hereby ordered that all cattle from the above-named State and republic will be admitted into the State of Kansas only under rule 1, paragraph a, Kansas Quarantine Rules and Regulations 1895.

Regulations covering the importation of cattle into the State from localities scheduled by the Governor's proclamation with reference to splenic or Texas fever:

1. That no cattle from above-described infectious area..... are to be brought into the State of Kansas between February 1 and the 1st day of December, of any year, except when shipped by railroad, for immediate slaughter; and when so shipped shall be governed by the following rules:

(a) Each car containing cattle, and carrying the same in the course of transportation from said infectious area into or through the State of Kansas, must have a placard attached, stating in bold letters, "This car contains Southern cattle;" and the stock-yard slip, or stub, and waybill of the said car, shall be marked plainly on the face thereof the words "Southern cattle." All railroad trains containing such car or cars transporting the said cattle will be required to stop at points that will be hereafter designated, and submit the waybills or manifests of the said cars for inspection to an agent duly authorized by this Commission.

By order of the Live Stock Sanitary Commission of Kansas.

GEO. C. PRITCHARD,
Secretary of Board.

Every farmer who desires to improve financially and in his vocation from this time on is cordially invited to subscribe for the old reliable KANSAS FARMER, a medium which will help do it.

Every farmer in Kansas, and especially the breeders and stock-raisers, should have the greatest live stock journal in the world, the *Breeder's Gazette*, of Chicago, price \$2 a year. We make a special offer of it and the KANSAS FARMER, both papers one year, for only \$2. Subscribe now through this office.

Get up a Club for KANSAS FARMER.

NORTH AMERICAN BEE-KEEPERS.

Special correspondence KANSAS FARMER.
The North American Bee-Keepers' Association's quarter centennial meeting was held in the Commercial club rooms, St. Joseph, Mo., October 10 to 12, inclusive.

The session opened Wednesday at 10 o'clock a. m. by an informal meeting, greeting and enrollment of members and delegates, reception and reading of questions to be discussed and answered later, notes and observations of the season. At 1:30 p. m. came the report of officers and committees, followed by the annual address of President Emerson T. Abbott, of St. Joseph, Mo., after which the association listened to an address of welcome by Hon. H. R. W. Hartwig, President of the Commercial club. It was well received and put every member of the convention in good humor, making each one feel perfectly at home. The response by Dr. C. C. Miller, of Marengo, Ill., was in keeping with the address, and sparkled with bright, witty points. After the addresses came the following papers: J. W. Rouse, of Mexico, Mo., on "Profits in Bee-Keeping;" C. J. H. Gravenhorst, of Willsnack, Prussia, on "Bee-Keeping in Germany," translated and read by Secretary Frank Benton; A. W. Osburn, of Punta Brava, Cuba, on "Bee-Keeping in Cuba." The three papers were followed by discussion, and the remaining time was devoted to "Notes and Observations."

The evening meeting was of a musical and literary nature. Mayor Shepherd delivered a short but pleasing welcome to the delegates and extended to them the freedom of the city. Responses were made by Geo. W. York, editor of the *American Bee Journal*, Chicago, and R. F. Holtermann, editor of the *Canadian Bee Journal*, Brantford, Canada. Dr. C. C. Miller sang "Higher Than I" in a very pleasing manner. Geo. W. York delivered a humorous recitation. Dr. Miller then put the audience in a roar of laughter by reading about how "Sockey Set the Hen." Lou Hardman, of St. Joseph, Mo., sang "Out West," and was encored. Miss Jean Graves, of St. Joseph, sang sweetly, "Come Where the Lindens Bloom," and was heartily encored, giving another choice selection. Secretary J. R. Rippey, of the Missouri State Board of Agriculture, made a brief speech, after which Prof. Nicholas Bornholdt rendered two fine violin solos. Hon. T. B. Terry, of Ohio, the practical agriculturist, of whom KANSAS FARMER readers are quite familiar, and who is now lecturing to the farmers of Missouri on the "Value of Growing Clover in Building Up the Soil," gave a very interesting talk on the same subject, to which close attention was given.

SECOND DAY.

The meeting opened promptly at 9 a. m., with President Abbott in the chair, and nearly all the members present. Reports of committees followed, after which much interesting discussion was indulged in, on questions pertaining to the delegates only. Next came a paper on "Disposing of the Honey Crop," by Geo. W. York, editor of the *American Bee Journal*. The paper was of a high order and contained much valuable information. It will appear in a subsequent issue of this paper. A short discussion followed, then the "question box" was taken up and questions found therein discussed to the benefit of all present. They covered nearly all disputed points concerning bees and bee culture.

The selection of officers for the ensuing year took place at 1:30 p. m., resulting as follows: For President, R. F. Holtermann, of Toronto, Canada; Vice President, L. D. Stillson, of York, Neb.; Secretary, W. Z. Hutchinson, of Flint, Mich.; Treasurer, J. T. Calvert, of Medina, Ohio.

A lively contest occurred over the selection of place for the next annual meeting, Toronto, Canada, and Lincoln, Neb., being the competitors. Toronto finally won, as it had been partially promised to them last year. Lincoln will undoubtedly get the place for the year 1896.

The Committee on Constitution reported an almost entirely new constitution, which was read by sections, and after slight alterations adopted by the regulation vote. It will appear in the *American Bee Journal*, copies of which can be had by addressing Geo. W. York, 56 Fifth Ave., Chicago, Ill.

At the evening meeting, after some regular work, a paper prepared by S. E. Miller, of Bluffton, Mo., was read by Dr. C. C. Miller, of Marengo, Ill. The paper was a very important one to bee-keepers, resulting in a somewhat lengthy discussion, after which the meeting adjourned, and the association, accompanied by the Mayor, went in a body to the Eden Musee and were entertained with a two-hours' performance especially arranged for the bee-keepers by Bert Martin.

THIRD DAY.

This day was as full of interest as any of the others, in fact some of the delegates believed they got more real good out of these meetings than from the proceedings of this last day were on the most practical subjects that affect the growing of honey.

Secretary Frank Benton had read an interesting paper on "What Shall we Plant for

Honey?" and out of this grew a lively discussion, during which the virtues of the various clover and leguminous plants, both as forage and honey plants and renovators of the soil, were thoroughly gone over. In this discussion it was developed that the ordinary sweet clover, growing so profusely in the highways and along the sides of roads, is not only a fine honey plant but valuable as a forage plant for stock.

The Committee on Resolutions made a favorable report, thanking the Commercial club for use of their spacious and elegantly-furnished rooms; the city press for the liberality and kindness extended the association; the Mayor and citizens for their great generosity manifested in various ways, and to Manager Bert Martin, of the Eden Musee, for the interesting performance given complimentary to members of the association, closing with a few minor resolves.

The Committee on Exhibits reported the following: St. Joe hive, made by Emerson T. Abbott, of St. Joseph; the original direct draft Bingham bee smoker, four different sizes; the Higginsville hive-covers, made by the Leahy Manufacturing Co., of Higginsville, Mo.; a sample Atmospheric bee-feeder, designed and made by P. Roby, of Chanute, Kas., and unpatented; surplus and wired brood comb foundation, manufactured by J. Van Deusen & Sons, of Sprout Brook, N. Y.; forty samples of domestic or home-produced honey, and twelve varieties of foreign honey, by L. D. Stillson, editor of the *Nebraska Bee-keeper*, of York, Neb.; six varieties of domestic or home-produced honey by E. Whitcomb, of Friend, Neb.; a large wreath, of harp design and made entirely from beeswax in a variety of colors, by Mrs. E. Whitcomb, of Friend, Neb.; sample of September-made honey, supposed to be from buckwheat and heartsease bloom, by A. Stedwell, of Kearney, Neb.; a package of very choice alfalfa honey, by W. L. Porter, of Denver, Col.; extracted honey, by F. H. Richardson, of Laclede, Mo.; a number of Carniolan queens, bred in Carniola, Austria, and sent by mail to this meeting, to Secretary Frank Benton; Australian beeswax and a package of native honey bees; extracted honey, by E. C. Larch, of Savannah, Mo.; comb honey, made from bloom of the plant known as "snow on the mountain," a member of the *Spurge* family, which accounts for the peppery taste in honey produced from this plant; crate of comb sections, made by G. B. Lewis Co., Waterton, N. Y.; the Knoll's section press and comb foundation fastener, made by J. C. Knoll, of Glenwood Park, Neb. This piece of machinery is very easily handled, simple in construction, and is just the thing for all who desire to have neat and attractive frames for their honey product.

Several papers were read, one from Dr. J. P. H. Brown, of Augusta, Ga., on "The Most Economical Way to Breed Queens Consistent With Prolificness and Longevity," and another from R. L. Pender, of Hunter River, New South Wales, on "Bee-Keeping in Australia." Both papers were very interesting and caused quite a discussion.

The "question box" was again opened and a general exchange of ideas, on the part of delegates, followed. This is a very commendable feature, as it brings out the practical ideas of the members gained by actual experience. The meeting closed with an appropriate song, the words of which were written by Eugene Secor, of Iowa, and the music by Dr. C. C. Miller, of Marengo, Ill. Dr. Miller, by the way, is one of the most active and energetic of members, and his never-failing good humor furnished amusement for the entire association.

There were eighty-five members present, of which sixteen were women, and they all expressed themselves well pleased with the entire proceedings. Among the delegates in attendance at this session none attracted more attention than Ralph Benton, a bright boy of 10 years, the son of Secretary Frank Benton. He took great interest in the proceedings and told the association that he had one colony of bees which he takes care of himself. The next young member present was Paul M. Francis, of Mulberry, Mo., who is only 22 years of age.

I never was at a convention or an association meeting that could show a more intelligent and fearless looking lot of men and women than composed this quarter centennial gathering of the North American Bee-keepers' Association. All were thoughtful, well-balanced and enthusiastic, and the different theories for handling bees for profit and kindred subjects were discussed earnestly and ably.

Emerson T. Abbott, the retiring President, won golden opinions by the way he handled the meetings. He allowed nothing to lag, but kept things moving from start to finish, his rulings being fair and promptly given. The retiring Secretary, Frank Benton, also endeared himself to the association by his earnest efforts in promoting the interests of the convention. Mr. Benton is Corresponding Secretary of the Entomological Society, of Washington, D. C.

The convention, just before adjournment

to meet next year in Toronto, arose *en masse* and sang "Blest be the tie that binds our hearts in Christian love," etc.

HORACE.

Publishers' Paragraphs.

A grape-growers' manual is one of the books which when once had cannot be dispensed with. Such a book is in course of publication by Bush & Son & Meissner, of Bushberg, Jefferson county, Missouri. The advance sheets of the book show that it contains in convenient form for reference such information as all amateurs and most professional grape-growers have often wished for. The work, when complete, will contain over 200 pages and will be sold for 50 cents, or for \$1 in cloth.

One of the newest of new books in our sanctum is "Walls of Corn and Other Poems," by Ellen P. Allerton. For years Mrs. Allerton has been known in the West as a sweet singer of heart songs and home lyrics, and "Walls of Corn," her best known poem, gives title to the volume. But her longest and strongest poem is "Annabelle," and was written many years ago while the author lived in Wisconsin. Her later years were spent in Kansas. The author of these poems died over a year ago, as many of our readers will remember, but her loving friend, Miss Eva Ryan, of Hiawatha, has collated and edited the poems with the skill and grace of a veteran editor, and now the people of Kansas may bless themselves and honor their poet and her co-laborer by placing "Walls of Corn" in every library and home in the State. The Harrington Printing Co., of Hiawatha, has again proven that Kansas publishing houses can do as meritorious work as their Eastern competitors. The book being a Kansas product, from its poetic scenes and incidents, through their inspiration and expression down to collation and publication, ought to make it a "household treasure" in every home in the State.

The American Jack Stock Stud Book.

The KANSAS FARMER acknowledges the receipt of Vols. I. and II. of the American Jack Stock Stud Book. Both volumes are bound in one and contain a list of stockholders, the constitution and by-laws, a history of the organization, with minutes of all meetings of the association since its organization, September 17, 1888; an interesting account in the way of "Reminiscences of Jacks and Jack Breeders," a very interesting series of articles on "Breeds of Jacks," "Jack Stock Breeding on the Other Side," "The Mule, its Uses and How to Breed, Grow, Prepare for Market and Sell." It also contains the pedigrees of 227 jacks, 284 jennets and twenty-four initiatory jacks and jennets. Every jack owner and mule-raiser should have a copy, as it is the most complete book on jack stock in existence. The price to members of the association is \$1.50 and to non-members \$2.50. Copies may be had by addressing the Secretary, J. H. Fulton, Grassland, Tenn.

The Future of Irrigation.

Some have thought that irrigation, while very well for the arid regions, can have little or no interest for the farmers of the central portions of the great Mississippi valley. That intelligent observation has long since convinced thoughtful people that storing and applying water under the intelligent direction of the man whose crops are to be great or small, according to the timeliness of the supplies of moisture, is well shown in the following editorial from that conservative old St. Louis stand-by, *Colman's Rural World*. It says:

"The United States covers a vast acreage, is a great country. Heretofore its vastness—its immensity, has measured its capacity for production. In the hereafter its littleness will measure its greatness and both the quality and the quantity of the supplies furnished by it. An acre will keep one man occupied the year around, and a farm of five acres gives employment to a man and his whole family. On many American farms today there is more land running to waste, kept idle, doing nothing, than is used to sustain two or three families the year around in older countries, and will do the same here presently.

"Fully ten years ago the writer of these lines gave utterance to the statement in the *Rural World* that there was just as much want of judgment evidenced by the farmers in permitting the winter's snows and the spring rains in going to waste as there would be in first raising a crop of wheat or corn and then letting it go to waste instead of harvesting and saving it according to modern economic methods. Much was said of it at the time, but fifty

years hence much more of that kind of talk will be done. Why save the corn that comes but once a year, and waste the water without which we have no corn crop? It looked anomalous then, has looked so ever since, and looks more and more so as the seasons pass.

"Some means will have to be employed by which we can save the water and use it as we want it; just as we have learned to do with wheat and corn, hay and root crops for food for man and beast; and when we know how the one is as easily done as the other.

"The water is beneath us all the year round, and within easy reach. The waters are above us at certain seasons and flow to us on the surface and can be held in reserve if we only will. From the days of the creation until now not a drop of water has been lost, nor will be until the end of time. It comes to us gratuitously, a gift from the Creator, and we use or neglect to use it at our peril."

FARMER'S ACCOUNT BOOK.

The keeping of farm accounts is one of the important elements of farm prosperity which is too often neglected. This results largely from the feeling of uncertainty as to the correct method of making the entries. This is entirely overcome by the use of a book prepared expressly for the farmer and embracing a system both simple and satisfactory. Anybody who can write can keep all necessary accounts intelligibly by the use of this book. The KANSAS FARMER has, during the past, supplied many of its subscribers with copies of this book and has given them the advantage of discount rates, whereby they obtained a \$2 book for \$1. The FARMER Company has just now bought out the entire stock of these excellent books at panic prices and is now able to supply it to any subscriber, postage or express prepaid, to any address in the United States, for only 60 cents, or as a premium for three subscribers and \$3. The book contains 222 pages, 8x12 inches in size, substantially bound in cloth-covered boards.

The following is the table of contents:

	Page.
Directions and Explanations.....	4
Introductory.....	5
Diagram of Farm.....	6
Inventory of Live Stock.....	7
Inventory of Farm Implements.....	15
Inventory of Produce on Hand.....	23
Cash Received from all Sources.....	32
Cash Paid Out.....	33
Field Account.....	63
Live Stock Account.....	79
Produce Account.....	91
Hired Help per Month.....	103
Hired Help per Day.....	119
Household Expense.....	121
Accounts with Neighbors.....	147
Dairy and Fowls.....	155
Fruit Account.....	167
Notes and Obligations Owning.....	175
Notes and Obligations Due You.....	179
Interest, Taxes and Insurance.....	183
Physician and Druggist Account.....	187
Miscellaneous Accounts.....	191
Improvement and Repairs.....	199
Weather Report.....	203
Recapitulated Annual Statement.....	211
Useful Information, etc.....	219

The sooner you adopt the business methods of all money-makers, the sooner you will begin to correct mistakes and prosper.

The Kansas Weekly *Capital* publishes more Kansas news than any other weekly paper. A free sample copy will be sent on application to THE TOPEKA CAPITAL CO., Topeka, Kas.

The Nickel Plate road now operates a through sleeping car service to New York city via West Shore road and after October 7 a daily buffet sleeping car service will be inaugurated via Delaware, Lackawanna & Western railroad.

Beginning Sunday, October 7, a palace buffet sleeping car service will be inaugurated between Chicago and New York city via the Nickel Plate road and Delaware, Lackawanna & Western railroad. This in no way changes the former through car arrangement.

Home Visitors' Excursions.

On October 17 and November 14 the Nickel Plate road will place on sale at their ticket offices in Chicago and suburban stations, home visitors' excursion tickets to all points in Ohio and Indiana at one fare for the round trip where rate is not less than \$2. Tickets limited to return within twenty days from date of issue. Good going only on October 17 and November 14. City ticket office, 199 Clark street, Chicago. Depot, Clark and Twelfth streets.

Horticulture.

THE CULTIVATION OF ORCHARDS.

By Prof. L. H. Bailey, Cornell University, Ithaca, N. Y.

There is probably no subject upon which pomologists differ so widely as the methods of cultivating orchards. These differences arise very largely from the different soils and circumstances of the various orchards, and it is useless to attempt to reduce them to one system of practice. Yet, whilst all advice touching the cultivation and management of fruit plantations must be subject to many exceptions and modifications, there are certain underlying principles which every fruit-grower must consider and which must form the basis of all operations.

The object of all cultivation is to furnish the plant with the best materials and conditions of growth. Plant food must be supplied and moisture must be conserved. It should always be remembered that the soil itself is the greatest storehouse of plant food and that the first consideration of the farmer should be the attempt to utilize it. The application of plant food in the form of farm manures or other fertilizers must always be a secondary consideration. It should also be known that the very treatment which best utilizes the natural food resources of the soil, is also the best conservator of moisture. This treatment is tillage.

Preliminary considerations.—All subsequent treatment will fail of best results if the original preparation or selection of soils is imperfect or hasty. In the first place, the fruit-grower must be sure that his soil and location are adapted to the particular fruit he desires to plant. In the second place, the soil itself should be in good condition before the trees are set. Soils which enjoy perfect natural drainage are particularly desirable for orchards, because they are not only warm and give up their fertility easily, but because they also allow of very early cultivation, which is an important requisite in the management of orchards. If this perfect natural drainage does not exist, tile-drainage should be employed, until the soil is brought into the best possible condition. It should be said that many hard and wet soils make excellent pear and plum lands when thoroughly tile-drained. It is a common opinion that only flat lands need draining, but one often finds rolling lands in which the subsoil is high and hard and holds the water like a wet blanket. Judicious draining not only carries off the superfluous water, but it also loosens the subsoil and allows it to retain its moisture better in times of drought. An attempt should be made to bring the land in the various parts of the orchard into conditions as uniform as possible, so that the same tillage and treatment may be applied to the entire area. All hard and "sour" spots should receive particular care in draining and subjugation, or they should be left outside the plantation. The present season has enforced the importance of good drainage in the orchards of New York to an extent which I have not known before. The spring was very wet and the summer has been very dry. In most orchards cultivation began so late that the most assiduous attention during the later months has not been able to correct the delay, and the effects of the drought have thereby been intensified.

Theory of tillage of orchards.—The first object of tillage is to furnish plants with food. A fine mechanical condition of the soil allows the plant to reach every portion of it, and aids greatly in unlocking and utilizing materials which are more or less unavailable.

But the advantage of tillage which I wish now to impress upon the reader, is its conservation of moisture. The first plowing or cultivation in the spring should be rather deep, in order to send the roots deep into the soil; and this result will be more easily accomplished if the land is either naturally or artificially well drained. Subsequent cultivation should be shallow and very frequent, in order to make a mulch of the surface soil. The best mulch—that is, the best conservator of moisture—is a frequently-stirred,

soft and fine surface soil. And all the grateful effects of this surface mulch are ordinarily most marked when the soil contains considerable vegetable fiber or humus, which, of itself, is a conservator of moisture.

But if orchards should be plowed early in spring, it does not follow that they should be plowed in the fall. In fact, fall-plowing is commonly to be discouraged, for it leaves the soil in an open and loose condition which may be injurious to the roots, and it often starts the trees too early in the spring. I know persons who plow vineyards late in the fall for the express purpose of starting an early growth and of securing an early crop; but this is safe only in those favored localities where late spring frosts are practically unknown. Fall plowing may be advisable as a preparation for many farm crops, but it is not generally best for orchards. Cultivation should also generally stop late in summer or early in fall, as explained further on (page 305).

If the above propositions are true, it follows that the best results are obtained only when this treatment is applied from the start. It is in the first two or three years of the life of the orchard that the roots are strongly deflected downwards under the influence of cultivation. Orchards should never be put into sowed crops or into grass for the first five years of their life, and grain crops should always be withheld. Everywhere one may see young orchards in wheat fields or oat fields, and the short growth, knotty bodies and yellow leaves tell the story of shallow roots, dry soil, borers, and all the ills which every farmer who follows such methods deserves to have fastened to his trees. A useful lesson upon the value of cultivation in conserving moisture is given upon a following page (306), under the discussion of green manures. I am convinced that many of the apple orchards of New York State were ruined in their youth by just such methods, and that no amount of subsequent cultivation can send the roots down where they belong. The best treatment for many orchards in the State is extermination. If there is any profit in them it is for firewood.

Cultivate the orchard from the first and begin the cultivation early. "But I don't have time; there is too much farm work to be done," I hear everywhere. Then do not plant the orchard! It is strange that farmers feel that if anything is to be neglected it must be the orchard. Perhaps it would be well to put the most attention upon the most profitable part of the farm, and as likely as not this part will turn out to be the orchard. This dialogue occurred in Niagara county this year:

"You should cultivate your peach orchard better and get into it earlier." "Yes, I know; but farm work was too pressing, and I couldn't," replied the owner.

"What part of your farm brings you the most money?" asked the visitor.

"Well," said the other reflectively, "I guess it is the peach orchard."

"Then I should attend to the peach orchard first, and let the farm work go."

"Say, that's so! I hadn't thought of it in that way before," and the owner has turned down a new leaf.

(To be continued.) The ten grapes making the best yields at the Oklahoma Experiment Station this year were Amanda, Janesville, Catawba, Elvira, Jaquez, Herman Jaeger, Cunningham, Dr. Warder, Concord, Isabella, in the order named. Other sorts, however, made records worthy of special mention. From this year's results in the vineyard, Prof. F. A. Waugh, horticulturist, recommends the following list as suitable for home planting: White varieties—Faith and Moore's Diamond. Red varieties—Perkins, Brilliant, Catawba and Goethe. Black varieties—Janesville, Amanda, Concord, Worden, Herbert, Wilder. Wine or jelly grapes—Herman Jaeger, Herbermont, Jaquez, Cunningham. One or two other varieties, like Delaware and Niagara, which have done remarkably well in other parts of the Territory, were not fairly represented in the station vineyard.

PAINT cracks.—It often costs more to prepare a house for repainting that has been painted in the first place with cheap ready-mixed paints, than it would to have painted it twice with strictly pure white lead, ground in pure linseed oil, Strictly Pure White Lead

forms a permanent base for repainting and never has to be burned or scraped off on account of scaling or cracking. It is always smooth and clean. To be sure of getting strictly pure white lead, purchase any of the following brands:

"Southern," "Red Seal," "Collier."

FOR COLORS.—National Lead Co.'s Pure White Lead Tinting Colors, a one-pound can to a 25-pound keg of Lead, and mix your own paints. Saves time and annoyance in matching shades, and insures the best paint that it is possible to put on wood. Send us a postal card and get our book on paints and color-card, free; it will probably save you a good many dollars.

St. Louis Branch, Clark Avenue and Tenth Street, St. Louis.

NATIONAL LEAD CO.

The Fruit Industry.

The agricultural department has issued a summary of the fruit produced in 1893, which it says was less than an average year. The principal Southern fruit crops were produced mainly in California and Florida. The production of apples, peaches and pears for the year by States, in bushels, is:

Table with columns for Apples, Peaches, Pears and rows for various states including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Maryland, Louisiana, Texas, Arkansas, Tennessee, West Virginia, Kentucky, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, North Dakota, Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, D. of Columbia, Washington, Oregon, California.

Nearly half the entire production of plums and prunes, or 1,202,573 of the total of 2,554,392 bushels, was in California, no other State raising as much as 200,000 bushels. The product of cherries was principally in the States of Indiana, California, Michigan, Ohio, Kansas and Virginia, in the order named; and California raised virtually all of the apricots, or 970,941 bushels of the total of 1,001,482 bushels.

How's This! We offer One Hundred Dollars Reward to any case of Catarrh that cannot be cured by Hall's Catarrh Cure. F. J. CHENEY & CO., Props., Toledo, O. We, the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O. WALKING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price, 75 cents per bottle. Sold by all Druggists. Testimonials free.

The Kansas Weekly Capital publishes more Kansas news than any other weekly paper. A free sample copy will be sent on application to THE TOPEKA CAPITAL CO., Topeka, Kas.

"Among the Ozarks," the Land of Big Red Apples, is an attractive and interesting book, handsomely illustrated with views of south Missouri scenery including the famous Olden fruit farm of 3,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks and will prove of great value, not only to fruit-growers, but to every farmer and home-seeker looking for a farm and a home. Mailed free. Address, J. E. Lockwood, Kansas City, Mo.

4,500,000 Farm Owners in the United States.

This number will be greatly increased annually in the future by reason of the immigration headed southward. Already many Northern and Western people have become convinced that the upper Southern States offer great attractions to those seeking small farms, homes, business locations, etc., and are taking advantage of the opportunity.

We are offering farms, convenient to Eastern markets, at prices which can't be duplicated elsewhere. Our special list of Shenandoah valley, Maryland and West Virginia properties is now ready for free distribution. Western people can take half-rate excursions to the Shenandoah valley, over the Baltimore & Ohio railroad, from Chicago, St. Louis, Cincinnati and all Baltimore & Ohio points in Ohio, Indiana and Illinois, October 2, 9, November 6 and December 4.

Come and see the country. We will help you locate. Address or call on M. V. Richards, Land and Immigration agent, Baltimore & Ohio railroad, Baltimore, Md.

When the Kicks Come In

Is not the title of a new song, nor does it refer to the backward action of that much-maligned animal, the mule.

It is a phrase used by the inhabitants of Oklahoma to designate the approaching opening of the fruitful acres of the Kickapoo Indian reservation.

If you wish to find out all about the Kickapoo lands, as well as those belonging to the Wichita and Comanche tribes—where cotton, wheat and fruits will pay handsomely—ask G. T. Nicholson, G. P. A., Santa Fe Route, Topeka, Kas., for a free copy of Oklahoma folder.

TRUSSES on 30 Days Trial

Easy, durable and effective. A radical cure effected. Send for sealed catalogue. EGGLESTON TRUSS CO., Masonic Temple, Chicago, Ill.

HANDY COBBLER MEND YOUR SHOES

and Boots, Harness, Rubber Boots and Coats, wire Fence, and do a hundred odd jobs at home, and save your time and money with our HANDY OUTFIT, 4 best quality Iron Lasts, 36 articles in all \$3. No. 2, without harness tools, 26 articles \$2. Cash with order. 50c. gift free with each order. Low Express rate. Nothing equal offered for the price. Thousands in use. Free catalog. Agents wanted. KUHN & CO., Box D Moline Ill.

W. L. DOUGLAS \$3 SHOE IS THE BEST. NO SQUEAKING. \$5. CORDOVAN, FRENCH & ENAMELLED CALF. \$4.35 FINE CALF & KANGAROO. \$3.50 POLICE, 3 SOLES. \$2.50 WORKINGMENS EXTRA FINE. \$2.125 BOYS SCHOOL SHOES. LADIES. \$3.25 \$2.125 BEST DONGOLA. SEND FOR CATALOGUE W. L. DOUGLAS, BROCKTON, MASS. You can save money by wearing the W. L. Douglas \$3.00 Shoe. Because, we are the largest manufacturers of this grade of shoes in the world, and guarantee their value by stamping the name and price on the bottom, which protect you against high prices and the middleman's profits. Our shoes equal custom work in style, easy fitting and wearing prices. We have them sold everywhere at lower prices for the value given than any other make. Take no substitute. If your dealer cannot supply you, we can.

In the Dairy.

Conducted by A. E. JONES, of Oakland Dairy Farm. Address all communications Topeka, Kas.

WISCONSIN DAIRY SCHOOL.

The University of Wisconsin offers four courses of instruction in the College of Agriculture. They are: Post graduate, the four years' course, leading to the degree of bachelor of agriculture in science, the short course in agriculture and the dairy course.

The growth of the Wisconsin dairy school has been wonderfully rapid. Previous to 1889 a structure costing \$500 was the only dairy building on the university farm. In 1889 this building was enlarged by expenditure of about \$1,000, and in January, 1890, a dairy school opened in it with two pupils in attendance. The next year seventy pupils were in attendance, with several applicants turned away for lack of room.

The first dairy school building proper in America was begun at the University of Wisconsin, October 1, 1891, and occupied by the dairy class of 1892. This building is named the Hiram Smith hall in memory of one of Wisconsin's veteran dairymen, who long served as a member of the Board of Regents, looking especially to the up-building of the College of Agriculture, and to whose untiring efforts in no small degree the establishment of the dairy school may be credited. It is constructed of Dunville white sandstone and white brick, the exterior of the upper stories being finished in pebble and beam work. With equipment it represents an outlay of about \$40,000. This building will accommodate 100 students and this number was reached the first year. Last year 100 candidates applied for admission before December 1. Fully as many more applications were received before the term opened, January 3, but we were forced to turn them away for lack of room.

No entrance examination has been required of students in the past, but this year the standard of admission has been raised and the students entering the school in January, 1895, will have had at least four months' experience in a creamery or cheese factory before beginning the course of instruction. Sixty-five applications for admission to the school, which opens in January, had been accepted September 1, and during the first ten days in September thirty letters were received from parties wishing to enter the school. There is but one term of instruction in the dairy school each year; this lasts from January to March, inclusive.

At the beginning of the school each student provides himself with not less than two white suits, including caps, to be worn during the working hours in the creamery and cheese factory. These suits can be obtained in Madison without any trouble and at a very small cost.

A student's expenses for twelve weeks are estimated at \$68. Non-residents will pay \$16 additional.

Dairy instruction will be divided into four sub-courses: Lectures on dairying, milk-testing, butter-making and cheese-making. The class will be divided into three sections, one of which will be assigned to the laboratory, a second to the creamery, and the third to the cheese-room. All dairy students will meet in the lecture-room on week days daily, from 8 to 9 o'clock for the lecture on dairying. At the close of the lecture each section will pass to its assigned duties in the laboratory, creamery, or cheese-room. By changing from day to day, each student will spend two days each week in each of the three departments.

The dairy school receives daily 5,000 pounds of milk which is made into butter or cheese by the students. They are taught the use of the most modern methods and machinery by expert butter and cheese-makers.

This practical work includes not only the factory system of making butter, but instruction is also given in farm dairying; students in the farm dairy course are also given instructions in Hiram Smith hall as well as the 100 students in the regular dairy course. Students are not only taught how to

carry through the different manipulations of butter and cheese-making as well as milk-testing, but so far as possible the reason for every one of the different operations.

The dairy students receive lectures during the term on the following subjects:

The constitution of milk, the conditions which affect creaming and churning, the various methods of milk testing, the preservation and aeration of milk, and allied subjects.

The hygiene of the dairy, or the relation of bacteria to dirt and filth—in the creamery and in the cheese factory. The proper care and treatment of milk from the cow to the consumer, to insure its purity and wholesomeness from a bacterial standpoint. The normal and abnormal fermentations of milk, including the so-called milk diseases, and the way in which they are to be prevented.

Care and management of the boiler and engine.

Heating, ventilating and other physical problems connected with dairy practice.

Breeding and selection of dairy cows.

Breeding and general management of dairy cows and the common diseases of the dairy cow.

Practical and written examinations are given the student during the term, and at its close a written statement signed by the Dean, will be furnished, giving the work performed and his standing, as shown by the examinations. No statement of standing will be given except to students who have attended the full term and who have taken all the examinations.

A student wishing to secure our dairy certificate must have spent a full term with us, and passed a satisfactory examination in all of the sub-courses. Further, he must have worked in a creamery or cheese factory for two seasons of not less than seven months each. One of these seasons must follow the period spent with us, and during this time the candidate must have practical charge of the factory in which he is working. He will report the operations of his factory monthly, or as often as directed, on proper blanks furnished by the university. The university holds the right to send an authorized person to inspect the factory of the candidate, and no certificate will be issued if an unfavorable report is made by the inspector. If all of the conditions are satisfactorily complied with, the candidates will receive a dairy certificate. Owing to the expense of inspection, the university does not agree to grant certificates to students operating factories in other States.

Four years' experience in dairy instruction has brought our agricultural college to a position where we are able to offer what is believed will be a helpful course to those who wish to prepare themselves for the work of dairy instruction, or for advanced practical dairy work. The aim will be to give that instruction which will best prepare the student for his chosen vocation.

The planning, equipment and development of the Wisconsin dairy school has been the work of Prof. Henry and Dr. Babcock. The writer has been connected with this school only about three months.—E. H. Farrington.

Dandruff is an exudation from the pores of the skin that spreads and dries, forming scurf and causing the hair to fall out. Hall's Hair Renewer will prevent it.

Half Rates Via the Baltimore & Ohio R. R.

On October 2 and 9, November 6 and December 4, the Baltimore & Ohio railroad will sell home-seekers' excursion tickets from Chicago to Winchester, Harrisonburg, Staunton and Lexington, Va., and intermediate points at rate of one first-class limited fare for the round trip. Tickets will be sold only on the above dates, and they will be good for return thirty days from date of sale.

Complete information relating to lands for sale can be secured by addressing M. V. Richards, Land and Immigration Agent, Baltimore, Md.

For further particulars in relation to tickets, rates, sleeping-car accommodations, etc., apply to any Baltimore & Ohio railroad agent, or L. S. Allen, A. G. P. A., Room No. 411, Grand Central Passenger Station, Chicago.

The Poultry Yard

Poultry at the State Fair.

The following are the awards on poultry at the State fair, held at Wichita, October 2-6, 1894:

Light Brahmas.—Fowls, John Milne first, K. H. Friesen second. Chicks, L. E. Hardman first, Jas. Milne second. Dark Brahmas.—Fowls, M. Schott first. Chicks, M. Schott first. Breeding pen, M. Schott first.

Buff Cochins.—Fowls, John Schott first, Jas. Milne second. Chicks, L. E. Hardman first, John Schott second. Breeding pen, John Schott first and second.

Partridge Cochins.—Fowls, C. S. Treat first, John Schott second. Chicks, T. M. Smith first, John Schott second. Breeding pen, C. S. Treat first, John Schott second.

White Cochins.—Fowls, John Schott first. Chicks, John Schott first. Breeding pen, John Schott first.

Black Cochins.—Fowls, John Schott first. Chicks, John Schott first. Breeding pen, John Schott first.

Black Langshans.—Chicks, L. E. Hardman second. Barred Plymouth Rocks.—Fowls, L. D. Davis first, H. A. Wattles second. Chicks, L. D. Davis first, H. A. Wattles second.

White Plymouth Rocks.—Chicks, Jas. Milne, first. White Wyandottes.—Chicks, Jas. Milne first.

S. C. Wyandottes.—Fowls, D. M. May first, Jno. Haman second. Chicks, D. M. May first, Jno. Haman second. Breeding pen, D. M. May first, Jno. Haman second.

Black Spanish.—Fowls, C. J. Weick first. Chicks, C. J. Weicks first and second. Breeding pen, C. J. Weick first.

S. C. W. Leghorns.—Fowls, W. A. Stewart first, Jas. Milne second. Chicks, Jas. Milne first, W. A. Stewart second. Breeding pen, W. A. Stewart first, Jas. Milne second.

R. C. W. Leghorns.—Fowls, W. A. Stewart first and second. Chicks, W. A. Stewart first and second. Breeding pen, W. A. Stewart first and second.

S. C. Brown Leghorns.—Fowls, W. A. Stewart first. Chicks, H. P. Swerdfeger first, H. H. Hague second. Breeding pen, H. P. Swerdfeger first, W. A. Stewart second.

R. C. Brown Leghorns.—Fowls, F. D. Munn first, Jas. Milne second. Chicks, F. D. Munn first.

S. C. Black Leghorns.—Fowls, W. A. Stewart first. Chicks, W. A. Stewart first. Breeding pen, W. A. Stewart first.

Buff Leghorns.—Fowls, W. A. Stewart first. Chicks, W. A. Stewart first and second. Breeding pen, W. A. Stewart first.

S. L. Duck-wings.—Fowls, W. A. Stewart first. Chicks, W. A. Stewart first. Breeding pen, W. A. Stewart first.

Minorcas.—Chicks, Isaac Wood first, Jas. Milne second. Cornish Indian Games.—Chicks, Mrs. O. Rodgers first, L. E. Hardman second.

S. S. Hamburgs.—Fowls, C. J. Weick first. Chicks, C. J. Weick first and second. Breeding pen, C. J. Weick first and second.

B. B. R. Games.—Chicks, L. E. Hardman first. Golden Duck-wings.—Chicks, L. E. Hardman first.

Silver Duck-wings.—Chicks, L. E. Hardman first, Jas. Milne second. Pit Games.—Fowls, L. E. Hardman first, H. L. Salesbury second.

B. B. R. Game Bantams.—Chicks, L. E. Hardman first, Pit. Hibbard second. Pile Games.—L. E. Hardman first.

Golden Seabrights.—L. E. Hardman first. Pekin Bantams.—Fowls, Garland Ferrell first. Chicks, L. E. Hardman first.

Black African.—Pit. Hibbard first. Bronze Turkeys.—Lucille Randolph first, Jas. Milne second.

White Turkeys.—Jas. Milne first. Toulouse Geese.—Jas. Milne first, H. H. Hague second.

Emden Geese.—Jas. Milne first, H. H. Hague second. African Geese.—Jas. Milne first, H. H. Hague second.

Pekin Ducks.—H. B. Cowles first, Jno. Schott second. Rouen Ducks.—H. H. Hague first, Jas. Milne second.

Muscovy Ducks.—M. Schott first, Jas. Milne second. PIGEONS.

Pouters.—Jno. Ramsbarger first and second. Carriers.—Jno. Ramsbarger first and second.

Antwerps.—Jno. Ramsbarger first, C. J. Weick second. Tumblers (short-faced).—Jno. Ramsbarger first, C. J. Weick second.

Tumblers (long-faced).—C. J. Weick first, M. F. Hankla second.

Barbs.—Jno. Ramsbarger first, C. J. Weick second. Turbits.—C. J. Weick first, John Haman second.

English Owls.—C. J. Weick first, John Haman second. African Owls.—John Haman first, C. J. Weick second.

Fan-tails.—Jno. Ramsbarger first, C. J. Weick second. Jacobins.—John Haman first, Jno. Ramsbarger second.

Trumpeters.—Jno. Ramsbarger first, C. J. Weick second. Magpies.—Jno. Ramsbarger first, John Haman second.

Lop-Eared Rabbits.—Henry Checkfield first. Angora Rabbits.—L. E. Hardman first. Guinea-Pigs.—L. E. Hardman first and second.

SWEPESTAKES.

Best Display in Asiatics.—Jno. Schott first, Jas. Milne second. Best Display in American.—D. M. May first, Jas. Milne second.

Best Display in Mediterranean.—W. A. Stewart. Best Display in Pigeons.—Jno. Ramsbarger first, C. J. Weick second.

SPECIALS.

Incubators.—Kansas Economy first, Sunflower second. Bone Mills.—Mann's first, Webster & Hannum second.

Incubator Lamps.—Hydro Safety first. Incubator Regulator.—Oaks' Thermatastic Bar first. Moisture Gauge.—Chicago Gauge Co. first.

Egg-Carrier.—C. C. Dingmann first. The above in special all awarded to J. P. Lucas, Topeka, Kas.

Home-Seekers' Excursions.

The Baltimore & Ohio Southwestern Railway is now selling excursion tickets for home-seekers to points in Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi and Louisiana at one fare for the round trip. The dates of these excursions are October 2, November 6 and December 4. Tickets will be good for twenty days.

Home-seekers tickets are also being sold to points west and southwest, dates of sale being September 25 and October 9; good returning within twenty days. Liberal stop-over privileges will be granted on all tickets. For rates and further information apply to agents Baltimore & Ohio Southwestern Railway, or address A. C. Goodrich, Western Passenger Agent, P. O. Box 264, Kansas City, Mo.

J. M. CHESBROUGH, General Passenger Agent.

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110 Yards High Class fowls
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Durable, Correct in Principle, Leader at World's Fair. Gets in stamps for new 112 page Poultry Guide and Catalogue.
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Davis International Cream Separator, Hand or Power. Every farmer that has cows should have one. It saves half the labor, makes one-third more butter. Separator Butter brings one-third more money. Send for circulars.
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DEPT. B. KANSAS CITY, MO.

When Writing to this Advertiser, Please say you saw their Advt. in this Paper.

GOSSIP ABOUT STOCK.

Geo. W. Berry, Berryton, Kas., President of the Kansas Swine Breeders' Association, has been selected as the single expert judge of swine at the Texas State fair now being held at Dallas, Texas.

At the State fair at Wichita, R. S. Cook sold eighteen head of Poland-Chinas on the ground and several since, and yet some people wonder why they cannot sell their stock. Advertising in the FARMER is the key to success.

As announced in our advertising columns, Col. W. A. Harris, Linwood, Kas., has five very choice Cruickshank bulls from 10 to 18 months of age, which he will sell very reasonable. This is a splendid opportunity for some breeder.

Every farmer in Kansas, and especially the breeders and stock-raisers, should have the greatest live stock journal in the world, the *Breeder's Gazette*, of Chicago, price \$3 a year. We make a special offer of it and the KANSAS FARMER, both papers for one year, for only \$2. Subscribe now through this office.

Lampe Bros., of Van Wert, Ohio, and Heaton Bros., of Fort Wayne, Ind., will hold a combination Poland-China swine sale in January. This undoubtedly will afford lovers of the Poland-Chinas a rare opportunity of selecting some choice stock. Lampe Bros., sale of 1892 was one of the most successful ever held.

On Wednesday, October 31, J. F. Waters, Savannah, Mo., will hold a grand closing-out sale of 110 head of Hereford cattle of splendid breeding and individuality in which the blood of Archibald, Lord Wilton, Anxietty, Spartan, Fortune, Grove 8d and other noted sires abound. The royally-bred Archibald 1st 89258 heads the herd. Catalogues now ready.

The KANSAS FARMER takes pleasure in calling the attention of its readers to the advertisement of the famous Berkshire breeder, Mr. N. H. Gentry, of Sedalia, Mo. Our live stock field man, Mr. Brush, reports a very pleasant visit last week at Wood Dale farm and will give our readers in next week's issue of the FARMER quite a sketch of the Berkshires now comprising the herd of Mr. Gentry, as well as some points on breeding, feeding and methods pursued on the farm by its very successful proprietor.

In the Exposition building at the Illinois State fair, on September 28, a number of prominent poultry and pet stock breeders of the State effected the permanent organization of the Illinois State Poultry and Pet Stock Association by the election of the following officers: President, Grant M. Curtis, of Quincy; Vice President, Mrs. R. A. Judy, of Decatur; Secretary, Edward Levings, of Paris; Treasurer, Rainey Miller, of Champaign; Executive committee, Isaac Root and S. S. Noble, of Bloomington; Daniel Robertson, of Palmyra; S. T. Jones, of Williamsville, and M. W. Summers, of Curran.

In another column note the dispersion sale of H. M. Kirkpatrick & Son. Of their stock they say: "While we have not a single \$1,000 hog in our herd, we think we have some probably as good. At all events, we have some prize-winners and sons and daughters of prize-winners, with as much blue blood coursing their veins as anybody's pigs. There will be about forty-five yearling rams and ram lambs in the sale, many of which will be a credit to any flock in the West. Send for catalogue and satisfy yourselves about the breeding and get ready to come to the sale and see the individuals, and we are confident you will want many of them and will try to get some of them."

Makin Bros., Florence, Kas., advertise their public sale of Hereford cattle in this issue and write as follows: "We had intended holding a sale in Kansas City this month but we were unable to make satisfactory arrangements for barn room, so we decided to offer a draft of twenty-five to thirty head at home, and they will be a good, useful lot of breeding cattle, consisting of yearling and two-year-old heifers and young cows with calves at foot or to calve shortly and some bull calves. Everything we offer will have been bred to our best bulls, viz., Vincent 16691, Juryman 30279 and Anxiety Boy 47708. We will later send you particulars of the individual animals."

Mr. M. C. Vansell, of Muscotah, Kas., breeder of Poland-China swine and Short-horn cattle, writes our field man, Mr. Brush, and among other things, states: "Since your last visit to my place I have had an excellent trade, having sold everything sired by Admiral Chip 7919 except one choice boar out of Lady Duffield 8d. You will remember that Admiral Chip topped Mr. Spark's annual clearance sale last fall. Though we topped the sale for him at \$250, I realize now that he is the cheapest hog I ever owned. In many instances where his sons and daughters have gone out the inquiry comes back 'have you any more like them.' There are yet a few good young boars and gilts here on the farm sired by

Abbotsford 28351, he by Abbotsburn. Having used him all that I can well do, I will let him go to some one at a reasonable price. I think him one of the best yearling boars in the State. I am feeding ground wheat almost exclusively and find it the best feed for growing pigs, but am still inclined to think that corn, king corn, is the best for fattening and finishing up with."

Our readers should bear in mind that on Wednesday of next week Martin Meisenheimer will make his first annual clearance sale of Poland-China swine, on his farm, near Hiawatha, Brown county. The visitor will find the youngsters that will go into the sale to be of the square, broad-backed, early-maturing kind, and just what every progressive breeder and wide-awake farmer should have. Such is the general high character and make-up of the herd that no one after consulting the sale catalogue, and selecting animals catalogued therein, need entertain any fears of sending a bid by mail and trusting to Mr. Meisenheimer to ship the pig you may select, provided no one bids more than do you.

Our field man has been nosing around in our sister State, Missouri, and among other places visited last week was the Glenwood farm, near Lowry City, in north St. Clair county. The herd of Poland-Chinas has been christened the Glenwood herd of Corwin-Tecumseh, and was formerly owned by J. H. Sayles & Son, of Norcat, Kas. Some time since a combination was formed between the Messrs. Sayles and Mr. Donald, resulting in the new firm of Sayles & Donald. The herd is headed by the grand show boar and breeder, King Perfection 22087 A., assisted by Glenwood King, a richly-bred Tecumseh. The herd was exhibited at the late St. Louis fair, and among other prizes taken King Perfection won sweepstakes. The farm also has two excellent herds of cattle—Short-horns and Holsteins. Mr. Donald is recruiting both herds with some of the best individuals and blood obtainable. More will be said concerning this farm and herds in a future issue of the FARMER.

Mr. C. A. Cannon, proprietor of the Standard Poland-China herd, at Harrisonville, Cass county, Missouri, is recruiting up his herd of 200 head, now headed by Chow Chow 9908 S. Another harem king was used last season, Decker Boy 6877 S. The brood sows are principally Victor, Give or Take, Tecumseh and Black U. S. About twenty young boars and sixty gilts are ready to select from. The reader will find that Mr. Cannon is very favorably situated, there being four railroads running into Harrisonville. A draft of thirty head were shown at the late Miami county (Kansas) fair and won a fair share of prizes. The swine exhibit there was one of the four strongest made in Kansas this year, and Mr. Cannon effected a nice string of sales at good prices, thereby extending his very favorable acquaintance with his already growing list of Kansas patrons. A more extended herd write-up will appear later on in the FARMER, when the reader will be made more fully acquainted with the individuality and general make-up of the herd. In the meantime, should you want anything in the way of boars or gilts write him.

An excellent illustration of what the professional swine-breeder expects and demands was demonstrated last Thursday at the annual sale of Poland-Chinas made by Mr. L. N. Kennedy, of Nevada, Mo. The herd is undoubtedly the strongest line-bred Wilkes of any in the West and was strengthened in 1891 by the young boar, Tecumseh Wilkes 8158 S.; a son of George Wilkes and bred by J. H. Bebout, of Indiana, one of the most successful of America's breeders. Two breeding boars, General Wilkes 10513 and Black Wilkes 10096, with ten of the brood sows now in the herd, were the get of Tecumseh Wilkes. The fall of 1893 and spring of 1894 litters were mainly sired by Columbus 9818, a hog of fine individuality and bred by the well-known northwest Missouri breeder, W. T. Doyle, of Maryville. Mr. Kennedy seems to have worked along on the idea that the best strains, good individuals and careful and judicious selections were sufficient, without that professional rounding out and show ring condition that the breeder looks for and oftentimes at the expense of the usefulness of the individual as a breeder. He accordingly stated in his sale announcement that his pigs were not "balls of fat" but highly bred and in good breeding condition. The morning of the sale brought quite an array of visitors from Kansas and Missouri, and after lunch Col. J. M. Hosmer mounted the block and opened the sale. It soon became apparent that the prices, ranging from \$10 to \$24, were not satisfactory to Mr. Kennedy, and he called a halt and stated that he could not afford to let the sale proceed further at the range of prices that the stock were bringing and at once instructed the auctioneer to discontinue the sale. Now the question arises, would it have been better to continue the sale, even though at half prices. Of course, there were two sides to the question, and morally the owner undoubtedly had the right to protect both the value of the stock from a breeder's standpoint and its

money value. To sum the matter up briefly, every breeder, Mr. Kennedy included, must follow in the wake of show yard exhibitors in fitting up for a sale and have the stock well up in form and finish if he expects to sell at a little more than the real value of pure-bred animals. On the other hand, we fully realize that professional breeders have what might be called a fashionable weakness for finish and block results, yet if he prefers it why not fix for him and let him take his chances on the come-out. Mr. Kennedy still has the herd and will dispose of it at reasonable, fair prices, and those wanting Wilkes blood he is ready to accommodate. The moral of it all is, always keep your stock up well and if not in high finish, as well up as you possibly can without trespassing on the usefulness of the individual as a breeder.

Among the younger swine-breeders that came into prominence at the Western swine exhibits of 1893 was Mr. James Qurollo, of Kearney, Clay county, Missouri. He founded his herd of Berkshires four years preceding his entrance in the show yard with the best English and American-bred individuals that money could buy and strengthened it by recruits from time to time until he, when once in the show field, rose rapidly and went at once to the front ranks among his senior breeders. His herd of about sixty head is now headed by the two-year-old harem master, King Lee II. 29801 A. 547 N., that was sired by Longfellow 16885, dam Lady Lee VII. 25107. Last year, when in his yearling form, he won first in class and sweepstakes at the Kansas City Inter-State fair in strong competitive rings, and secured the same prizes at the still stronger swine show at the St. Louis fair. Such was his bloom, finish and conformation that many judges pronounced him the best Berkshire boar in America, and since that time his continued good development so encouraged his owner, Mr. Qurollo, that he at last decided to make the Western State fair circuit this year, beginning with the Iowa State fair, at Des Moines. Shortly after his arrival there, and before the show ring contests had begun, King Lee II. was completely disabled by having a nail run into one of his hind feet and was therefore not in a presentable show yard condition. So serious did the lameness become that Mr. Qurollo was obliged to abandon the idea of attending the Lincoln, Springfield and St. Louis shows, and consequently returned home to the farm with his herd. Last week, when at the farm, we learned that the prize-winner was in a fair way of recovery and would come out with no serious consequences resulting from the injury. A description of him in his show yard form of 950 pounds can be best made in a few words. Just imagine the best Berkshire boar you ever saw and then expect to see considerable improvement and then you'll have him exactly. Several leading Berkshire breeders have their eye on him and it puzzles his generous owner just what value to place on him. A strong re-enforcement of three head was added to the herd this past summer that were bred by Willis A. Seward, of New Jersey. One of them, a fine young fellow, Mephistopheles 32412, farrowed September 10, 1893, and sired by Imp. Collegian 26578 B. B. H. B. 3216, he by Prince Imperial 23151 B. B. H. B.; dam Prosperine 27682, she by Imp. Prospero of Willwood 24885 and out of Proctor's Western Belle IV. 17220. The reader will at once see that he is bred in the purple, and such is his individuality that something extra fine is expected of him. In his company came a five-months young chap that was christened Repay of Willwood. He was sired by Imp. Lorenzo 24684, that was bred by Jas. Lawrence, of Shrivensham, England. The lad's grandsire was Stillworth 22481, and his dam Rhoda 29807, she by Imp. Collegian 26578, and out of Sallie CCCCXXVI B. B. H. B. 2176. He promises well now and has considerable individuality and an all-round well-turned fellow with tippy Berkshire points. The most attractive one of the three recruits from New Jersey is the very excellent harem queen Fidget 32405, of May, 1893, farrow, and sired by Imp. Lorenzo 24684, he by Littleworth 22431, B. B. H. B. 1465; dam Imp. Romp 26568 B. B. H. B. 3524, she by Longtop B. B. H. B. 2819 and out of Wicked Sally B. B. H. B. 1895. In conformation her face is nicely dished, with a short nose, wide between the eyes, a clean out upright pair of ears, neck thick, short and gracefully set on a wide pair of shoulders, a long, broad back, supported by a remarkably well sprung rib, carries a long, wide, deep ham, well down to hock, even top and bottom lines, low down on a strong well-turned bone and straight up on her feet and wears a fine standard regulation Berkshire Sunday dress. Four weeks since she farrowed her first litter and is now raising three of them, which are among the handsomest little Berkshire lassies that we have seen in a long time. Among the very strong array of aged brooders is the prolific three-year-old Stumpy Belle III. 1064, that was sired by Standard 18763 and out of Artful Belle XVII. 1023, that won first



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Made by The Michigan Stove Company, LARGEST MAKERS OF STOVES AND RANGES IN THE WORLD DETROIT, CHICAGO, BUFFALO, NEW YORK CITY.

as sow and litter at the Kansas City fair of 1893. Her litters usually leave the farm at weaning time for about \$200. One of her daughters belonging to her spring of 1893 farrow was retained for a member of the herd until last March, when Mr. Wyatt Graham, of Lenexa, Kas., took her away for \$75. Other harem ladies in the herd can be briefly mentioned, and among others that are sure to attract the attention of the visitor is Artful Beauty 1044, of whom something extra good is expected by King Lee II. Lady Lee XXVII. 1090 is in farrow to Frisky Duke 594. Beauty II. 1033 was nicked to King Lee II., as was Beauty IV. 1086. The three-year-old Charmer XXXVI. 27581, is a straight Charmer, tracing to the noted Imp. Charmer. Her last litter of eleven were royal good ones and among the herd's young attractions. Much more could be said of this very excellent herd, but space forbids other than to State that there are some fifteen head, ten lads and five lassies, of last spring farrow that ought to go out in the hands of progressive and painstaking breeders. Now, a few words as to ambition and success attained by Mrs. Qurollo, the "gude wife," in her department of the breeding farm. The S. C. Brown Leghorns and Bronze turkeys are more numerous and will, we predict, win more prizes than did her show birds last year. Her Leghorns were World's Fair winners last year, won also at Kansas City and several of the Missouri State local exhibits. The Thanksgiving victims, or rather the Bronze turkeys, are a handsome flock of well-marked birds. She enjoyed an excellent Kansas trade last season and hopes to do still better the coming season. She does what many others might, "succeeds." W. P. B.

Sawing Made Comfortable.

This illustration is of a machine that every user of wood as fuel will appreciate, because it makes a work which was heretofore quite irksome become a comfortable performance. This is the time of year to saw your summer wood. Don't leave it until spring and burn green, sizzling wood all summer. There is no excuse for any



one to burn green wood, when he can get a machine like cut above that one man can go into the timber alone with, and saw down his trees and saw them into stove-wood. This machine not only makes wood-sawing easier, but cheaper. It is made very light so that it is convenient to move from cut to cut, yet it is strong and durable. If you have wood to saw, you should write for a free illustrated catalogue and investigate, to the Folding Sawing Machine Co., 241-249 South Jefferson street, Chicago, Ill.

Get up a club for the KANSAS FARMER.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the KANSAS FARMER. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. Sometimes parties write us requesting a reply by mail, and then it ceases to be a public benefit. Such requests must be accompanied by a fee of one dollar. In order to receive a prompt reply, all letters for this department should be addressed direct to our Veterinary Editor, Dr. S. C. OBB, Manhattan, Kas.

WATERING BEFORE FEEDING.—How long before feeding should a horse be watered for the best results?
Solomon City, Kas. W. W.

Answer.—A horse should be watered long enough before feeding to allow the stomach to regain its normal temperature before the feed is taken into it, which generally takes from twenty to thirty minutes, according to the temperature of the water and the quantity drank by the horse. Horses should be watered two or three times a day in winter and twice as often in summer, then they will not get so thirsty as to drink too much when opportunity offers.

SICK MARE.—I have a two-year-old mare that began, about two weeks ago, to cough, and had a bloody-colored discharge of water and matter mixed. As my horses had the distemper I thought it came from that. About a week ago her legs swelled to her body so tight that the skin broke below the fetlocks, and now the swelling is going out and the flesh is coming off. Her appetite is fair. Can you tell me what to do?
Modoc, Kas. J. L. C.

Answer.—In all cases where there is a bloody discharge from the nostrils the suspicion of some contagious disease is sufficiently grounded to render an examination by a competent veterinarian advisable. While your description of the case savors somewhat of glanders, yet you have failed to give any description of the mucous membrane lining the nostrils. If this membrane is studded with ulcers the evidence would be in favor of glanders. But if the membrane is only covered with red or purple spots, without any abrasion of its surface, it is likely the animal has purpura hemorrhagica, a non-contagious disease which frequently follows a debilitating attack of distemper. If it should prove to be the latter, you will find the sores very slow to heal, and you may use the following treatment with benefit: Give the mare, twice a day, a dose composed of one drachm each of powdered sulphate of iron, nitrate of potash and nuxvomica. Give for one week; omit a week, then repeat. Dissolve a heaping tablespoonful of blue vitriol in one quart of water and wash the sores twice a day for two days, then dress them twice a day with the following: Sugar of lead, 2 ounces; sulphate of zinc, 1 ounce; carbolic acid, 2 drachms; water, 1 quart; mix. Do not bind the sores up with cloths, but dust all raw surface with dry flour after dressing with the healing lotion.

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Vacuum Leather Oil

is the care-taker.

25c. worth is a fair trial—and your money back you want it—a swob with each can. For pamphlet, free, "HOW TO TAKE CARE OF LEATHER," send to VACUUM OIL CO., Rochester, N. Y.

YUMA IMPROVEMENT CO., 7% Gold Bonds.

The Yuma Improvement Company offers at par and accrued interest, \$429,000 of its 7 per cent. First Mortgage Gold Bonds of \$1,000 each, due 1913.

Total issue \$600,000. Careful and reliable estimates show that the net earnings will be not less than \$176,000 per annum. Trustee of the Mortgage, THE FARMERS' LOAN & TRUST CO., New York, who will deliver the Bonds, pro rata as near as may be, on receipt of applications and subscriptions.

DIRECTORS. COLE SAUNDERS, President of the Company. ALVAH THORNTON, Cash. Nat'l Bk. N. America, N. Y. WILLIAM W. ROBERTS, Pres. Term. Warehouse Co. N. Y. WILLIAM SHERRER, Mgr. New York Clearing House. CHARLES MORGAN, Coun.-at-Law, 16 William St., N. Y.

Full particulars, prospectus and forms of application can be had of THE YUMA IMPROVEMENT CO., 2 WALL ST., UNITED BANK BLDG., NEW YORK CITY. C. L. VAN DE WATER, Secretary

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The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Branches 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.

MARKET REPORTS.

Kansas City Live Stock.
KANSAS CITY, Oct. 22.—Cattle—Receipts since Saturday, 10,826; calves, 606; shipped Saturday, 8,260. The market was steady generally; common Texas cattle weak. The following are representative sales:
DRESSED BEEF AND EXPORT STEERS.
13.....1,203 \$3.85 4.....1,045 \$3.25
22.....1,030 3.20

COWS AND HEIFERS.
11.....1,202 \$3.10 9.....1,190 \$3.00
4.....600 2.90 20.....974 2.60
40.....974 2.50 1.....1,230 2.50
16.....1,022 2.45 4.....1,160 2.40
11.....1,021 2.35 15.....865 2.30
37.....767 2.30 17.....831 2.25
9.....993 2.20 5.....730 2.20
12.....680 2.05 5.....790 2.05
8.....983 1.65 3.....870 1.50
1.....960 1.60 1.....740 1.50

WESTERN COWS.
18.....778 \$1.90

TEXAS AND INDIAN STEERS.
40.....988 \$2.55

TEXAS AND INDIAN COWS.
30.....779 \$2.15 42.....846 \$2.10
55.....738 2.10 52.....686 1.95
12.....820 1.90 52.....683 1.95

STOCKERS AND FEEDERS.
36.....1,105 \$3.65 26.....1,024 \$3.35
32.....1,008 3.35 4.....707 2.85
16.....678 2.85 34.....1,027 2.75
51.....455 2.75 21.....831 2.75

Hogs—Receipts since Saturday, 2,889; shipped Saturday, 698. The market was steady, closing strong to be higher. The top was \$1.72½ and bulk of sales \$1.55@1.67½, against \$1.75 for top and \$1.50@1.70 for bulk Saturday. The following are representative sales:

68...242 \$4.72½	86...223 \$4.70	64...257 \$4.70
65...254 4.67½	92...222 4.67½	68...242 4.67½
52...256 4.67½	59...305 4.65	36...292 4.65
86...241 4.62½	81...223 4.60	82...214 4.60
74...230 4.60	90...226 4.60	70...228 4.60
68...210 4.60	92...218 4.60	94...221 4.60
69...255 4.60	77...271 4.60	75...192 4.60
21...222 4.60	56...231 4.55	54...240 4.55
85...208 4.55	34...248 4.55	91...201 4.55
102...192 4.55	73...192 4.50	57...245 4.50
45...330 4.45	90...213 4.45	94...174 4.40
50...221 4.40	37...187 4.40	49...218 4.35
73...184 4.35	36...180 4.35	8...13 4.20
23...189 4.15	10...105 4.15	3...140 4.00
38...85 3.75	1...200 3.55	4...160 3.50

Sheep—Receipts since Saturday, 645; shipped Saturday, 1,665. The market was steady. The following are representative sales:
114 lambs.... 74 \$3.60 57 lambs.... 78 \$3.15
98 mut.... 113 2.55 45 lambs.... 74 2.75

Horses—Receipts since Saturday, 81; shipped Saturday, 24. The market was unchanged.

Chicago Live Stock.

CHICAGO, Oct. 22.—Hogs—Receipts, 30,000; official Saturday, 17,149; shipments Saturday, 3,542; left over, about 5,000; quality poor; market fairly active and 5 to 10 cents higher. Sales ranged at \$4.30@4.85 for light; \$4.30@4.55 for rough packing; \$4.40@4.95 for mixed; \$4.60@5.10 for heavy packing and shipping lots; pigs, \$2.25@4.60.

Cattle—Receipts, 21,000; official Saturday, 1,970; shipments Saturday, 1,433; market strong.

Sheep—Receipts, 14,000; official Saturday, 792; shipments Saturday, 311; market steady.

St. Louis Live Stock.

ST. LOUIS, Oct. 22.—Cattle—Receipts, 3,300; market steady on desirable grades; fair to good native steers, \$3.75@5.25; good Texas steers, \$3.00@3.40; Texas cows, \$1.80@2.00; stockers and feeders, \$2.30@3.20. Hogs—Receipts, 3,500; market steady; choice heavy, \$4.70@4.80; mixed, \$4.25@4.75; light, \$4.50@4.70. Sheep—Receipts, 1,000; market weak.

Kansas City Grain.

KANSAS CITY, Oct. 22.—The offerings of wheat by sample to-day were smaller than expected, but the demand was rather slow and prices were about the same as Saturday.

Receipts of wheat to-day, 82 cars; a year ago, 236 cars.

Quotations for car lots by sample on track at Kansas City at the close sold as follows: No. 2 hard, 48c; No. 3 hard, 46@47c; No. 4 hard, 45@46c; rejected, 45c; No. 2 red, 46@47c; No. 3 red, 44@45c; No. 4 red, 44c; rejected, 42@43c.

Corn sold more readily than for several days and prices were about ½c higher. The offer-

ings were less than expected and more buyers wanted corn than usual.

Receipts of corn to-day, 38 cars; a year ago, 80 cars.

No. 2 mixed, 5 cars 43½c; 1 car 43½c Kansas City; No. 3 mixed, 3 cars 43c, 4 cars 42½c; No. 4, nominally, 41@42c; No. 2 white, 2 cars 44½c, 2 cars 44c, 4 cars 43½c; No. 3 white, 4 cars 43½c.

Oats were not plentiful and the good samples sold readily. All were firmly held.

Receipts of oats to-day, 17 cars; a year ago, 34 cars.

No. 2 mixed oats, 2 cars 28½c; No. 3 mixed, nominally, 27½c; No. 4 oats, nominally, 26@27c; No. 2 white oats, 1 car very choice 35c, No. 3 white, nominally, 31c.

Hay—Receipts, 39 cars; market steady. Timothy, choice, \$8.50@9.00; No. 1, \$7.50@8.00; low grade, \$5.00@7.00; fancy prairie, \$8.00@8.50; choice, \$7.50@8.00; No. 1, \$6.50@7.00; No. 2, \$5.00@6.00; packing hay, \$2.50@3.50.

Chicago Grain and Provisions.

Oct. 22.	Opened	High'st	Low'st	Closing
Wh't-Oct.....	51½	51½	51½	51½
Dec.....	53½	53½	52½	52½
May.....	58½	58½	57½	57½
Corn-Oct.....	50½	50½	50	50
Dec.....	49	49	48½	48½
May.....	50½	50½	49½	50
Oats-Oct.....	28½	28½	28	28
Nov.....	28½	28½	28	28
May.....	32½	32	32	32
Pork-Oct.....	12 57½	12 57½	12 57½	12 57½
Jan.....	12 30	12 35	12 35	12 27½
Lard-Oct.....	7 25	7 25	7 25	7 25
Nov.....	7 17½	7 17½	7 17½	7 17½
Jan.....	7 10	7 15	7 10	7 10
Ribs-Oct.....	6 42½	6 50	6 42½	6 50
Nov.....	6 22½	6 25	6 20	6 22½

St. Louis Grain.

ST. LOUIS, Oct. 22.—Receipts, wheat, 25,000 bu.; last year, 123,774 bu.; corn, 25,000 bu.; last year, 123,000 bu.; oats, 63,800 bu.; last year, 64,800 bu.; rye, 700 bu.; barley, 29,250 bu.; flour, 9,000 bbls.; shipments, corn, 1,630 bu.; oats, 6,600 bu.; flour, 8,560 bbls. Wheat—Cash, 48½c; October, 48c; December, 49½c; May, 54½c. Corn—Cash, 46½c; October, 46c; December, 45½c; 46c; May, 46½c. Oats—Cash, 28½c; October, 28½c; May, 32½c.

Kansas City Produce.

KANSAS CITY, Oct. 22.—Eggs—Receipts light; the market is quiet and steady; strictly fresh, 14½c. Butter—Receipts large; the supply is increasing and the market is weak; extra fancy separator, 20c; fancy, 18@19c; fair, 16@17c; dairy, fancy, 16c; fair, 13c; choice country, 12@15c, with most of it selling at packing stock prices; packing, 10½@11c. Poultry—Receipts moderate; the market is unchanged; hens and rough young roosters, 5c per lb.; springs, 5½c per lb.; old and young roosters, 15c per lb. Turkeys, receipts light, dull, 6½c per lb. Ducks, dull, 5c per lb; spring, 6c per lb. Geese, not wanted, dull, 4c per lb; poor, unsalable; goslings, 6c. Pigeons, dull, 75c per doz. Green Fruits—Apples, receipts have fallen off; the market is quiet and weak; only good to choice apples wanted; windfalls worthless; mixed varieties, 30c per bu.; Willow Twig, Spy and Ben Davis, 45c; Winesap, 50@60c; fancy Wagoner and Jonathan, 70@75c per bu.; standard packed ranged from \$2.00@2.25 per bbl.; others, \$1.50@2.00. Lemons, quiet, steady, \$3.00 @4.00. Oranges, dull; Mexicans, \$3.75@4.00 per box; Rodi, \$5.00@5.50. Grapes, 2c per lb; Ohio and New York active and higher; Concord, 18c per basket. Pears, New York, \$4.00@6.00 per

5bbl. Cranberries, firm; Cape Cod, \$6.00 per bbl. Vegetables—Cabbage, plentiful, firmer; 75@90c per 100; Michigan, \$18.00@20.00 per ton. Cauliflower, small, 45@50c; large, 75c per doz. Potatoes, plentiful, dull, weak, 40@45c; Utah, 60@65c; Greeleys, 65@70c; sweet, red, 20@25c; yellow, 25@30c per bu.

Read our sewing machine offer—page 15.

A line of through palace buffet sleeping cars between Chicago and New York city has been placed at the disposal of the traveling public and runs over the Nickel Plate road and Delaware, Lackawanna & Western railroad.

SHIP Your Butter, Eggs, Poultry, Veal, Beans, Potatoes, Hides, Fats, Wool, Hay, Grain, Green and

Dried Fruits, or ANYTHING YOU MAY HAVE to us. Quick sales at the highest market price and prompt returns made. Write for prices or any information you may want. SUMMERS, MORRISON & CO., Commission Merchants, 174 South Water St., Chicago, Ill. REFERENCE—Metropolitan National Bank, Chicago.

1892 TEXAS 1893
\$323,430,000 TEXAS \$335,060,000

The above figures represent the value of agricultural, horticultural, stock and kindred products of Texas for 1892 and 1893. The only cheap, productive soil, with unsurpassed climate and all advantages of civilization, offered the home-seeker. Honest, energetic, desirable people can easily own a farm in this great State.

Texas Farm and Ranch,

DALLAS, TEXAS,

twenty pages weekly, now in its thirteenth volume, and acknowledged the peer of any agricultural weekly published, tells how to secure a home in Texas and make it produce wealth, happiness and health. Send \$1 for one year, 50 cents for six months. Sample copy FREE.

Sheriff's Sale.

In the District Court, Third Judicial District, Shawnee county, Kansas.

D. C. NELLIS, Plaintiff,

vs.

Lydia Bell, M. L. Bell and George E. Curtis, Defendants. Case No. 10089.

By virtue of an order of sale, issued out of the District court, in the above entitled case, to me directed and delivered, I will,

On Monday, November 26, 1894,

at a sale to begin at 10 o'clock a. m. of said day, at the front door of the court house, in the city of Topeka, in Shawnee county, State of Kansas, offer for sale at public auction and sell to the highest bidder for cash in hand, the following described real estate and appurtenances belonging thereto, to wit:

The premises described in the mortgage set forth in plaintiff's petition as follows: In Shawnee county, Kansas, commencing at a point 2,100 feet northerly of the southwest corner of Jackson street and Gordon street, in the city of Topeka, and on an extended line of the west side of Jackson street and parallel with Kansas avenue; thence westerly at right angles 170 feet; thence northerly at right angles 75 feet; thence easterly at right angles 170 feet; thence southerly at right angles 75 feet to place of beginning, in Shawnee county, Kansas.

Said real estate is taken as the property of said defendants and will be sold to satisfy said order of sale.

The purchaser will be required to pay cash for said property at the time of sale.

Given under my hand, at my office in the city of Topeka, Shawnee county, Kansas, this 17th day of October, 1894.

D. N. BURDGE, Sheriff.

D. C. NELLIS, Attorney for Plaintiff.

HORSES! SOLD AT AUCTION.

On Tuesday, Wednesday, and Thursday of each week. Private sales every day. At the KANSAS CITY STOCK YARDS, HORSE & MULE DEPT.

THE LARGEST & FINEST INSTITUTION OF THE KIND IN THE UNITED STATES. 85107 head handled during 1893. All stock sold direct from the farmer, free from disease, and must be as represented or no sale. Write for market report, mailed free. Address, W. S. TOUGH & SON, Mgrs., Kansas City, Mo.

THE UNION STOCK YARDS, CHICAGO.

(Consolidated in 1865.) The largest live stock market in the world. The center of the business system from which the food products and manufactures of every department of the live stock industry is distributed.

Accommodating capacity: 50,000 cattle, 200,000 hogs, 30,000 sheep, 5,000 horses.

The entire railway system of Middle and Western America center here, rendering the Union Stock Yards the most accessible point in the country. The capacity of the yards, the facilities for unloading, feeding and reshipping are unlimited. Packing houses located here, together with a large bank capital and some one hundred different commission firms, who have had years of experience in the business; also an army of Eastern buyers, insure this to be the best market in the whole country. This is strictly a cash market. Each shipper or owner is furnished with a separate yard or pen for the safe keeping, feeding and watering of his stock, with but one charge of yardage during the entire time his stock remains on the market. Buyers from all parts of the country are continually in this market for the purchase of stock cattle, stock hogs and sheep. Shipper should ask commission firms for direct information concerning Chicago markets.

The Greatest Horse Market in America, the Dexter Park Horse Exchange.

N. THAYER, President. JOHN B. SHERMAN, Vice President and Gen. Manager. GEO. T. WILLIAMS, Secretary and Treasurer.

J. C. DENISON, Ass't Secretary and Ass't Treasurer. JAS. H. ASHBY, General Superintendent. D. G. GRAY, Ass't Superintendent.

The Kansas City Stock Yards

Are the most complete and commodious in the West and the second largest in the world. Higher prices are realized here than further east. This is due to the fact that stock marketed here is in better condition and has less shrinkage, having been shipped a shorter distance; and also to there being located at these yards eight packing houses, with an aggregate daily capacity of 9,000 cattle, 40,000 hogs and 4,000 sheep. There are in regular attendance sharp, competitive buyers for the packing houses of Chicago, Omaha, St. Louis, Indianapolis, Cincinnati, New York and Boston. All of the eighteen railroads running into Kansas City have direct connection with the yards.

	Cattle and calves.	Hogs.	Sheep.	Horses and mules.	Cars.
Official Receipts, 1893.....	1,746,828	1,948,373	569,517	35,097	99,755
Slaughtered in Kansas City.....	966,792	1,427,763	372,285		
Sold to feeders.....	249,017	10,126	71,284		
Sold to shippers.....	800,287	510,489	15,200		
Total sold in Kansas City.....	1,566,046	1,948,367	458,869	32,522	

C. F. MORSE, F. E. RICHARDSON, H. P. CHILD, E. RUST,

General Manager. Secretary and Treasurer. Assistant Gen. Manager. Superintendent.

GEO. W. CAMPBELL. A. B. HUNT. J. W. ADAMS.

Campbell, Hunt & Adams,

LIVE

Stock Salesmen.

Stock Yards, Kansas City, Mo.

Rooms 31-32—Basement of East Wing.

INITIAL PINS.
 Fine Rolled Gold. Two letters 15c., 3 letters 25c.
 Address W. A. Dunham, Box 74, Rock, Mass.

POOR TEA is high in price.
CHOICE TEA is low in price.

One pound of "Sample Tea" mailed for 40 cts. Free Illustrated Price List of Family Supplies.

JACOBY BROS., 206 N. 2d St., St. Louis, Mo.

Refitted and returned. John B. Campbell, R. G. Kessler, Managers.

Armourdale Hotel,
 Kansas City, Kansas.
 \$1 and \$1.25 per day. Five minutes ride on electric cars from Union Stock Yards.

B THE "ST. JOE" HIVE
 LATEST! CHEAPEST! BEST!

We keep all kinds of bee supplies. Send for free circular. Satisfaction guaranteed. **ST. JOSEPH APIARY CO., 212 Edmond St., St. Joe, Mo.** E. T. ABBOTT, Manager.

ALL STEEL LIGHTNING FULL CIRCLE



H.C. HAY PRESS CO. KANSAS CITY, MO.
 Sixth and Mill Streets.

THE ELI STEEL HAY PRESS
 TWO FEEDS TO CIRCLE



MFD BY COLLINS PLOW CO. QUINCY, ILL.

PERINE'S New Subsoil Plow



Can break and loosen up the soil 24 inches deep, which stores up all the rainfall in the soil just where it is most needed.

Write for Illustrated Catalogue.

Perine's Plow Works, Topeka, Kas.
 When writing advertiser mention FARMER.

METAL WHEELS for your WAGONS.



Any size you want, 30 to 66 in. high. Tires 1 to 8 in. wide—hubs to fit any axle. Saves cost many times in a season to have set of low wheels to fit your wagon for hauling grain, fodder, manure, hogs, &c. No resetting of tires. Oat's free. Address **EMPIRE MFG. CO., Quincy, Ill.**

"We are Advertised by our Loving Friends."

At the Michigan State Fair a man wanted a bill of fence, but objected to our price, as he was told he could do better. Later, he came back and bought freely, then stated the reason thusly: "I went the rounds of all the fence exhibits, and each and every one assured me that his was 'just as good as the **PAGE**' and cost only 2/3 or 3/4 as much. The **PAGE** seemed to be the **STANDARD**, and in buying it I take no chances."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

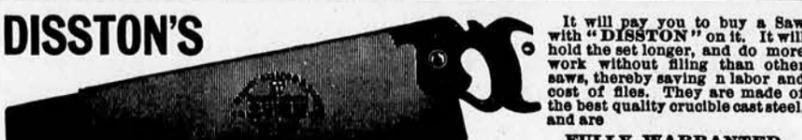
OKLAHOMA, INDIAN TERRITORY AND THE CHEROKEE STRIP

Constitute the future great Agricultural State of the Union and a prosperous country. The last chance for free homes for the farmer. For reliable information concerning this favored region, subscribe for the only farm journal published there, the **HOME, FIELD AND FORUM**, a sixteen-page Monthly, price 50 cents a year. Sample copy free. Address **HOME, FIELD & FORUM, Guthrie, Oklahoma.**

DETECTIVES!

Right, young and middle-aged men wanted in every locality to act as **PRIVATE DETECTIVES** under instructions. Previous experience not required or necessary. Send stamp for full particulars and get sample copy of the best illustrated criminal paper published. **NATIONAL DETECTIVE BUREAU, INDIANAPOLIS, IND.** *****

DISSTON'S



It will pay you to buy a Saw with "DISSTON" on it. It will hold the set longer, and do more work without fling than other saws, thereby saving a labor and cost of files. They are made of the best quality crucible cast steel, and are **FULLY WARRANTED.**

For Sale by all Dealers.
 Send for Pamphlet, "The Saw," mailed free. **HENRY DISSTON & SONS, Philadelphia, Pa.**

PATRONIZE YOUR HOME INSTITUTIONS!
STOCK COMPANY—CAPITAL \$100,000.
 Losses Paid Over \$100,000. Organized in 1882. Over Twelve Years of Successful Business. A Strong Western Company.

The SHAWNEE FIRE INSURANCE COMPANY
 Of TOPEKA, KANSAS.

Insures business and farm property against Fire, Lightning, Cyclones, Wind Storms and Tornadoes. Agents in all the principal cities and towns in Kansas.
J. W. GOING, Secretary and Manager, TOPEKA, KANSAS.

THROW AWAY YOUR CURRY COMB AND BRUSH AND BUY A BURLINGTON "Stay-On" Stable Blanket.



Your horse is always clean, it keeps the hair smooth and glossy. No rubbing required. No tight girth. No sore backs. No chafing of mane. No rubbing of tail. No horse can wear them under his feet. **NO COME OFF TO THEM.**

We confine our sales to Jobbers only. If your harness dealers do not keep them, we will, in order to convince you of the superiority of the BURLINGTON "STAY ON" over all imitations and old style blankets, send only one blanket to any address, express paid on receipt of price.

Burlington Blanket Co., - Burlington, Wis.

Everything that is NEWEST and BEST in REPEATING REPEATING SINGLE-SHOT Rifles, Shot-Guns, Rifles,

—AND—

ALL KINDS OF AMMUNITION, ARE MADE BY THE Winchester Repeating Arms Co.

OUR MODEL 1893 SHOT-GUN



Is now used by all the most advanced trap and game shooters.

Send for 100-page Illustrated Catalogue, FREE.

Winchester Repeating Arms Co., New Haven, Conn.

PROPOSED AMENDMENT TO THE CONSTITUTION.

Substitute for Senate Joint Resolutions Nos. 1 and 2.

Be it resolved by the Legislature of the State of Kansas: two-thirds of the members elected to each house thereof, concurring therein:

SECTION 1. The following proposition to amend the constitution of the State of Kansas is hereby submitted to the qualified electors of the State for their approval, or rejection, namely: That section one, article five of the constitution of the State of Kansas be amended so that the same shall read as follows: "Section 1. Every person of the age of 21 years and upwards belonging to the following classes, who shall have resided in Kansas six months next preceding any election, and in the township or ward in which she or he offers to vote, at least thirty days next preceding such election shall be deemed a qualified elector. 1st: citizens of the United States. 2d: persons of foreign birth who have declared their intentions to become citizens of the United States conformable to the laws of the United States on the subject of naturalization."

SEC. 2. This proposition shall be submitted to the electors of this State at the general election of the Representatives to the Legislature in the year eighteen hundred and ninety-four, for their approval, or rejection; those voting in favor of this proposition shall have written or printed on their ballots "For the suffrage amendment to the constitution;" those voting against the said proposition shall have written or printed on their ballots "Against the suffrage amendment to the constitution;" said ballots shall be received and such vote taken, counted, canvassed and returns made thereof, in the same manner and in all respects as provided for by law; as in the case of the election of Representatives to the Legislature.

SEC. 3. This resolution shall take effect and be in force from and after its publication in the statute book.

I hereby certify that the above resolution originated in the Senate January 16, 1893, and passed that body February 8, 1893.
PERCY DANIELS, President of Senate.
W. L. BROWN, Secretary of Senate.

Passed the House March 1, 1893.
GEO. L. DOUGLASS, Speaker of House.
FRANK L. BROWN, Chief Clerk of House.

Approved March 6, 1893, 3:50 p. m.
L. D. LEWELLING, Governor.

LIGHTNING LARGEST WELL MACHINERY Works.

All kinds of tools. Fortune for the driller by using our Adamantine process; can take a core. Perfected Economical Artesian Pumping Rigs to work by Steam, Air, etc. Let us help you. **THE AMERICAN WELL WORKS, Aurora, Ill.; Chicago, Ill.; Dallas, Tex.**

Well-Machinery Well Mills, Pumps, Etc.

We manufacture the celebrated **TEETZEL WELL AUGER AND ROCK DRILL** and the **LIGHTNING HYDRAULIC DRILLING MACHINE**. The latest improved and fastest driller on record. Rope Tool Rigs, Jetters. Also first-class Well Tools of every description.

WRITE FOR PRICES. CATALOGUES FREE.
 Address Teetzel & Liebendorfer, Ottawa, Ill.
 Mention this paper.

Portable Well Drilling MACHINERY

Established 1867. Covered by patents. Machines drill any depth both by steam and horse power. We challenge competition. Send for free illustrated catalogue.

Address, **KELLY & TANEYHILL, WATERLOO, IOWA.**

WELL MACHINERY

Illustrated catalogue showing **WELL AUGERS, ROCK DRILLS, HYDRAULIC AND JETTING MACHINERY, etc.** SENT FREE. Have been tested and all warranted.

SIoux CITY ENGINE & IRON WORKS, (Successors to Peck Mfg. Co.) SIoux CITY, IOWA.
 1217 Union Ave., Kansas City, Mo.

9 CORDS IN 10 HOURS

RUNS EASY No Backache. weighs only 45 lbs. SAWS DOWN TREES. FOLDED



BY ONE MAN. Send for free illustrated catalogue, showing testimonials from thousands who have saved from 5 to 8 cords daily. It saws down trees, folds like a pocket knife, easily carried on shoulder. One man can saw more timber with it than two men with a cross cut saw. 84,000 in use. We also make larger sized machine to carry 7 foot saw. First order secure agency. **FOLDING SAWING MACHINE CO., 241 to 249 S. Jefferson St., CHICAGO, ILL.**

THE "WESTERN SETTLER" IS A NEW PAPER.

TELLS ALL ABOUT THE WEST. Will be sent free to you and your friends.

Address **JOHN SEBASTIAN, Gen. Ticket and Passenger Agent, Chicago, South Street and Pacific Railroad, Chicago, Ill.**

CHEAP HOMES

In San Luis Valley, Colorado, the Garden Spot of the Rocky Mountains.

Sixty thousand acres of fine land, all under first-class irrigation canals, with perpetual water rights, for sale cheap, six years time, 5 per cent. interest.

Grains, Grasses and Vegetables Grow Here to Perfection.

Crops sure; no droughts, no cyclones, no blizzards; abundance of pure artesian water; climate unequalled. We have churches, schools, railroads and good markets. For maps, circulars and full information, address **JAMES A. KELLY & CO., Agents Colorado Valley Land Co., Monte Vista, Colo.**

Bargains for Sale.

I am selling excellent farms of 100 acres in Rooks county, Kansas, and in central Nebraska from \$5 to \$10 an acre, and most of them improved. I have 8,480 acres in Lincoln county, Nebraska. If sold quick \$8 per acre, spot cash, will take it, which is only half its value. One of the best stock and grain farms in Kansas, well and extensively improved, and other great bargains. Don't pay rent any longer, but own your own farm. Write what you want to

B. J. KENDALL, Room 507 Brown Block, Omaha, Neb.

Real Estate Bargains.

I own the town site of Halsey, Thomas Co., Neb. It has depot and other railroad improvements. Located on the 160 acres. It is clear and will be sold for half its value or exchanged for Omaha property or a clear farm. Write for particulars.

I have several fine lots near the Methodist college at University Place, Lincoln, Neb., for sale cheap, or will exchange them for farm lands.

B. J. KENDALL, 507 Brown Block, OMAHA, NEB.

HANG YOUR DOOR WITH STANLEY'S Corrugated Steel Hinges.

They are Stronger, Handsomer and cost no more than the old style. For sale by Hardware Dealers generally, but if not in your vicinity write the Manufacturers. Send for "Biography of a Yankee Hinge," mailed free.



THE STANLEY WORKS, New Britain, Ct.

The Kirkwood Steel Wind Engine

has been in use since 1882. It is the pioneer steel mill. It has beauty, strength, durability, power; it is THE BEST, hence the mill for you to buy.

Thousands have them! Our Steel Towers have four angle steel corner posts, substantial steel girts and braces—not fence wire. They are light, strong, simple in construction, much cheaper than wood and will last a lifetime. Our mills and towers are ALL STEEL and fully guaranteed.

Write for prices and circulars. Address, mentioning this paper,
KIRKWOOD WIND ENGINE CO., Arkansas City, Kas.

STAR FEED GRINDER Greatly Improved.

SOLD ON TRIAL. 12 to 25 Bushels per Hour of Ear Corn, dry or damp, and all small grain, fine or coarse.

STAR MFG. CO., New Lexington, Ohio.



FEED YOUR WHEAT!



THE BLUE VALLEY FEED MILL

Is the only sweep mill especially adapted for grinding soft or hard wheat. Special concave for hard wheat. Also grinds oats, rye, corn and corn cob. Warranted superior to any other sweep mill on the market.

Address **BLUE VALLEY FOUNDRY CO., Manhattan, Kansas.**

They also manufacture the best Power Feed Mill offered to the public. Two sizes. Capacity 50 to 120 bushels per hour.

REPORTERS!

We want a responsible LADY or GENTLEMAN in every town to act as newspaper correspondent, report the happenings in their locality and write articles for publication. Experience not required or necessary. Big remuneration for good writers. Enclose stamp for full particulars. **MODERN PRESS ASSOCIATION, Chicago, Ill.**

HENRY W. ROBY, M. D., SURGEON.
 Office 118 Sixth Ave. West, TOPEKA, KAS.

IF A FARMER Your name and address should go in the Farmers' Directory. Seedsmen, publishers and merchants will send sample goods in abundance to you. It is the only DIRECTORY of its kind. Ten cents in silver will put your name in it. Try it, and see the results. Address **G. E. WALSH, P.O. Box 1189, New York City.**

THIS IS THE BEST OFFER YET!

THE NEW IMPROVED KANSAS FARMER MACHINE.

A Large, Handsome, Noiseless, Five-Drawer Machine,

With oak or walnut stand, gothic cover, drop leaf, locks to cover and drawers, nickel-plated rings to drawers, dress-guards to wheel and a device for replacing belts.

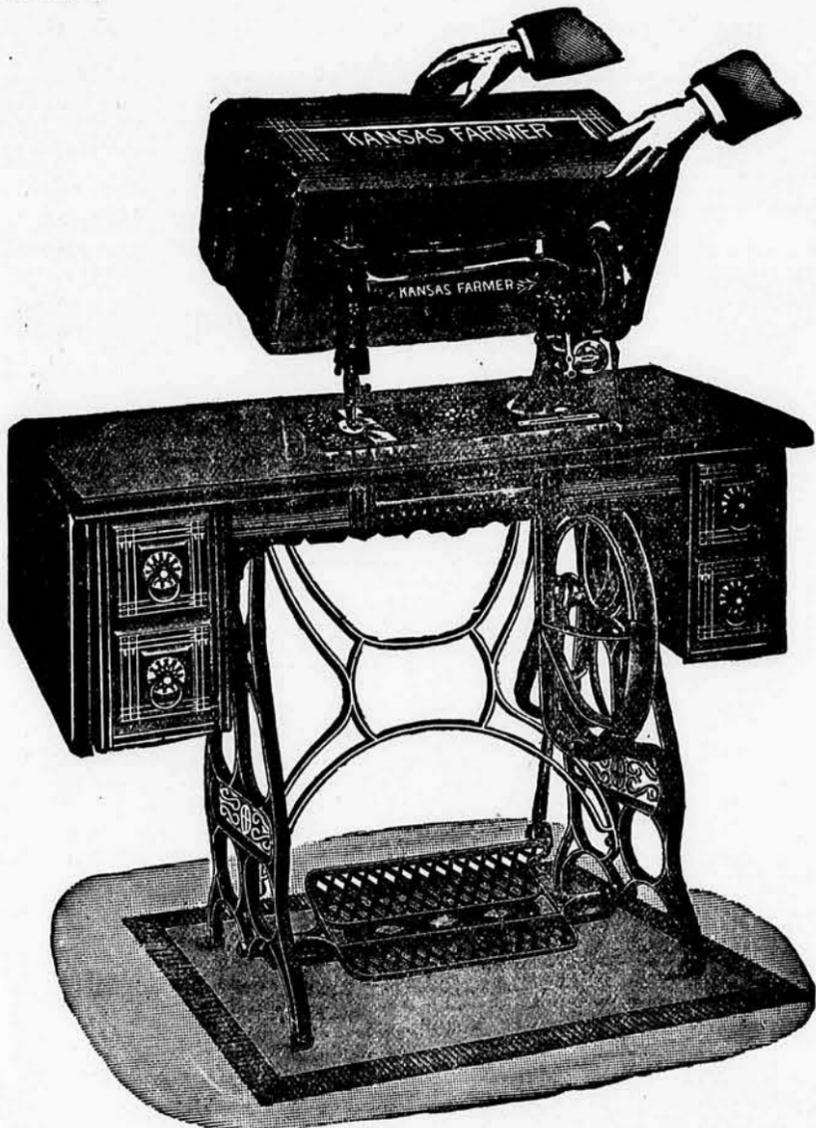
A \$65 Machine, Delivered, including a Year's Subscription to the KANSAS FARMER, for \$20.

LOOK AT THIS!

Arrangements have just been completed by which we are enabled to furnish this latest improved high-arm machine to our readers for the remarkably low price of \$20. This is an unprecedented offer that we are enabled to make only by contracting for them in large quantities for cash. A complete set of attachments in elegant velvet-lined box is furnished with each machine, with all the modern improvements, such as automatic bobbin-winder, self-threading shuttle, self-setting needle, tension-releaser, together with the usual outfit of bobbins, needles, oil can, screwdriver, and illustrated book of instructions.

OUR WARRANTY.

Read our new ten-year guarantee and terms under which you can buy one of these machines without a possible risk. We will warrant every new improved KANSAS FARMER high-arm machine for ten years from date of purchase, and after ten days trial, if perfect and entire satisfaction is not given the machine may be reshipped at our expense and the money paid will be promptly refunded.



You Will Make No Mistake in Buying this Magnificent Sewing Machine.

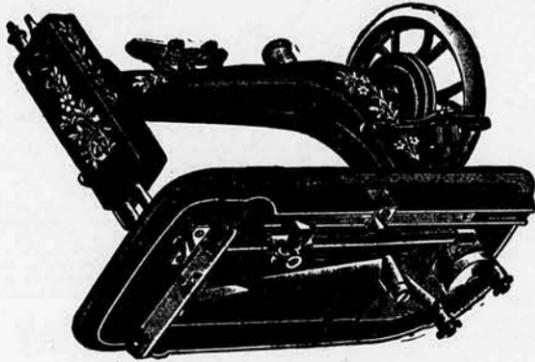
Traveling agents sell no better machines than ours, and half of them not as good, for prices ranging from \$50 to \$70. Agents will use their best arguments to convince you that our machine is not first-class, and at the same time insist upon your paying them a profit of from \$40 to \$50. Remember, it costs more to sell sewing machines through agents than it does to make them. We are at no big expense in selling our machines. No agents; no high-priced salaried officers; no fancy store rents and no loss through credit sales. We contract for these machines in large numbers, they are manufactured by one of the oldest sewing machine companies in the United States. We pay cash and are in this way enabled to furnish them to our readers at bottom wholesale prices, and but a trifle above cost, thus saving them all middlemen's profits. Do not confound the new improved KANSAS FARMER with sewing machines offered at lower prices than named for the new Kansas Farmer, but keep in mind that in the purchase of one of these machines you are buying an article that will compare with any sewing machine in the American market retailing at \$65, and thus discouraging the formation of pools.

SOME OF THE ATTACHMENTS

that go with

Our New Improved Sewing Machine

Money Saved is Money Earned.

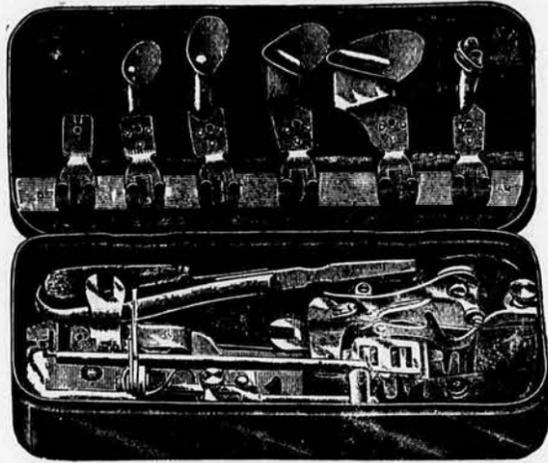


THE DIRECT FEED BAR.

The Cheapest and the Best.

All wearing parts are case-hardened steel, possessing great durability, and by the turning of a screw all lost motion can be taken up. All parts are fitted so accurately that these machines are absolutely noiseless and as easy running as fine adjustment and best mechanical skill can produce. No expense or time is spared to make them perfect in every respect, as every machine passes a rigid inspection by competent men before leaving the factory.

It Pays to Buy the Best.

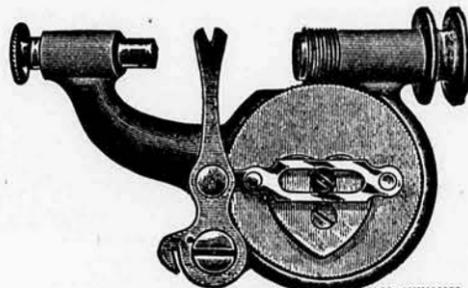


BOX OF SELF-ADJUSTING ATTACHMENTS.

We Break Down Monopoly Prices.

The above illustration shows extra attachments in a velvet-lined case, sent free with each machine; one tucker, one ruffler with shirring-plate, one hemmer set, four widths, and binder, one braider, foot and slide, one thread-cutter. Each machine is also supplied with the following accessories: One hemmer and feller, one piece, ten needles, six bobbins, one screwdriver, oil can filled with oil, cloth-gauge and thumb-screw, and a book of instructions, which is profusely illustrated and answers the purposes of a competent teacher.

One Machine Sells Others.



THE AUTOMATIC BOBBIN-WINDER.

\$20 Buys Our Machine

The improved automatic bobbin-winder is so simple that a child can easily operate it—winding the thread automatically on the bobbin as evenly and regularly as the thread on a spool. This valuable attachment renders possible a perfect control of the shuttle tension, and all annoyance resulting from shuttle thread breaking while the machine is in motion.



THE NEW SELF-THREADING SHUTTLE.

A self-setting needle and self-threading cylinder shuttle shown in accompanying picture are used with our machines and are among its strongest features. The self-threading shuttle is so simple that with two motions of the hand, backward and forward, shuttle is threaded.

We want all our patrons to assure themselves that our machines are perfect in every particular. While we are not in the sewing machine business, we have gone into the supplying trade merely as an assistance to those who desire a first-class machine at factory prices and no middlemen's profits.

Remember, we deliver this machine to your nearest railroad station, with all attachments and a year's subscription to the KANSAS FARMER, for only \$20.

Send for brochure giving fuller particulars.

KANSAS FARMER CO., Topeka, Kansas.

TWO-CENT COLUMN.

"For Sale," "Wanted," "For Exchange," and small advertisements for short time, will be charged two cents per word for each insertion. Initials or a number counted as one word. Cash with the order. Special:—All orders received for this column from subscribers, for a limited time, will be accepted at one-half the above rates, cash with order. It will pay. Try it!

BLACK MINORCAS—From imported stock—both sexes for sale—\$1 each. Thos. Foy, Marquette, Kas.

FOR SALE—Eighty acres in Cloud county, Kansas. Sixty-five acres in cultivation. A good frame house and out-buildings. Will take horses or mules. Farm is clear. H. Gaudreault, Campbell, Neb.

ONE DARK RED HEIFER—Dehorned, white marks on legs, white belly and white tip of tail. One pale red heifer, dehorned, white spot on forehead, white spot on hips and white mark on left side. Both 1 year old last spring. Advertis in Abilene Reflector May 3, 1894. Can be found in Chever tp., S. 30, T. 11, R. 2, E. Andrew Kropff, Talmage, Kas.

VIRGINIA PLANTATION—735 acres for \$7,000. Buildings alone worth more than asked for farm. Must be sold to close an estate. 400 acres cleared, 350 fine timber. Large amount of river bottom lands of inexhaustible fertility, all level and smooth. Three-fourths mile to postoffice. Best of neighborhood. Churches of all denominations. Frame house, eight large rooms, perfect repair. Orchard. Fine view. Detached kitchen, large barns, stables, six tenant houses and fourteen other buildings. Easy terms of payment. Full particulars. W. G. Stephens, Lynchburg, Va.

FOR SALE—Choice bunch of thirty-five Galloway and Short-horn steers coming 2, four full-blood Galloway bulls coming 2. Inquire of Oscar Tammler, one mile northeast of Kildare, Oklahoma Ter.

CALIFORNIA FRUIT AND FARM LAND—For trade for Kansas land. J. S. Brooks, Delano, California.

WE CAN FURNISH CORN, OATS, MILL FEED, bran, flour, ground wheat or feed wheat in car lots. Write or wire. Hodges & Seymour, Wichita, Kas. Mention Kansas Farmer.

WANTED, FEEDERS.—I would like to feed one hundred head of cattle for five months. Have plenty of corn fodder, Kafir corn and straw on my farm. Cattleman, address me. D. K. Beshore, Cleveland, Kingman Co., Kas.

FOR SALE CHEAP—Fifty to sixty well-bred Shropshire ewes and lambs, as feed is scarce. R. Fowles, Wakefield, Kas.

BLACK MINORCAS—Both sexes, Northrup strain, for sale at farmer's prices. A few to exchange for S. C. White Leghorns. J. B. Cotton, Stark, Kas.

TO EXCHANGE—Well improved 100 acre farm and clear property in Topeka for larger farm in eastern Kansas or northwestern Missouri. Address Box 54, Valencia, Shawnee Co., Kas.

WE MAKE A GOOD FARMER'S SPRING WAGON, two lazy backs and let-down end-gate, for \$55. Warranted. Kinley & Lannan, 424-426 Jackson street, Topeka.

WANTED—A farm near Topeka. Dr. H. W. Roby, Topeka, Kas.

BELOW THE BLIZZARD LINE—Fruit and stock farms for sale. Enclose stamp for price list, terms, etc. Hynson & Elmore, Mammoth Springs, Ark.

SEND TO-DAY FOR FREE SAMPLE COPY OF Smith's Fruit Farmer, a practical horticultural journal, 50 cents a year. Smith's Fruit Farmer, Topeka, Kas.

"HOW TO RAISE PIGS"—A free book to farmers, postpaid. J. N. Reimers, Davenport, Ia.

WANTED—Buyers for Large English Berkshires. One hundred pure-bred pigs, farrowed in March and April, are offered for sale at from \$10 to \$15 each. Farm two miles west of city. Riverside Stock Farm, North Topeka, Kas.

FRESH ALFALFA SEED. Crop of 1894. McBETH & KINNISON, GARDEN CITY, KANSAS.

POLAND-CHINA MALES—Tecomseh, Square Business strain, cheap. J. D. Ziller, Hiawatha, Kas.

SUNNYSIDE—YAKIMA VALLEY.—Irrigated lands. Produce apples, pears, prunes, peaches, hops, alfalfa. Worth \$20 to \$300 per acre. "Twenty acres enough." For map, prices, particulars, write F. H. Hagerty, Sunnyside, Washington.

TIMBER TO BE HAD FOR THE CLEARING.—A tract of timbered land in south Missouri must be cleared for fruit. Heavily timbered with oak suitable for lumber. No underbrush. Owner will give timber for the clearing. Railroad passes through land. A reliable tenant with two good teams wanted on same place. Address "C. C. G.," care KANSAS FARMER.

FOR SALE CHEAP—Four Holstein bulls. Hoxxye Ladd 1878, bred by M. E. Moore; also one two-year-old and two one-year-olds, sired by Hoxxye Ladd. Address P. I. McEchorn, Catalpa farm, Richmond, Kas.

FOR SALE—Nine Shropshire bucks, well colored, nice wooled sheep. From \$8 to \$30 each. Three lambs, four yearlings, two four-year-olds. John Whitworth, Emporia, Kas.

ENCE EXHIBITS, and each and every one assured me that his was "just as good as the PAGE" and cost only 1/2 or 2/3 as much. The Page seemed to be the STANDARD, and in buying it I take no chances."

RED KAFFIR CORN FOR SALE.—One and one-half cents per pound. J. R. Cotton, Stark, Kas.

CLOSING OUT—Entire stock of Hamburgs, incubators, brooders, bone-mill, clover-cutter, etc., on account of death of wife. J. P. Lucas, Topeka, Kas.

WANTED—To trade a \$50 scholarship in Pond's Business college for a good milch cow. W. B. Roby, 316 west Eighth St., Topeka.

IRRIGATION PUMPS.—For prices of irrigation pumps used by the editor of KANSAS FARMER write to Prescott & Co., Topeka, Kas.

TWO-CENT COLUMN—CONTINUED.

WILL EXCHANGE—Water power flouring mill for a good farm or cattle. Kaufman & Son, Virgil, Kas.

WANTED—Sale bills, horse bills, catalogues and other printing. A specialty at the Mail job printing rooms, 900 North Kansas Ave., North Topeka.

HEAD.—Famous Duroe-Jersey and Poland-Chinas for sale cheap. Great breeders, rustlers and growers. D. Troit, Abilene, Kas.

FOR SALE—Seventy-four three-year-old steers, now being fed corn on good pasture. H. H. McCormick, Yates Center, Kas.

MISCELLANEOUS.

J. M. HOSMER, Live Stock Auctioneer, Maryville, J. Mo. Fine stock a specialty. I respectfully solicit your business and guarantee satisfaction. Terms reasonable. Secure Gates early.

F. M. WOODS,

Live Stock Auctioneer, Lincoln, Neb. Refer to the best breeders in the West, for whom I do business. Prices reasonable and correspondence solicited.

ELI ZIMMERMAN, Hiawatha, Kansas, Live Stock and General Auctioneer. Pedigreed and registered live stock a specialty. Write for dates. Sales conducted anywhere in the country. Best of references and satisfaction guaranteed.

JAS. W. SPARKS,

Live Stock Auctioneer, Marshall, Mo. Sales made in all States and Territories. Refer to the best breeders in the West, for whom I have made sales. Write or telegraph for dates before advertising. Terms reasonable.

S. A. SAWYER, FINE STOCK AUCTIONEER—S. Manhattan, Riley Co., Kas. Have thirteen different sets of stud books and herd books of cattle and hogs. Compile catalogues. Retained by the City Stock Yards, Denver, Colo., to make all their large combination sales of horses and cattle. Have sold for nearly every importer and noted breeder of cattle in America. Auction sales of fine horses a specialty. Large acquaintance in California, New Mexico, Texas and Wyoming Territory, where I have made numerous public sales.

THE STRAY LIST.

FOR WEEK ENDING OCTOBER 10, 1894.

Johnson county—Jno. J. Lyons, clerk. MARE—Taken up by W. J. White, in Lexington tp., July 28, 1894, one iron-gray mare, 15 1/2 hands high, about 15 years old, branded 14 on left jaw and 97 (7 smaller than 9) on left shoulder, wire marks on breast and hind legs, saddle marks, shoes marked R. R. P. L.; valued at \$15.

Kingman county—W. J. Madole, clerk. MARE—Taken up by Stephen Went, in Evan tp., September 1, 1894, one sorrel mare, weight about 600 pounds, legs white three to six inches from hoof up and white spot on forehead.

Labette county—J. F. Thompson, clerk. HORSE—Taken up by Henry Musselman, in Howard tp., August 10, 1894, one roan horse, 3 years old, no marks or brands; valued at \$12.50. MARE—By same, one bay mare, 2 years old, no marks or brands; valued at \$12.50.

Franklin county—J. K. Binder, clerk. HORSE—Taken up by Edgar Teghtmyer, in Centropolis tp., September 27, 1894, one black work horse, 8 years old, white hind foot, lump on side of nose; valued at \$18.

FOR WEEK ENDING OCTOBER 17, 1894.

Stanton county—J. W. Tout, clerk. MARE—Taken up by Grant Raney, in Mitchell tp., August 27, 1894, one light roan mare, 4 years old, both hind feet white, no marks or brands; valued at \$12.

Woodson county—H. H. McCormick, clerk. STEER—Taken up by G. E. Brenner, in Liberty tp., October 1, 1894, one red yearling steer, branded O on right side just behind shoulder and R on left hip; valued at \$10.

Franklin county—J. K. Bailey, clerk. STEER—Taken up by J. B. Horn, in Williamsburg tp., one red dehorned steer, 2 years old, medium size, branded W. I. on left side, ends of ears clipped.

FOR WEEK ENDING OCTOBER 24, 1894.

Sedgwick county—M. A. Carvin, clerk. TWO MULES—Taken up by Jay C. Dix, in Ohio tp., two mules—one dark brown mare mule, 5 or 6 years old, about sixteen hands high, and one sorrel horse mule with black mane and tail, about fourteen hands high, 4 or 5 years old; no marks or brands on either; valued at \$100.

Finney county—T. C. Laughlin, clerk. THREE STEERS—Taken up by Chas. Drussell, in Garden City tp., September 20, 1894, three red spotted steers, medium size, 3 years old, branded with characters resembling 2 X; valued at \$30.

STEER—By same, one medium size red steer, 3 years old, branded HUB; valued at \$10. STEER—By same, one medium size spotted steer, 3 years old, branded T 7 L; valued at \$10.

TWO STEERS—By same, two medium size spotted steers, 2 years old, branded L 4; valued at \$16. STEER—By same, one medium size spotted steer, 1 year old; valued at \$6.

Allen county—Jas. Wakefield, clerk. STEER—Taken up by J. H. Thompson, in Marmaton tp., October 9, 1894, one roan steer, 2 years old, dehorned, no marks or brands; valued at \$15. COW—Taken up by John E. Smith, in Marmaton tp., October 16, 1894, one pale red and white spotted cow, about 5 years old, branded R A on left side; valued at \$10.

Farmers, Spay Your Sows

For fall fattening. Also your Nannies, Ewes and Gip Dogs, with Howsley's Spaying Mixture. Easily used, quick, absolutely certain and safe. Price, \$3 per bottle; \$2 half bottle. One bottle spays one hundred head. Write for testimonials and particulars.

THE HOWSLEY SPAYING CO., Kansas City, Mo.

SEEDS J. G. PEPPARD 1400-1402 UNION AVE. MILLER A SPECIALTY. Red, White, Alfalfa and Alsike Clovers, Timothy, Blue grass, Orchard grass, Red Top, Onion sets, Tree seeds, Cane seed. KANSAS CITY, MO.

CHICAGO VETERINARY COLLEGE. FOUNDED 1883.

The most successful college on this continent. For further particulars address the Secretary, JOS. HUGHES, M. R. C. V. S., 2537-2539 State St., Chicago, Ill.

Shropshire Sheep. Poland-China Aberdeen-Angus Cattle.

Largest and best stock in the West, 50 year old and ram lambs out of Imp. Grand Delight. and BERKSHIRE pigs. We guarantee them the equal of any in State in quality and breeding. Most noted families. Young bulls at low prices. KIRKPATRICK & SON, Hoge, Leavenworth Co., Kansas

GREAT DISPERSION SALE!

Of Thoroughbred Stock. Have sold our farm and must sell the stock.

125 Berkshire and Poland-China Hogs, 150 Shropshire Down Sheep, 25 Sussex and 25 Grade Cattle.

At Hazelhurst farm, one mile north of HOGE, LEAVENWORTH CO., KANSAS, WEDNESDAY, NOVEMBER 7, 1894. Will give more particulars in next week's issue. For catalogues apply to H. M. KIRKPATRICK, Kansas City, Mo.

PUBLIC SALE!

Of Twenty-five to Thirty

Pure-bred Hereford Cattle

To be held at our farm, near

FLORENCE, MARION CO., KANSAS, THURSDAY, NOVEMBER 15, 1894.

Send for Catalogues—ready November 1.

COL. S. A. SAWYER, Auctioneer, Manhattan, Kansas. MAKIN BROS., Florence, Kansas.

FIRST ANNUAL CLEARANCE SALE OF PURE-BRED REGISTERED POLAND-CHINAS

—THREE MILES SOUTHEAST OF—

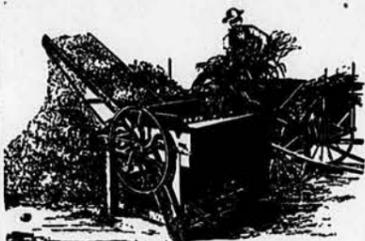
Hiawatha, Brown Co., Kansas, Wednesday, October 31, 1894.

I will offer on the above date about fifty-five head from my herd of one hundred head, to the highest bidder. The offerings will consist of about forty-five of the tops of my spring pig crop, several aged brood sows and three fall of 1893 boars. A major portion of the youngsters were sired by Tecumseh Free Trade 10783, he by Tecumseh Chip 24 7606, dam Lady Free Trade 17189, and she by Free Trade 4420 and out of Beauty 5th 638. He is one of the best bred and conformed individuals in all the West. A few of the offerings were sired by Royal Short Stop 10887, a son of Short Stop 6383. The herd sows are royally bred and very prolific, twelve of them having farrowed ninety-four pigs. Send for a copy of my free catalogue for complete details. Sale will commence at 1 o'clock p. m. The usual lunch at noon. Parties from a distance will be met at trains on day of sale.

Terms:—A credit of eight months will be given on notes with approved security, with interest at 8 per cent. per annum. Two per cent. off for cash.

MARTIN MEISENHEIMER, HIAWATHA, KANSAS. COL. ELI ZIMMERMAN, Auctioneer.

Cattle Feeding Machine.



The best, most rapid, most powerful and most efficient Feed-Cutters, Corn-Crushers, Ensilage-Cutters, Root-Cutters, ever invented. Cuts and crushes corn fodder, ear on or off; crushes ear corn, hard or soft, wet or dry, husk on or off; crushes shelled corn or cotton seed faster and better than any other machine made.

Sold on trial. For free descriptive circular and location of nearest shipping point, address

E. A. PORTER & BROS., 930 State St., BOWLING GREEN, KY.

Advertisement for Champion Hay Presses. Includes illustrations of the machine and text: "DETACHED POWER SIDE AND END HITCH", "LARGEST LINE MADE IN THE WORLD", "STEAM, HORSE & HAND POWER", "PERPETUAL & LARGE BALE", "ALL STEEL OR WOOD FRAME STEEL LINED", "REVERSIBLE LEVER", "STEEL FULL CIRCLE", "WRITE FOR CIRCULAR AND PRICES".

Advertisement for Gold Filled Watch. Includes illustration of a pocket watch and text: "FREE GOLD FILLED WATCH AND BOX OF 100 CIGARS C.O.D. \$5.95", "ONLY TO INTRODUCE THEM. REGULAR RETAIL PRICE \$25.00, BUT FOR 60 DAYS ONLY. THE SOLID GOLD FILLED WATCH AND 100 10-CENT CIGARS FOR \$5.95. CUT THIS OUT and send it to us with your name and address. (No Money Required in Advance) and we will send to you by express, same day we receive your order, 100 of our Finest Perfecto 10c. Cigars, and in the same package a Solid Gold Filled Watch, Ladies' or Gents' size, stem winder and setter, fine extra jeweled nickel movement, carefully adjusted and timed, beautiful finish, enamel dial, unbreakable mainspring, splendid timekeeper, elegant engraved case, warranted by Special Certificate 30 years. You examine the goods at the express office and if satisfactory, pay the express agent \$5.95 and express charges, and the box of 100 Cigars and Gold Filled Watch are yours. This offer is made solely to introduce our famous cigars, and to protect ourselves against dealers and speculators ordering in large quantities, we will not sell more than 3 boxes, and 3 watches to any one person. We prepare express and give free a gold plated chain when cash, \$5.95, is sent with order. Write to-day. WESTERN UNION MFG. CO., 281 Wabash Ave., Chicago, Ill.

GRAND CLOSING-OUT SALE OF MY ENTIRE HERD PURE-BRED HEREFORD CATTLE AT SAVANNAH, MO., ON WEDNESDAY, OCT. 31, '94.

110 Head! 80 Females! 30 Bulls! Service bull, the royally-bred Archibald 1st 39258. This is a dispersion, without reserve, of a herd of high-class cattle in individuality and breeding, representing the blood of Archibald, Lord Wilton, Spartan, Fortune, Grove 3d, Anxiety and other noted bulls. A rare opportunity for those wishing to increase their numbers or establish new herds. No culls. Every matured cow a regular breeder. Sale commences promptly at 10 o'clock a. m. Under cover. No postponement. Catalogues now ready.

COL. J. M. HOSMER, Auctioneer.

For any information address J. F. WATERS, Savannah, Mo.