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BREEDERS' DIRECTORY.

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Won six prizes, including first blue ribbon west of Mississippi at World's Fair. Stock all ages for sale.

P. A. PEARSON, Kinsley, Kansas, Breeder of Poland-China Swine

All ages for sale. Herd headed by Dandy Jim Jr. and Royalty Medium, a son of Free Trade.

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Short-horn cattle and Poland-China hogs, bred by C. C. KEYT, VERDON, NEB. Aberdeen King 101468, a pure Cruickshank, heads the herd. Stock for sale at all times. Visitors welcome. A fine lot of young male pigs for sale. Farm two miles north of Verdon, Nebraska.

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Choice young bulls for sale now. Visitors welcome.

Address W. L. CHAFFEE, Manager.

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Thoroughbred Duroc-Jersey Hogs

Registered stock. Send for 44-page catalogue, prices and history, containing much other useful information to young breeders. Will be sent on receipt of stamp and address. J. M. STONEBRAKER, Panola, Ill.

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Have for sale pigs from State fair winners. Can fill classes for show. Boars for fall service. A few choice sows bred. Address G. W. BERRY, Berryton, Shawnee Co., Kas.

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Champions of Two World's Fairs. New Orleans, 1885, best herd, largest hog any breed. At Columbian, Chicago, won ten out of eighteen first prizes, the other eight being bred at or by descendants of Wood Dale. New blood by an 1894 importation of 21 head from England. For catalogue Address N. H. GENTRY, SEDALIA, MO.

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English o Berkshire o Swine.

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Imported and prize-winning American sows headed by Imp. Western Prince 32.02. All selected and bred to head herds and to supply those wanting none but the best. Fall litters now can't be beat. Write or come visit me and see the herd.

TOWER HILL HERD PEDIGREE POLAND-CHINAS. B. R. ADAMSON, Prop., Ft. Scott, Kas.

25 highly-bred brood sows of best strains, headed by Black Dandy 8809 S. Black Stop 10650 S. and Joker Wilkes 12882 S. About 100 selected individuals sold this season. 25 youngsters coming now for choice. Write or come and visit my herd.

Holstein-Friesians Careme 2d's Jacob Prince of Twiss 404 heads herd, backed with butter record of over 35 lbs. in 7 days. Young bulls for sale. Red pigs in pairs, heavy bone, good color, dams often farrowing 14 pigs. Males ready for service. Duroc Jersey Reds and for use. Pigs of all ages in pairs not related. Young gilts, either breed, bred if desired. Pigs shipped at my risk. Pedigrees furnished. M. H. Pollock China Swine, Alberta, Cherokee, Kas.

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200 POLAND-CHINAS, headed by LONGFELLOW 29785 O., that has best World's Fair record of any boar west of the Mississippi. Also in service, sons of Hadley, Latest Fashion and Short Stop. Blood lines, One Price, Tecumseh, Black U. S., Wilkes, Corwin, U. S. and others.

100 BERKSHIRES, headed by the well-known show boar, MAJOR LEE 31139, assisted by Gentry-bred boars. Female lines, Lady Lee, Duchess, Charmer and Black Girl families. Young things, both sexes, ready for inspection.

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We have or sale five choice Cruickshank bulls, 10 to 18 months old, suitable to use in any Short-horn herd. Prices low, quality good. Inquire of

W. A. HARRIS & SON, Linwood, Kas.

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

Agricultural Matters.

COST OF PRODUCING WHEAT AND CORN IN OHIO—FEEDING WHEAT.

Secretary Coburn has received many responses to his report on wheat feeding. Some of these contain much suggestive and valuable material which might well have been embodied in the report had they been received before its publication. The following from Joseph Allen, of Gano, O., will be read with interest by every thoughtful farmer:

"Your report of 'Feeding Wheat to Farm Animals' at hand. After a thorough examination I consider it of great value to the agricultural class, especially since there is, at this date, a large surplus of wheat to be disposed of in some way or in a different channel from its present course (bread for the human family).

"I live in the rich valley of Mill creek, where corn and wheat are our staple products. The two past years our corn has made the smallest yield of the past twenty years, while our wheat crops have been extra.

"The question naturally arises in southern Ohio, can we make it pay the farmer to raise wheat to feed our domestic animals, especially to fatten hogs? My answer is, no, it will not pay the farmer who has good corn land to raise wheat to feed his domestic animals, for good, rich corn land on the average for a series of years will produce double as many bushels of corn as of wheat per acre, and at less cost per bushel and about the same cost per acre.

"Some may think I am mistaken as to the cost of corn and wheat, but by making an estimate we find the following: It requires just as much time and labor to prepare land for wheat as it does for corn, and it requires one and one-half bushels of wheat to seed one acre, while one bushel of seed corn will plant six acres, and you can plant as many acres of corn per day as you can drill to wheat, and the harvesting and threshing will cost fully as much as cultivating and harvesting the corn crop per acre. I have made several careful estimates of what it cost me to raise corn and wheat per bushel, and find that corn costs about one-half as much per bushel as wheat.

"I enclose you what it cost me to cultivate twenty-six acres of corn in the Mill creek valley, in Butler county, Ohio, and also the cost of wheat in the same field. This field is ninety-three rods in length and forty-five rods in width. The entire field is level land, with no obstructions in the way of plowing and cultivating:

Breaking 26 acres, 13 days, at \$2.50 per day...	\$32.50
Harrowing, 3 days, at \$2.50 per day.....	7.50
Furrowing one way, 2 days, at \$2.50 per day...	5.00
Planting with two-horse planter, 2 days, at \$3.50 per day.....	7.00
Cultivating 4 times, 4 days each, at \$2.50 per day, total time cultivating 16 days.....	40.00

Total cost of cultivation.....	\$92.00
Seed corn, 4 bushels at 75 cents per bushel.....	3.00
Yearly wear and interest on the farm implements used in cultivating.....	6.00
The yield per acre was 68½ bushels, making the total yield of the 26 acres, 1,781 bushels; cost of cribbing the corn at 4½ cents per bushel.....	81.00

Total cost of the corn in the crib..... \$182.10

Cost per acre in the crib, 87.

Cost per bushel in the crib 10½ cents.

Rent of land at 87 per acre..... 182.10

Total cost as itemized..... \$364.10

"Cost per bushel of the corn in the crib, including the rent of the land, valued at 87 per acre, is 20½ cents per bushel. This crop of corn, 1,781 bushels, was sold at 45 cents—\$801.45—making the net proceeds over cost of cultivation and rent of the land, \$437.35.

"It is a known fact that the cheapest corn is raised where there is very rich soil and good-shaped fields, such as this field. On this same field I have made an average per acre of eighty-five bushels, but this is an exceptional yield. These large yields are only in extraordinarily good seasons, on the best of soil and under good cultivation.

"Wheat has continued to shrink in value from the high-water mark of \$3.50 per bushel, the price which it sold at on the Cincinnati market during the month of May, 1866, and the yearly average price for the same year was \$2.79 per bushel. The present price, to-day, November 10, 1894, is 50 to 52 cents per bushel on the Cincinnati

market. While farmers have been complaining that wheat did not pay to raise, they have gone on with unabated energy, increasing the acreage and trying to increase the yield per acre. They appear to have acted on the principle that if wheat brought but half price they must produce double the amount, so that to-day there is such a vast amount of wheat over and above the wants of the human family to consume in bread that we must find some other channel to consume the large surplus now on hand, so that, not only in southern Ohio, but throughout the entire country, we are feeding it to our domestic animals, thus allowing it to take the place of corn to a greater or less extent for feeding stock of all kinds.

"Now, let us make some estimates of what it costs to raise a bushel of wheat in southern Ohio on our best wheat lands. I will take the same field of twenty-six acres on which I have given the cost per bushel of growing corn. I sowed this field to wheat in the fall of 1890, for the harvest of 1891, with the following result as to cost per bushel:

Cost of plowing 26 acres, at \$1.25 per acre....	\$32.50
Harrowing, 4 days, at \$2.50 per day.....	10.00
Rolling, 2 days, at \$2.50 per day.....	5.00
Drilling, 2½ days, at \$2.50 per day.....	6.25
Seed, 1½ bushels per acre, 39 bushels at \$1.....	39.00
Cutting with binder 2½ days at \$3 per day.....	7.50
Two men shucking, 2½ days, at \$1.50 each.....	7.50
Cost of twine to bind the 26 acres of wheat, number of pounds 100, at 10 cents per pound.....	10.00
Cost of wear and interest on cost of binder, etc.....	7.50
Rent of land, 26 acres, at \$6 per acre.....	156.00
Cost of threshing the 26 acres of wheat, as follows:	
Five teams hauling from the field to the machine, at \$2.50 per day.....	12.50
Three hands in the field pitching, at \$1.50 per day.....	4.50
Five hands on the straw stack, at \$1.50 per day.....	7.50
One hand cutting hands.....	1.50
Two teams and extra hands to haul wheat to the railroad station.....	8.00
One hand measuring.....	1.50
One hand holding and tying sacks.....	1.50
Coal for fuel, 15 bushels, at 12 cents per bushel.....	1.80
Total number of hands, including 4 machine hands, was 24 men; board, 50 cents per hand.....	12.00
Rent of 100 grain sacks at 1 cent per day.....	1.00
Yield of the 26 acres, 780 bushels, 4 cents for threshing.....	31.20
Total.....	\$364.25

"Total cost per acre of raising twenty-six acres of wheat (including rent of land at \$6 per acre) is \$14.01; cost per bushel, 46½ cents.

"It will be seen by the above showing as to cost of growing twenty-six acres of corn and the same field in wheat resulted as follows: Twenty-six acres of corn yielded 1,781 bushels at a cost per bushel, in the crib, of 20½ cents, while the same field, twenty-six acres, yielded 780 bushels of wheat at a cost 46½ cents per bushel. Cost of corn per acre, including rent of land at \$7 per acre, \$14; cost of wheat per acre, including rent of land at \$1 less (\$6) per acre than the rent for corn, \$14.01.

"One of the most vital and important considerations for the wheat-growers of to-day in this section of our country is that if they will be satisfied to grow enough wheat for our home consumption, the present wheat acreage must be largely reduced. Will they do this? There may be a small profit even at present prices to our wheat-producers of the Western States. The present age is an age of concerted effort and of concentrated capital and of gigantic combinations in all branches of industry, and the man of a few acres must give way to the wheat-growers who cultivate large tracts and who employ labor-saving machinery, as they do in Minnesota, the Dakotas, Washington and the adjoining Western States. Natural conditions make it possible for them to grow wheat much cheaper and of better quality than in other districts of our country, and their yields per acre are much larger, as the seasons and climate are better adapted to growing wheat than any other agricultural product, and they can market their wheat as cheaply as any other wheat-growing country in the world and sell at prices that preclude any profit to the wheat-growers in Ohio and other Eastern States.

"Some farmers say it won't pay to raise wheat. I say it does pay a small profit, as you can see that in my summary of cost of growing wheat, and even at to-day's prices, 50 cents per bushel, there is a small margin of profit above cost of production. I charged fair wages for all the labor required to produce a bushel of wheat, and rent of land at \$6 per acre.

"As I have already stated, it will not pay the farmer to raise wheat especially to feed his domestic animals. But the problem of to-day is, how can the farmer dispose of this large surplus wheat crop now on hand to bring him in return the largest cash value at present prices?

"During the past summer I have fed forty spring pigs and their mothers (five sows) on ground wheat made into slop as follows: I take one bushel of ground wheat, put in a large barrel, mixing the skim-milk from three milk cows and the slop from the house, letting it stand from morning until evening, then add enough cold well water to cool this mixture to about 70°, so that the slop will not sicken the pigs. Slop that stands from morning until evening during the summer days gets too hot and sour and often causes the young pigs to vomit and thus lose a considerable value of the feed. Taking the relative value of corn and wheat as their prices now range, the farmer can realize a better price for his wheat by feeding it to his domestic animals, especially feeding it to pigs and young hogs, as the past summer's feeding ground wheat made into slop as stated above has proven to me beyond any doubt that a pound of wheat ground and made into slop will produce more growth on young hogs than a pound of corn ground and fed in the same manner. After carefully reading the many Kansas farmers' estimates of the feeding qualities of wheat, my experiments in feeding wheat lead me to think they are rather high in their reports without grinding and made into slop as already stated. I have for many years fed from 200 to 400 head of hogs on ear corn yearly, and by weighing the hogs when I commenced feeding, and also weighing the corn fed them, and under the most favorable conditions, feeding on a plank floor with clear running water convenient and with good shelter (straw stacks) from cold storms, I ascertained that it required from five and one-half to six pounds of corn to produce a pound of live weight. That is, ten pounds gain, live weight, is a full average gain for a bushel of ear corn. From my experiments in feeding ear corn and wheat in the grain, feeding both grains dry, I am fully satisfied that a bushel of corn will make more fat than a bushel of wheat, but when wheat and corn are ground and made into slop, separately, wheat will produce more growth in young hogs than corn.

"JOSEPH ALLEN.
"Gano, Butler Co., Ohio."

Sorghum.

EDITOR KANSAS FARMER:—The suggestion of Jno. J. Cass, as to report of forage plants, with the amount of rainfall in their respective localities, is a good one. In a general way I would say any new crop is apt to be exaggerated one way or the other, and the drought-resisting qualities of sorghum, which most persons understand includes the so-called corns, maizes, millets, and other misleading designations, have been overestimated, but it is still true that they will stand more drought than corn and the leaves are not blown off so badly when ripened, prematurely or naturally.

The rainfall of this central, or what is usually termed western Oklahoma, has been 20.05 inches for the ten months, but just when we needed rain, August, we only had .85 of an inch, so only late-planted sorghum is fairly well headed. All made some forage, but the early-planted only grew from three to six feet high, against five to fifteen feet last year, when we had 7.33 inches rain in August. They have been sod crops here exclusively so far, as this is but the third season, except some listed after wheat harvest, which, I think, owing to the lack of rain from August to October, only 5.43 inches, is a failure except for pasture. If the larger part of this had been in August it would have gotten a good start and might have made a fair crop. While it is not drought-resisting when the drought is so extreme as this year, yet it is certainly the forage and seed crop for the dryer West in any year. I should advise that plantings be made at various times, so that in the event



A FRIEND

Speaks through the Boothbay (Me.) Register, of the beneficial results he has received from a regular use of Ayer's Pills. He says: "I was feeling sick and tired and my stomach seemed all out of order. I tried a number of remedies, but none seemed to give me relief until I was induced to try the old reliable Ayer's Pills. I have taken only one box, but I feel like a new man. I think they are the most pleasant and easy to take of anything I ever used, being so finely sugar-coated that even a child will take them. I urge upon all who are in need of a laxative to try Ayer's Pills. They will do good."

For all diseases of the Stomach, Liver, and Bowels, take

AYER'S PILLS

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.
Every Dose Effective

of a dry period some of them may not be at the most critical point of growth.

Winview, Okla. J. M. RICE.

Several Inquiries.

EDITOR KANSAS FARMER:—I would like to know how to get the seed from hedge oranges, so as to get seed to plant next spring.

I would like to hear something through the KANSAS FARMER about silos. Will ensilage keep in one if it is dug in the earth, ten or twelve feet deep, and cemented up in good shape and well covered? We feel the need of some such food for our Jersey cows. But it is too late this year. May we profit in the future by the past.

Scandia, Kas. JAS. P. PORTER.

Threshing Corn.

Corn threshing has been practiced here for several years and more of it will be done this fall than ever before.

Almost any kind of a separator in good condition for work and run by sweep or steam power, may be used. The "J. I. Case," "Advance" and Nichols & Shepherd machines have threshed corn in this section. This fall a "Massillon," and possibly other makes, will be added to the list.

It is somewhat trying on machinery constructed solely with a view to handling small grain, to be required to crush the ears and shred the stalks of Western corn. A thresherman who has had experience informs me that a good run of corn threshing in the fall means a new outfit of spikes throughout before beginning on the next crop of small grain. He uses, for corn, all the cylinder spikes and one row, or rather two half rows, of concave spikes, set "staggered."

Fodder is fed to cylinder tops first, keeping butts well elevated.

Machine should be set to run stover directly into the mow, or, if preferred, into a large rack in feed lot where it can be fed to stock without hauling. It should be hauled where wanted before rather than after it is threshed.

A twelve-horse machine usually requires five or six teams to haul from field, with two men to stay in field and hand fodder to the men on the wagons. These should use wide, flat hay racks, and in loading they should begin at rear end of rack, laying the fodder crossways by small handfuls and building up full height as he goes, without getting upon or tramping fodder at all. Otherwise there will be a waste of feed and the loader will have a hard job on hand when he comes to "tabling" his load. When the load is complete remain standing in the unfilled space at front end and drive to machine. Now simply turn around and begin taking the fodder off, reversing as nearly as

possible the order in which it was put on, and lay upon the table with tops toward the cylinder.

A day's work will be anywhere from ten to fifteen acres, according to crop, capacity of machine, skill of workmen, etc.

One dollar per acre is the usual price for threshing, the farmer getting fodder to machine and caring for threshed corn and stover.

The grain is not made clean enough for market, as it contains pieces of cobs and stalks, besides, if the ground is frozen, little pieces of frozen earth about the size and weight of corn grains. It is all right for feeding purposes, however.—Geo. T. Pettit, Oneida, Kas.

The Stock Interest.

PIGS AT EXPERIMENT STATIONS.

(From the Experiment Station Record.)

The work of the stations on pigs consists of tests of breeds and feeding experiments, chiefly the latter. The subject of pig feeding has been very extensively studied by certain of the stations, and their work in this line is unusually interesting to the farmer from the fact that the experiments are almost exclusively of a purely practical nature. The experiments are in themselves simpler than those with most other animals, for as a rule only a single question is involved, namely, the effect of the food on the cost and rate of gain in live weight. In some few cases, however, studies of physiological cases have been included, as the effect of different food combinations on the relative production of fat and lean pork, on the strength of the bones, size of internal organs, etc. No attempt will be made to treat the subject of pig feeding exhaustively here, but rather to call attention to some of the lines which have been most thoroughly studied.

Skim-milk, as the station experiments have shown, forms one of the best and most economical bases for a ration for growing pigs. Although corn is the food by far the most extensively used for pigs, it produces excessively fat pork when fed alone. Skim-milk has the very great advantage of being a nitrogenous food. Fed in connection with corn meal it produces a leaner pork, usually at a lower cost, which commands a higher price than very fat pork. The Massachusetts State Station keeps a pig for every milch cow to drink the skim-milk.

Experiments in which skim-milk has been used have been in progress at the Massachusetts State Station since 1884. (R. 1884, p. 68; R. 1885, p. 23; R. 1887, p. 55; R. 1888, p. 55; R. 1889, p. 103.) In these experiments two conditions have been considered, (1) a large supply of skim-milk, and (2) a limited one. In considering the first condition the plan has been to mix corn meal with the skim-milk in the following proportions:

Live weight of animal.	Corn meal per quart of milk.
Pounds.	Ounces.
20 to 70	2
70 to 130	4
130 to 200	6

Where the supply of skim-milk has been limited, the milk has been supplemented by the following grain mixtures extended with water:

Live weight of animal.	Grain mixture (parts by weight).		
	Gluten meal.	Wheat bran.	Corn meal.
Pounds.			
20 to 70	2	1
70 to 130	1	1	1
130 to 200	1	1	2

The aim has been under both conditions to feed rations having the following nutritive ratios: With pigs weighing from 20 to 70 pounds, 1:2.8 to 1:3; with those weighing from 70 to 130 pounds, 1:3.6 to 1:4; and with those weighing from 130 to 200 pounds, 1:4.5 to 1:5. The pigs were fed all they would eat up clean.

As a result of these experiments the following statements are made:

1. Begin as early as practicable with a well-regulated system of feeding. During the moderate season begin when the animals have reached from eighteen to twenty pounds in live weight; in the colder seasons, when they weigh from twenty-five to thirty pounds.

2. The food for young pigs during their earlier stages of growth ought to be somewhat bulky, to promote the extension of their digestive organs and to make them thereafter good eaters. A liberal supply of skim-milk or buttermilk, with a periodical increase of corn meal, beginning with two ounces of corn meal per quart of milk, has given us highly satisfactory results.

3. Change the character of the diet at certain stages of growth from a rich, nitrogenous diet to that of a wider ratio. * * * Begin, for instance, with two ounces of corn meal to one quart of skim-milk; when the animal has reached from sixty to seventy pounds, uses four ounces per quart, and feed six ounces of meal per quart after its live weight amounts to from 120 to 130 pounds.

Artichokes for Hogs.

In view of the recent interest manifested in this form of hog feed, we reproduce from an exchange the following, from O. F. Winner, of Mayetta, Kas.:

"I saw an article in a recent issue of your paper from Mr. Eli Heaton, of Howard county, Indiana, about raising artichokes for hogs. I wish to emphasize every word Mr. Heaton says about their value as a hog crop. I am quite an extensive hog-raiser, and used to raise them for my hogs, but owing to carelessness on my part by plowing up the land where I grew the artichokes, have entirely gotten out of the seed. Will you please to give me the address of Mr. Heaton, or some other gentleman who raises them that may live nearer, so I can send and get some seed? I am of the opinion that the tame artichoke is one of the most healthy crops we can raise for hogs. I believe if an extra acre or two be planted to artichokes adjoining the pasture, on good land and fenced by itself, so the hogs can be turned in after the tubers are ripe in the fall, that hog cholera will never visit that farm. Artichokes can be planted either in the fall or spring, the same as potatoes, and cultivated the first season, and then enough tubers will be left in the ground to grow next year's crop without cultivation; but keep the hogs out during summer."

Some Facts About Beef.

In the April number of your valuable journal, writes H. Bollert, in *Canadian Live Stock Journal*, appears a very interesting and, in many respects, valuable article, under the above heading. The paper contains some very good ideas, but also some glaring and misleading statements, which we cannot allow to pass unnoticed.

In defining the general-purpose cow, the author says: The Jersey, Holstein and Ayrshires are out of the race on account of being non-beefers. Now, I would like to know where Mr. Nicholson got this information. If this were a fact, how is it that at the Chicago Fat Stock show (the greatest of all stock shows), in 1886, in the yearling carcass class, in which there were twelve entries, a Holstein and Polled-Angus tied for first premium, thereby clearly excelling the ten others of the special beef breeds? Again, at the same show, in 1888, Ohio Champion, a registered Holstein steer, made the largest weight per diem of any animal ever exhibited at the shows of that society. At the New York State fair, 1887, the Holstein cow, Zaneta, won first premium as best fat cow over 3 years in strong competition, open to all breeds.

At the same show, in 1889, a registered Holstein won the first prize as a beef animal over Short-horns and Herefords. In a feeding test made at the Michigan Agricultural college, where two pure-bred steers, of nearly equal merit, of the following breeds, Short-horn, Holstein, Jersey, Galloway, Hereford and Devon, were selected, and a complete record of the food con-

sument, and weights and gains made were kept, the following were the results: The two Holsteins made the largest gain per day in pounds for a given time, and one of them made the greatest gain per day since birth, also showing the greatest gain for food consumed. Again, at a similar test at our own Agricultural college, at Guelph, the result was the same, a grade Holstein steer making the largest gain. In our own stable a three-year-old Holstein heifer made an average gain of four pounds per day for a period of sixty-three days (and we did not have to resort to the molasses barrel, like feeders of certain beef breeds do).

Jacoba, a registered Holstein, when killed at 2 years and 10 months old, dressed 67.31 per cent. to the 100 live weight; Amleto, 66 per cent.; Prince of Wayne 2d, nearly 66 per cent.; Kooiska 2d, 65 per cent. Their fine beefing quality, combined with their unparalleled milking qualities, stamps the Holstein the general-purpose cow par excellence. How, in the face of such facts (which could be indefinitely prolonged if space permitted), Mr. Nicholson can class the Holsteins as non-beefers, I will leave to your intelligent readers to decide for themselves. That a rivalry should exist between the breeders of the different breeds is very desirable, but that this rivalry be carried on in a spirit of honesty and fairness is equally desirable. Our motto is to give each breed its just due.

Profit From Poland-Chinas.

EDITOR KANSAS FARMER:—If one understands his business well, it is unnecessary to look for any better breed than the Poland-Chinas. There are, probably, other breeds that possess just as good qualities, and that will yield just as large profits to the owners. But this breed has the necessary qualities to make a good success in swine-breeding, if the man is of the right breed. Unfortunately, in swine-raising we do not always inquire into the breed of the man who is going into the business. The breed of the pigs is invariably given, but in my estimation the kind of man that is going into the business is more important really than the sort of pigs he intends to raise.

A good breed of pigs must consume, digest and assimilate a great amount of food, and convert this into paying pork, and the right kind of man will see that he has plenty of this food. Sometimes, however, too much of such high feeding will affect the constitution of the animals, and a hardy, enduring breed hence becomes essential.

In selecting this, as other breeds, efforts should be made to get the right kind of sires and dams. The sire generally gives the feeding capacity to the young. It is necessary that the animals should attain some size before they can be selected. When about six months of age they will exhibit the qualities desired. The sire should then be heavy-boned, strong, well-haired, and stand up well, with the several other points of the breed. His belly should be round and his body long. The whole make-up of the animal should indicate strength and individuality. If we select a sire possessing these qualities, he is pretty sure to transmit them to most of his progeny, especially if the dam is also a fine animal. He must also be a good, hearty eater, and one whose food seems to make him grow.

The dam or sow for breeding should possess good form and a good frame. She should have a fair-sized frame, and not show a tendency to lay on fat too rapidly. She should come into heat at an early age, and should come from parents that have shown a tendency to produce well. Such a brood sow is worthy of her sire, and the two together will produce young that will have every advantage in the world.

But almost the same may be said of any good breed. The sire and dam should possess the qualities noted for the breed, and they should be selected after they have reached a reasonable age. When we select breeding sows and sires at very early ages we are apt to be disappointed in the results. When very young animals they do not show what they are to be later. Generally

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the largest and liveliest ones of the litter are selected, but it is not uncommon for them to turn out the poorest later. Give them a chance to grow and thus see what they can do before deciding whether they are fit for the slaughter-house or for breeding.

Early maturity is a prime necessity for successful pig raising, and it will not pay to wait much longer than six months for the different animals to exhibit their good points. If not shown by that time they are too slow in development for future use in breeding.

The market requires animals that are raised quickly, and it is a saving to the grower, also, to feed well and liberally and market the stock while young.

W. E. FARMER.

The only inheritance many receive from their ancestors is impure blood. Fortunately, it is in every one's power to transmit a cleaner heritage to their posterity by the simple use of Ayer's Sarsaparilla, the only blood purifier admitted at the Chicago World's Fair.

After using the glasses that Chas. Bennett, optician, 713 Kansas ave., Topeka, fitted to my eyes, giving them what I regard a fair trial, both at type-setting and other work in the printing office, and in reading or writing by lamplight, I now pronounce them as near correct as can be. There is no pain or uneasiness from wearing the glasses, and objects at which I look are made plain, without being enlarged or magnified. I feel confident that Mr. Bennett is well skilled in his business, and I would recommend him to all who are in need of spectacles. W. H. HOWARD, Oskaloosa, Kas.

Pig Forceps.

The illustration found elsewhere in this issue is a pair of pig forceps with which to aid sows which have difficulty in farrowing. They are extremely simple in construction, are very strong and durable. They have been thoroughly tested by swine-breeders all over the country and give general satisfaction. They do their work effectively and should be regarded as a necessity by every one engaged in the business of hog-raising. Hundreds and even thousands of fine sows, with their litters of pigs, are saved by their use every year. For a free book and particulars address the inventor, J. N. Reimers, Davenport, Iowa, mentioning the KANSAS FARMER.



Irrigation.

THE PEOPLE'S HERITAGE.

Speech of William E. Smythe, of Chicago, at Hutchinson, Kas., November 24, 1894.

MR. PRESIDENT, LADIES AND GENTLEMEN:—I find I am the forty-seventh apple on the wide-stretching branches of your convention program—the very last apple to be shaken from the bough. I assume that the cravings of your appetite have been fully appeased by the many distinguished speakers who have preceded me on this platform, but I hope to serve acceptably as a sort of dessert.

The greatest people are those who conquer the greatest difficulties. This is the world-wide and century-tried experience of mankind. The pathway to every civilization fit to endure has led through difficulties and disappointments, through struggles and failures, to the sure ground of abiding success. And hence I speak out of the great book of human experience when I assert that these hard-pressed counties of western Kansas will be as much greater than a similar territory in the humid region as their trials have been severer and more prolonged.

Nearly thirty years ago a little band of hardy patriots met at a town in Wales and determined to find, somewhere on the face of the round earth, a place where they might found a colony which should preserve the purity of their mother tongue. They sought isolation and found it in the vast solitudes of Patagonia, under the Argentine flag. They landed in July, 1865, on the shores of New Gulf, a faithful band of pioneers who sought to preserve, in the heart of a strange land, the patriotic traditions that were fast fading out in their own home. They believed that they had come to a country which would generously respond to the industry and faith they proposed generously to bestow. Their dream was of new institutions in a new land under a new sun. They made their way to the valley of the Chubut river and entered bravely into the task of making homes and fields on the brown plains. Year after year they planted, but never reaped. Year after year they courted the arid soil, but they watered it only with their hopes and their prayers. The land of plenty of which they had dreamed turned out to be a starvation belt. And these strangers would have died except for the generous pity of the government of Argentina. This government, which we think of in this country as only half Christian and the other half barbarous, did not forget the alien settlers in their gallant struggle to transform the worthless plains into a national asset of great value. For in Argentina they have not yet risen to the doctrine of every man for himself and the devil take the hindmost. It seemed to the statesmen of this half barbarous government that men who had undertaken to conquer the waste places ought not to be permitted to starve during the operation. These settlers had not paid millions of dollars for the land, but they were seeking to make two blades of grass grow where none grew before, and the order went out from Buenos Ayres that food and provisions should be supplied until the Welshmen should have had a fair chance to win their battle in Patagonia. It may be that American statesmanship is of a better brand, but in Argentina they appear to think more highly of the doctrine of the fatherhood of God and the brotherhood of man.

After ten years of almost hopeless struggle the Welsh colonists discovered that the valley they had chosen was arid, or at least semi-arid, and they turned to that oldest and newest of all arts—the art of irrigation. With their common labor they built canals and led the waters of the Chubut out upon the plains. Then began the real development of their colony. Then came prosperity. Then the brown desert was transformed into the green valley, with its fields and gardens, its orchards and its homes. Agriculture had begun, and everywhere agriculture is the broad base of civilization. As the farms prospered towns sprung up. Then came the railroad to the port of

Madryn on the shores of New Gulf, and now thousands of people are sustained in the valley where only despair flourished before.

Thus came the triumph of the Welshmen in the semi-arid plains of Patagonia, far, far away under the Southern sun; but there is in this story the same old lesson that struggle and failure are the parents of all greatness which God means shall endure. It cannot be, it shall not be, that what the poor Welshmen accomplished in the wilds of Patagonia, men of American blood shall fail to do in the semi-arid region of Kansas and Nebraska.

It has been announced that I shall speak on the subject of "The People's Heritage." I propose to take some liberties with the program. This is distinctly a Kansas convention. It is composed of men who seek earnestly, almost passionately, information which will throw light on Kansas problems. I should be sorry to have come so far and to contribute nothing of practical benefit in the elucidation of the questions that immediately surround you. The people's heritage is the vast domain of public land located almost entirely in the great desert States to the west of you. It is full of mighty problems which concern you in their national aspect, but are only remotely related to the object of this convention. We propose to deal with these problems. We propose to reclaim and settle the irrigable lands, to preserve the forests, to fairly apportion the pasture lands, to find some honorable solution of the vexed questions involved in the conservation and distribution of inter-State streams. But as I think of these problems, and then glance over your program and look into these earnest faces, I am reminded of the words in which I once heard Dr. Talmage open a lecture. He said: "Although we have the evolutionist to tell us where we came from, and the theologian to tell us where we are going to, we are still confronted by the somewhat interesting fact that we are here." That is precisely the case in Kansas. Although we have millions of acres that we hope to reclaim in the future, there is a vast area in western Kansas where the people are already here. The thing is to make them prosperous and to lend some new impulse to the development of districts which have been blighted by years of drought and scorched in the hot winds of popular discontent. So I prefer to speak rather of a policy for semi-arid Kansas, and on this subject I hope to be able to give you some useful suggestions.

If I were asked to name the town which, perhaps, more than any other, is the beacon light for the Kansas of the coming century, I should name Garden City. I did not have the pleasure of attending the recent agricultural fair in Finney county, but I read with eagerness and delight the newspaper descriptions of the event, and especially the very remarkable tribute of newspapers published in other counties and other States. It has been proven in Garden City that it is practicable to obtain water at comparatively small cost from shallow wells. It has been demonstrated that there is in Kansas a source of supply other than surface streams. Now, what is the extent of that source of supply? What will it cost to furnish water for a given number of acres? How widely can the irrigated area be extended by means of a multitude of small irrigation plants, operated at an expense within the reach of individuals or groups of individuals? My friends, these questions lie at the base of your whole future progress. You cannot afford to blunder. This is one of the times when blunder is worse than crime. You must not raise another crop of false hopes, a plant that has already been too prolific in western Kansas. It is essential that every community, every county, and the State as a whole, should ascertain as soon as possible the extent of your available water supply. On this subject I am an optimist. I believe you will discover more water than you now think. I believe that less of it will be required to supplement your rainfall than you now calculate. In other words, I believe that the irrigation industry in western Kan-

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I assert that wherever water can be had to irrigate forty acres of western Kansas soil, every industrious family can win both a living and a competence with greater certainty than can be found in any other avenue. I go further and say that they can gain this living and enjoy this competence under higher social, industrial, ethical and political conditions than have ever been known before in the long history of our race. Now let us see whether I am right or whether I am wrong.

I have examined, since my arrival in the city, the bills of fare of your leading hotels. I find that they each contain about thirty items, certainly sufficiently varied and extensive for a plain American citizen. Now, I wish I might know that every man who is hungry to-night, that every man whose employment is precarious, that every man who shudders at the approach of winter, could live as well for the next six months, and for the next ten years, and until he dies, as we live at the Midland hotel. Is there any political party that offers this to every industrious man? And yet I find that on these bills of fare, all except the tea of China, the coffee of Brazil and the olives and nuts of California, can be systematically produced, year in and year out, under a system of diversified farming on every forty acres of irrigated land in Kansas. This, my friends, is not the idle dream of a theorist.

Last evening you listened to the remarks of a distinguished citizen of Utah. He was a member of one of the first parties which made the pilgrimage across the plains and over the mountains and down into the valley of the Great Salt Lake. The people whom he represents little knew how much they were founding when they laid out the first village, with its outlying farming districts, in that valley. In my judgment, the fame of the masterful spirit whose genius and courage made Utah will gain new lustre with the passing of the years. In the light of our present problem the economic structure of the State which Brigham Young founded is seen to be marvelously perfect. The people built and owned the canals. They divided the

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land into small holdings. They diversified their products to meet the demands of home consumption. They wisely planned a surplus for market, to be exchanged for money or some other form of property. They built industries to consume the products of the farm and to render themselves independent of outside manufactures. Now, they did not touch the mines. The twenty-acre farm was absolutely the only source of wealth with the Mormon people. At my request the church historian has made a very careful study of the financial and material results wrung from the irrigated soil of Utah in the past forty years. The figures have the endorsement of the first Presidency and other eminent citizens of Utah. I will not read them in detail at this time, because I have other use for them in a way that will do us all more good, but I want to tell you that those people, who started with so little and staked their entire industrial and economic destiny on the twenty-acre irrigated farm in the high altitudes and temperate zone of Utah, have obtained from that source, counting the cost of their living, of their irrigation works, of their farm improvements, of their factories, of their temples and missionaries, after deducting \$20,000,000 which they brought in in the shape of personal property, the stupendous total of \$542,900,000. Their farmers have averaged, over a period of forty years, an annual income of \$1,357.25 per family, or \$482.25 above the cost of their living. Ninety per cent of their people own the land on which they dwell. Almost none of that land is mortgaged. And when any man says I am a theorist and a doctrinaire because I assert that every family can get a good living from a twenty-acre irrigated farm I crush him under the stupendous weight of the forty years' experience of the Mormon people of Utah.

But how about the competence? Is it not a matter of common knowledge that there are several classes of products which would come under the head of surplus crop, and which at a conservative estimate would average a net return of \$25 per acre? If you have a family of five they can be supported from twenty acres, or one-half the forty-acre farm. One person cannot consume more than the products of four acres, even in the invigorating air of western Kansas. I care not whether your surplus be fruit or vegetables, dairy or poultry products, or anything else except the cereals, no prudent farmer will fail to realize, taking one year with another, the modest sum of \$25 per acre on the remaining twenty acres available for surplus products. You will find many people who figure it \$100 per acre, and some even more. But on the basis of \$25 the second half of your farm would net you \$500 per year. A living for a family of five equal to that at the Midland hotel is certainly worth \$1,000 per year. This makes a total of \$1,500 per year for a forty-acre irrigated farm in Kansas. Now, when we are talking about a competence, whom do we regard as the very type and essence of independence? Is it not the "bloated bond-holder"? Well, if you take \$50,000 in gold (and I hope you won't draw it out of the Treasury reserve) and invest that amount in the new issue of government bonds at 117, and I take \$1,000 and develop a forty-acre farm in western Kansas, you will have an income of \$1,500 per year, and so will I. I will have just as much of a living and competence as you, though you are a "bloated bond-holder" and I am only an unbloated farmer. But your bonds may be stolen or burned up, and my farm will take care of me and mine as long as Mother Earth yields her increase.

I cannot begin to go into all the fascinating paths and by-paths which open before me as I talk along these lines. Just another word, and that word about the practical side of a colonization policy for western Kansas. The first colonization movement to Kansas was undertaken in the name of liberty for black men. The coming movement will be undertaken in the name of liberty for white men—in the name of industrial independence and that kind of human equality which may only be realized where land is di-

vided into small holdings. Wherever a quarter section is now occupied by one family there ought next year to be at least four families, provided there is water for irrigation. In other words, the irrigable portion of western Kansas ought to have its population quadrupled, because forty acres is as large a farm as the average family can profitably cultivate by irrigation. How are you going to get capital for your irrigation plants? I say, do it by forming little colony companies. Let the owners of these dry farms put their land into the company, divide them up into twenty or forty-acre farms and take the proceeds of their land sales to pay the cost of providing water. Or, bond your lands and raise the money in that way, putting the surplus farms into a sinking fund for the retirement of the bonds. You will thus exchange your surplus land for water and then you will be in position to realize the best possibilities of irrigation. And when you plan these little colonies, let me urge you to hold fast to the highest ideals. Organize prosperity for your people. Study the history and the methods of Utah and of Greeley. Have the best kind of farms, the best class of products, the best civic institutions. Develop little industries, such as creameries, canning factories and the like to manufacture your surplus products. Then go one step further and organize markets. Remember that this is an entirely different sort of development from the old boom in town lots. It is different from the old boom in wheat farms. All of that rested on a speculative basis. We are now planning a development that rests on the eternal truth of self-sustenance first and then a wise surplus, which in ordinary years will bring us a reasonable profit. Remember that a living is the first necessity. A man must live before he can get rich. So I say, get water, make companies, plan prosperity for your new settlers, and you will begin to write the most glorious chapter in all your glorious history. Have a new Kansas, dedicated to industrial independence.

And remember, my friends, that the unit in this problem is the home. I wish I might throw on a canvas screen the beautiful home that I know in some parts of irrigated America. It hurts me to ride through western Kansas and see the desolate houses that serve as homes. We will change all this with irrigation. We will have little homes of pleasing architecture. We will surround them with pretty lawns, we will fringe them with trees and hedges, we will drape them with vines and deck them with roses. No Kansas man should rest satisfied until all this is realized.

Take for your motto, in its literal application, the words of the dear old Boston poet who so recently fell asleep: "Build thee more stately mansions, O, my soul. As the swift seasons roll! Leave thy low-vaulted past! Let each new temple, nobler than the last, Shut thee from heaven with a dome more vast, Till thou at length art free. Leaving thine old grown shell by life's unresting sea!"

Kansas Agriculture and Irrigation.

F. D. Coburn, Secretary of the State Board of Agriculture, read a valuable paper at the Hutchinson convention, from which the following is condensed:

"Most of our people are past the point of needing to be told that irrigation is a good thing, or even largely essential. What they want to learn now is the ways and means; instead of glittering generalities they need to be told where there is water; its depth below the surface; the cost and capacity of wells, and the machinery for its most certain, economical and rapid lifting; carefully calculated plans for storage reservoirs, the times and methods of the water's most judicious application. These and kindred problems which confront the Kansas farmer have never so pressed for solution as during the last two years. Speaking for Kansas agriculture in its larger sense, for Kansas as a whole, without in the remotest degree disparaging the importance of irrigation, or the need of giving it that large measure of consideration that we are in duty bound to give it, I am convinced there is another kindred matter pressing, of equal, if not paramount, consequence; although

the utterance of such a conviction may be a little short of the rankest heresy in the Kansas State Irrigation convention. Please do not infer from this that I am not as much and enthusiastically in favor of irrigation as any man from anywhere. The point I make is that the mass of our people who live outside of this marvelous Arkansas valley and beyond reach of its wonderful underflow should give a better appreciation to the rainfall; to harvesting the wealth of water so copiously, beneficially sent them without money and without cost, and seeking (and finding, if permitted to do so,) that incomparable reservoir, the ample bosom of Mother Earth, where it is always within root-reach, without wells, without pumping, without ditches; where every hour of the night and day its life-giving moisture is in its perfect way ready to help endow us with such a wealth of flower and fruit, of grass and golden grain, as the people of few countries are ever given to see. This must be attained by a deeper, more thorough loosening, breaking up of the impervious, compacted subsoil, that it may absorb and retain the rainfall rather than reject it, and as is now the case, compelling it to find its way to the rivers and the sea in floods that nearly every year do millions of damage to our fellow-citizens in other States. Acting on this idea, along with that of irrigation, which we are here to encourage, there can be, there is no doubt, about the wonderful future of Kansas agriculture. This is a part of our great problem that can be solved by individual effort. The records for the past ten years show that the average annual rainfall in Kingman county has been about twenty-five inches; in Ford and Trego counties about nineteen inches; even in Kearney, Greeley and Wallace counties about fifteen inches; in Decatur, Osborne and Cloud counties about twenty-seven inches, and at Manhattan more than twenty-nine inches. Observers of such matters tell us that even these smaller quantities of water, while not all that would be desirable, will, if judiciously conserved and utilized, well-nigh give us a crop every year and in most years yields that are prodigious. The sort of irrigation problems that confront us are in the main radically different from those in any other like territory. Whenever any large proportion of our State is artificially watered it must be from wells instead of streams, and most of the help, most needed, is along that line. In honor Congress should, at least, help us to locate and determine the water supply; but we cannot wait on Congress; we must be up and doing for ourselves; we will have to rely chiefly on individual enterprise. I am deeply imbued with the idea that for us the way to irrigate is to irrigate—and to subsoil. Kansas' salvation in this direction must be worked out by Kansas effort. The State law-makers must rise with us to the importance of this movement and take it by the hand. By judicious enactments and proper financial support the State should, within the next ninety days, judiciously provide for a line of progressive work in the way of surveys, experimentation, observation, superintendence and advisory aid, thus doing at a very small cost per capita a part of the work that the individual cannot afford to do. The people in two-thirds of Kansas will be grievously disappointed if this is not done."

Garver's Short-horn Sale.

The special attention of the readers of the KANSAS FARMER is called to the dispersion sale of pedigree Short-horn cattle, the property of Mr. C. M. Garver, of Abilene, Kas. The offerings consist of thirty-seven head, all ages, and are, as the reader will find on consulting the sale's catalogue, among the best bred in Short-horn cattle history. The nineteen cows belong to the Rose of Sharon, Rosemary, Adelaide, Water Lily and other families, and were selected from the best American herds with a view of founding one of the best herds in the West. Among the sires whose blood runs in the herd was Winsome Duke 2d 72208, Champion 102099, 3d Airdrie of Sharon 41441, Master Primrose 98750, Royal Duke of Clark 61006, Rosebud's Airdrie 57898, Golden Richmond 75071, Viscount Oxford 7th 49489, Orange Blossom's Perfection 71000,

Duke of Jackson 80140, 2d Earl of Valley Grove 103064, Cornelius 79595. Among the young fellows that will go is My Lad (Vol. 39), by Golden Knight 108086 and out of Lee Side Nell 8th (Vol. 35). He was bred by Harris, of Linwood. Close up comes Wm. Powell, that was dropped July 10, 1893, bred by Powell Bros., of Lee's Summit, Mo. He was sired by Bell Duke of Kent 2d (Vol. 39), and out of Blondine 2d (Vol. 39). Another very attractive young lad is Fusileer (Vol. 39), by British Jubilee 96498 and out of Countess Louan of Oakland 18th (Vol. 34). He was bred by the well-known Missouri breeder, Thos. W. Ragsdale. Champion 2d (Vol. 39), Medoc (Vol. 39), Pegasus (Vol. 39), Percy (Vol. 39), Martias (Vol. 39), Melzar (Vol. 39) and Adolphus (Vol. 39), all sired by the highly-bred and good individual, Champion 102099, got by the Cruickshank bull Prime Minister 9485. He is one of the Cruickshank's Victoria tribe, and his sons and daughters show his great usefulness as a sire. In close company is the youngster Harold, dropped May 2, 1894, sired by Viscount Oxford 7th 49489 and out of Wiley Duchess (Vol. 28).

In the array of eleven bulls one is a two-year-old, five yearlings and five that were dropped from January 20, 1894, up to May 10. All are now or will be ready for service next year. The reader will see, without our going into a detailed description of the individuals comprising the herd, that the cattle are both well-bred and a very desirable lot. Remember the date, Tuesday, December 4. For further particulars consult Mr. Garver's advertisement elsewhere in this issue.

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.

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California

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Harper's Weekly IN 1895.

HARPER'S WEEKLY is a pictorial history of the times. It presents every important event promptly, accurately and exhaustively in illustrations and descriptive text of the highest order.

The manner in which, during 1894, it has treated the Chicago Railway Strike and the China-Japan War, and the amount of light it was able to throw on Korea the instant attention was directed to that little-known country, are examples of its almost boundless resources. JULIAN RALPH, the distinguished writer and correspondent, has been sent to the seat of war, and there joined by C. D. WELDON, the well-known American artist, now for many years resident in Japan, who has been engaged to co-operate with Mr. RALPH in sending to HARPER'S WEEKLY exclusive information and illustration.

During 1895 every vital question will be discussed with vigor and without prejudice in the editorial columns, and also in special articles by the highest authorities in each department. Portraits of the men and women who are making history, and powerful and caustic political cartoons, will continue to be characteristic features. This Busy World, with its keen and kindly comment on the lesser doings of the day, will remain a regular department.

FICTION. There will be two powerful serials, both handsomely illustrated—The Red Cockade, a stirring romance of olden days by STANLEY J. WEYMAN, and a novel of New York, entitled The Son of His Father, by BRANDER MATTHEWS—several novelettes, and many short stories by popular writers.

Send for Illustrated Prospectus.

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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. Manuscript received after that almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

THANKFULNESS.

For tender mercies thro' the year,
For joys and blessings sent to cheer,
For health and strengthening anew,
Dear Lord, to thee are praises due—
For these we give thee thanks.

For friends to cheer us on life's way,
When sorrows seem to cloud our day,
For enemies our faults to show,
Lest we forget we're weak and slow—
For these we give thee thanks.

For trials, too, and grief and strife,
Else we forget the better life;
Yea, richer life and crowned with love
That we shall spend with thee above—
For these we give thee thanks.

—M. A. R., in Mid-Continent.

THE PALATINES OF THE MOHAWK VALLEY.

Paper read before the Kansas Society of the Sons of the American Revolution, by D. C. Nellis. October 17, 1894, and ordered to be printed by vote of the society.

The principal object of the Society of the Sons of the American Revolution is to perpetuate the memory of the men of '76, and by rehearsing their valiant deeds to inspire the present generation with an abiding love and respect for our country, which they fought so bravely to establish for us.

The principal heroes of the war for American independence—Washington, La Fayette, Schuyler, Green, Putnam, and others—have such a firm position in our nation's history that no society of recent date is necessary to save their well-earned laurels from withering. But there were other heroes—just as brave—who performed acts of warlike valor deserving a prominent place on the monument of American history, and whose sufferings in the cause of liberty entitle them to perpetual remembrance; and yet they remain comparatively unknown, except in the immediate localities where they "fought, bled and died" for the land they loved so well.

Of such were the Palatines of the Mohawk valley. Who were they? And whence came they? By referring to the cyclopedia we will learn that the Palatinate was a country of Germany, lying on both sides of the Rhine, of which the principal cities were Manheim and Heidelberg.

During the latter half of the seventeenth century the German Palatinate was so disturbed by continual wars that many of its inhabitants resolved to seek homes in some other country.

Three thousand of them, nearly all Lutherans, were transported to the province of New York, under the patronage of Queen Anne of England, and landed at New York city, June 14, 1710.

They were first located in camps on the banks of the Hudson river, and their locations are commemorated by the names of the two villages, East Camp and West Camp. Here they remained for two years, during which time they became greatly dissatisfied and insisted on being relocated. First they tried the Schoharie valley and then the Mohawk valley, where they were entirely satisfied, and they and their descendants have resided there to this day.

Garlock, Lawyer, Fink, Frey, Dygert, Spraker, Rickard, Snell, Rice, Herkimer, Diefendorf, Nellis, Klock, Dillenback, Moyer, and others, came there then, and their representatives in name are there in the year 1894 and own the valley still.

The Rhine and the Hudson are rivers well known in poetry and song, yet no more beautiful are they than their less gigantic rival whose beauties have been sung by a poet of its valley; and his words are oft repeated by the descendants of the Palatines:

"Sweet is the vale where the Mohawk gently glides
In its clear winding way toward the sea."

In this beautiful valley of the Mohawk, the Palatines were happy and industrious. They vied with each other in raising grain, fine horses and cattle, and in rearing large families. As an instance of this latter fact, he who reads this to you delights to recall that two Palatine brothers by the name of Nellis, who landed in New York city in June, 1710, with their families, became the ancestors of fifty-seven Nellis soldiers, whose names appear on the military rolls of New York during the years 1776 to 1783. (See New York State Archives, "The Revolution," Vol. 1, page 435).

From 1723, the year of their settlement in the Mohawk valley, until the beginning of the Revolutionary war, the Palatines flourished and became opulent farmers, with plenty of good horses and cattle and comfortable homes. Their homes could not be complete without a Lutheran church, and they built one at a place called Stone Arabia, a few miles distant from the Canajoharie castle of the Mohawk Indians. This church was burned about the year 1740, and a temporary structure was erected

in its place, which in turn was burned by Indians, October 19, 1780, and was replaced by the present church building, which was begun in 1793.

In 1770 they felt the need of a handsomer place of worship than the ones they had previously built with their own hands, and during that year skilled workmen—masons, carpenters and painters—were employed, and a handsome stone church was built near the north bank of the Mohawk river, three miles west of Stone Arabia and two miles east of the present village of St. Johnsville. This was then, and is still, called the Palatine stone church. It was the finest church west of Albany. The families who contributed for its erection were: Peter Wagner, £100; Andrew Reber, £100; Johannes Hess, £60, and £300 by Andrew, Johannes, Henry, Christian, William and David Nellis, while William Nellis, Sr., paid for the building of the steeple, and Hendrick W. Nellis gave the plot of ground on which it was built.

This building is still standing, and regular services of the Lutheran church are conducted in it. This is the oldest Protestant church building in the United States, used for religious purposes, west of a line drawn through the cities of Albany and Washington.

The fact that this is standing yet to-day is all the more notable when considered with the further fact that every house and other building belonging to the Palatines were burned by Indians and Tories under Chief Jo Brandt and Sir John Johnson on the 19th day of October, 1780, in revenge for the whipping the Palatines had given them at the battle of Oriskany, three years before. The secret of its passover was that Henry Nellis, one of the wealthiest of the Palatines, had remained a Royalist, had removed to Canada, and from there was able to obtain a promise from the invaders, before they started, that the church which was dear to him still, should be saved.

But the sturdy Palatines did not confine their exertions to church-building, although they observed the feasts and fasts with admirable regularity. All of fighting age were found enrolled in the militia of the province, and many of them served faithfully during the French and Indian war in the army of His Majesty, George III. of England. Nickolas Herkimer, familiarly called "Honickle," was Brigadier General, having won his rank by fighting the French and Indians. John Joseph (Han Yost), brother of "Honickle," was a Colonel, as were also Isaac Paris, Jacob Klock, Ebenezer Cox and Peter Bellinger; John Frey and Henry Diefendorf were Majors, Jacob Zieleys and Andrew Dillenback were Captains, during the Revolutionary war. Of course they had not the advantage of "West Point" education; in fact, they graduated principally from between the plow handles and from the milking stables; but when fighting was required they were always to be counted upon to successfully fill the positions assigned them.

To illustrate the lack of first-class book knowledge which they all possessed, with scarcely an exception, a copy of one of Gen. Herkimer's military orders will furnish an excellent example. This one was given to his brother-in-law, Col. Peter Bellinger, as follows:

"Sir:—You will order your battalions to march immediately to Fort Edward, with four days' provisions and ammunition fit for one battle. This you will disobey at your peril.
From friend Nicolas Herkheimer
to cornell pleider bellinger
ob de flet.
Ochtober 18, 1776.

Which, being interpreted into 1894 Mohawk English, would be:

"Sir:—You will order your battalions to march immediately to Fort Edward, with four days' provisions and ammunition fit for one battle. This you will disobey at your peril.
From your friend, NICKOLAS HERKHEIMER.
To Col. Peter Bellinger,
at the flats,
October 18, 1776.

But no man of the past, in the Mohawk valley, is held in more honorable remembrance in New York than Gen. Nickolas Herkimer. A beautiful monument, erected by public donations, records his valiant deeds. A county, a township and a city of New York State are named in his honor, and several other States have also spread his name on their atlases. Kansas remembers him by her Herkimer in Marshall county.

To illustrate the fighting abilities of the Palatines, a short description of one of the decisive battles of the Revolutionary war will answer the purpose.

To the general student of American history it might seem an exaggeration to call the battle of Oriskany a decisive one for the cause of independence for the American colonies; but such it was, though only 800 patriot soldiers and 1,500 British, Tories and Indians were engaged.

In the year of grace, 1894, it is considered a very important point to "carry" New York, various political parties believing that "as goes New York, so goes the Union" two years hence. Following a similar line of reasoning in the early part of 1777, it was determined in England, principally upon the plans and advice of General Burgoyne, to invade and capture the province



THE PROCTER & GAMBLE CO. OINT.

of New York. The plans, as adopted, contemplated concerted action from three different armies converging at the city of Albany.

Gen. Burgoyne, leading the principal army, started from Quebec by way of Lake Champlain and Ticonderoga, down the Hudson by Saratoga to Albany. His army consisted of 7,863 British and German troops, with 1,000 Canadians, Tories and Indians.

Col. Barry St. Leger started from Oswego at the same time, with about 800 British and Tory soldiers and more than 1,000 Seneca Indians under the command of the famous chief, Jo Brandt. His orders were to capture Forts Stanwix and Dayton, burn the Palatine settlements and join Burgoyne at Saratoga.

Sir Henry Clinton, with a strong force of soldiers, was to proceed up the Hudson river, and the three armies were to concentrate at the city of Albany. The scheme was certainly finely planned, and had St. Leger accomplished his part the others would have succeeded as a natural consequence.

But there was an intervening force not carefully counted by Burgoyne, Sir Henry Clinton nor Barry St. Leger, viz., the Palatines of the Mohawk valley.

Gen. "Honickle" Herkimer was duly advised of the impending invasion and ordered the Tryon county militia to assemble at Fort Dayton, on the Mohawk, above Little Falls. To this rendezvous came the Palatines—Cols. Klock and Ebenezer Cox with their Stone Arabia and Palatine Church men; Col. Peter Bellinger and his Danube Palatines, besides others from the lower Mohawk valley. But with all, on August 5 Gen. Herkimer was able to marshal only 800 soldiers at Fort Dayton, from which point they began their march toward Fort Stanwix (now the city of Rome), to bar the progress of Col. St. Leger.

On that evening the small army encamped on the north bank of the Mohawk river at a place now known as Whitestown. It was known to the Mohawk valley men that St. Leger with his Tories and Indians was but a few miles west, and that they were expecting the advance of the Palatines. Gen. Herkimer sent three scouts in the night to apprise Col. Gansevoort, the commander of Fort Stanwix, that help was coming, and to ask him to send out a detachment of his soldiers to attack the rear of St. Leger's forces as early on the morning of the 6th as possible, and that when they should start, three guns from the fort should notify General Herkimer that all was ready for the attack.

Mollie Brandt, sister of Chief Joseph, and formerly a housekeeper for Sir William Johnson, was then living at the Mohawk Indian castle below Little Falls. From this point she had opportunity to learn all about the gathering of the Mohawk Dutchmen; and the plans of Gen. Herkimer, so far as known by the common soldiers, were communicated to her. She sent a Mohawk Indian, early on the morning of the 5th, to her brother, with all the information she had concerning the movements of the Palatines.

Burgoyne then ambushed his 1,000 Senecas on both sides of the corduroy road leading through Oriskany swamp, a few miles east of Fort Stanwix, leaving St. Leger's white soldiers in the rear.

While this brought the field of battle much farther east than had been expected, yet it would not have proven so fatal to the Palatines had the concerted attack as planned, been carried into effect.

From some cause the signal from Fort Stanwix was delayed. The Palatines were in marching order early on the morning of August 6, and anxious for the fight to begin. But like so often is the case, in armies everywhere, there were jealousies existing in their ranks, which caused the death that day of many of them who might have lived to return after the battle.

Col. Cox urged "Honickle" to order the advance. Other officers and even men showed distrust in their brave General. One said: "Oh, his brother Hendrick is a Colonel with the Tories." Another intimated that two of "Honickle's" brothers-in-law were in the opposing army. All of which was true, but another brother, Col. Han. Jost Herkimer, and a brother-in-law, Col. Peter Bellinger, were the bravest of the patriot Palatines that day.

Major Frey, one of Gen. Herkimer's off-

cers, had a brother who was an officer in St. Leger's army, and while there were five Nellis soldiers with Gen. Herkimer, there was one of the same name with St. Leger. Perhaps in no other battle of the long war did it happen that there were so many relatives in opposing ranks. Here were cases of "brother against brother," and no wonder that suspicions were indulged in that day.

Gen. Herkimer, well understanding the danger, was determined to wait for the signal from Fort Stanwix, and placidly smoked his pipe, until his "Dutch" was aroused by one of his officers intimating that he was a coward and feared to order the advance.

Hastily putting his pipe in his pocket, he drew his sword and angrily shouted:

"An hour from now will show who is the coward. Voorwarts!" (forward). This was the order anxiously wanted for the past two hours by the Palatines, but it was given just an hour too soon. Within that time the column had covered the corduroy road through the swamp, and, as its head reached the solid ground beyond, the horrid yell from a thousand Indian throats were heard, and the shots from nearly as many rifles laid 200 of Gen. Herkimer's men dead, not wounded.

As an eye witness described it: "Hell had broke loose." Gen. Herkimer, who had been at the head, now galloped back to reorganize his broken ranks. His men responded, and soon Seneca blood was pouring as freely as Palatine. Gen. Herkimer was shot in the knee, and his leg was badly shattered. His horse was killed. He was quickly borne to higher ground and his saddle was placed for him to sit upon while his leg was being bandaged. He would not permit that he should be carried out of the fight, but lit his pipe to resume the smoke interrupted an hour before, and issued his orders in the midst of the battle, from where, as he expressed it, his men could see him.

This was not the first experience the Mohawk men had in fighting Indians, and they resorted to Indian tactics in firing from behind trees. The Indians would watch when a gun was fired by a Palatine, and tomahawk would kill the soldier before he could reload. When this was reported to "Honickle," he ordered between puffs: "Boot two men pehnt each tree." Then when an Indian expected a scalp he found a second soldier with a loaded gun, and instead of a widow in the Palatine settlements it was a Seneca squaw who had to mourn the death of a brave.

It would require too much time to give a full account of this battle. A half hour from the time the first shot was fired, the guns from Fort Stanwix announced that Col. Gansevoort had just started his men. Gen. Herkimer heard and said: "Now we should have started." But Col. Cox was then dead, and many of the impetuous officers who had urged the advance. The battle was renewed with vigor on the part of Gen. Herkimer's soldiers, and soon the Indians and Tories were flying westward, instead of victoriously sweeping the valley and joining Burgoyne. Capt. Andrew Dillenback and Henry Diefendorf were among Gen. Herkimer's officers who were killed. These are mentioned because Kansas now has for her citizens men of these names from the Mohawk valley.

Nine men by the name of Snell went into the battle with the Palatines; seven of them were killed, and their bones bleached in Oriskany swamp. None of the patriot dead—killed in the battle—were buried that year. For two weeks the soldiers were kept in pursuit of the enemy, and during that time the hot August sun had so festered the bodies which literally covered the small space of ground where the battle had been fought, that the detachment sent out to bury them could not approach on account of the terrible stench. A few of the dead Senecas had been carried away, but the greater part of the killed—patriots, Tories and British alike—festered in that fearful place.

My own great-grandfather, Philip Nellis, a member of Capt. Zieleys company, Fifth Palatine battalion, was shot in the shoulder, but kept with his company to the end of the battle.

Instead of St. Leger, with his Indians and Tories, it was the Palatines and others of Tryon county militia who marched to

Saratoga and assisted in the battle which caused the surrender of Gen. Burgoyne in October following. Philip Nellis, with the unhealed wound in his shoulder, marched with the Palatines to Saratoga and participated in the engagements there. When I think of his blood which he shed in the cause of American liberty, and his sufferings on the hundred-mile march from Oriskany to Saratoga, I am filled with patriotic enthusiasm; which would cause me to take off my hat and reverently exclaim:

"Hello, Granddaddy! Hurrah for you!"

Had St. Leger captured Fort Stanwix, and beaten Gen. Herkimer, his army, with the Indians, would have joined Burgoyne at the right time to sustain him after the reverses he met below Ticonderoga. Saratoga and Bemis Heights would have been won by Burgoyne; New York would "have gone" British, and the tale of American victories would never have been told.

The Young Folks.

THE OLD MEETING-HOUSE.

We don't git to meetin' much, we're gittin' old an' lame, But when we hear the old church bell a-soundin' just the same As in the days when we were young, myself an' Sary Ann, We set out on the doorstep an' we listen all we can.

An' when it stops a-ringin' out, an' all is soft an' still, We look up to the old white church a-standin' on the hill. An' pretty soon, like heav'nly strains above the holy calm, We faintly hear the organ an' the singin' of the psalm.

The church has seen its better days, like Sary Ann an' me; Like us it's lost its vigor, an' ain't what it used to be. The winds that sweep across the hill have swept its strength away; An' now it's old an' rickety an' fallin' to decay.

The last time we were in it, it's quite a spell ago, Whene'er the sexton pulled the bell the house rocked to an' fro. An' cracked in all its j'ints, the seat it jolted 'g'in my back, An' once I dropped my hymn book an' it landed with a whack.

Right onto Sary's corn. "My, now," thought I, "I'm hooked;" But Sary Ann she never lisped, she only sat an' looked. The person then came up the aisle, the organ gun to play. An' soon we had a sermon on the everlastin' day.

When the sun sets behind the hill, an' makes the sky all gold, An' right that stands the meetin'-house, a-loomin' up so bold An' lookin' like a portal to a land beyond the skies, I sometimes feel almost's if heaven lay right before our eyes.

Sary an' I have most got through, an' soon will come the day When out beside the meetin'-house we'll both be laid away. But oft I think when Sary an' I hav climbed the heav'nly stairs, We'll want to look down on the church where once we j'ined in prayers.

—Mayme Isham.

THE DOG OF MONTARGIS.

How the Noble Animal Avenged the Death of His Master.

This brave dog lived in France, way back in the middle ages. Unfortunately we do not know his name, so he is always called the dog of M^{ont}targis. He was very fond of his master, who was named Aubri de Montdidier. The dog followed his master everywhere, and people never saw one without the other.

One day when Montdidier was walking in a lonely wood near Paris, called the forest of Bondi, he was attacked and murdered by a man named Macaire. The murderer buried the body under a great tree. He thought no one had seen him and that he was quite safe, but he was mistaken. The faithful dog appeared and took up his station by his master's grave under the tree. There he remained day and night, guarding his body.

He never left the spot, except to go after something to eat. He usually went in to Paris to the house of his master's most intimate friend, where he was well known, and after he had eaten what was given him he returned immediately to the grave and resumed his watch. Montdidier's friend began to think the conduct of the dog very singular, and one day he followed him.

The dog led him through the forest till they came to the grave under the tree. There he began to scratch away the earth and leaves. The man helped him, and you may imagine how shocked he was when they laid bare the body of his missing friend. The dog now seemed to feel that he had given the responsibility of caring for his master's body over to the friend.

He attached himself to him and went to Paris and lived in his house.

It was not long before Macaire's actions led people to suspect him of being the murderer. Whenever the dog met him he growled, his hair bristled up, and it was all people could do to keep him from tearing the man to pieces. They finally sentenced Macaire to fight a duel with the dog, after the custom of that time.

The fight was to be in a large amphitheater at Ste. Notre Dame, in Paris, and an immense crowd was there to see the man and the dog tear each other to pieces. Macaire was not allowed any weapons except a stick and a shield, while the dog had a tub into which he could retire when he was weary.

The dog was let loose and rushed at the man. At last his chance to avenge



THE FAITHFUL DOG.

his master's death had come, and he was determined to make the most of it. The man's guilty conscience did not prevent him from fighting desperately, and he defended himself well. Again and again the brave dog rushed at him only to be beaten back by the club, and the shield always came between him and the man's throat, which he tried hard to reach. The struggle was long and hard, but the dog conquered. The man, worn out with fatigue, finally confessed his guilt before all the people.—N. Y. World.

THE CONDOR'S FLIGHT.

He Soars Higher Than the Eagle and Is Far More Graceful.

When we speak of the soaring eagle and of his power to look with steady eye upon the sun, we should not forget that there is a bird larger and heavier than the eagle, which has the power of rising in its flight to a greater distance above the earth than any other bird.

The bird in question is the condor of the Andes, South America. The sight of a flock of condors, sailing in mid-air, must be a beautiful one. People who have watched them say that, except when rising from the ground, not one of them has ever been seen to flap its wings.

They move in large curves, sweeping in circles, descending and ascending, without giving a single flap of their wings. It is wonderful to see such a great bird hour after hour, without any apparent exertion, wheeling and gliding over mountain and river.

Humboldt claims that the condor soars to a height of at least twenty-three thousand feet above the sea, and other travelers say that it sometimes reaches a height of six miles.

The strange thing is that from such an elevation, where the air must be so highly rarefied, the bird will drop suddenly to the valleys, thus in the briefest time passing through an almost incredible change of temperature. But it loves the heights, and they are its chosen home.

It is when away up at a great height that the condor brings its keen eye to bear upon the movements of a herd of cattle far beneath. When some weak member of the herd falls to the ground, the condors sweep down to the feast, and gorge themselves until they have no longer power to rise. Then the Indians appear and noose them with the lasso.—Golden Days.

Burglar Caught by a Girl.

A New York girl in passing through the hall of her house recently encountered a burglar. She grappled with him, and, catching hold of his hair, held on until help arrived, when he was turned over to the police.

Lack of vitality and color-matter in the bulbs causes the hair to fall out and turn gray. We recommend Hall's Hair Renewer to prevent baldness and grayness.

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

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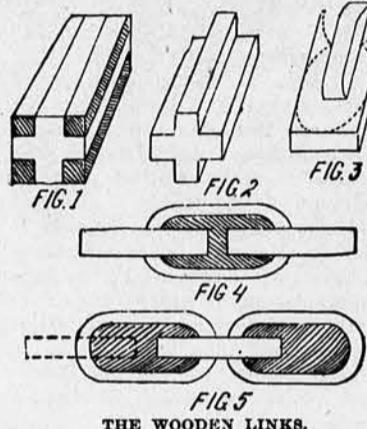
ABSOLUTELY PURE

LITTLE WOODEN CHAIN.

How a Handy Boy Can Make One Containing Twenty-Four Links.

A pretty experiment, which boys with a knack for carpentering will find interesting, is the making of a chain out of a single block of wood. This is how the feat is accomplished. This diagram almost explains itself:

Take a piece of very soft wood, one inch square by six inches long. Out of



THE WOODEN LINKS.

this cut a piece like that shown in Fig. 2, then mark off the links as shown in Fig. 3. Hold this piece sideways and cut out the darker portions shown in the illustration. Do the same thing on the other side of the piece. A small bit of wood will be left between each of the links. Cut through this and they will loosen. Round out the pieces and sandpaper them down. The illustration shows only three links, but a chain of about twenty-four links can be made easily, and it will serve many useful purposes.

WONDERFUL MONSTER.

The Pacific Walrus the Most Uncouth and Ungainly of Animals.

A mountain of heaving flesh, wrinkled and rough, ugly as a satyr, and even more clumsy than the hippopotamus, lives in the Arctic ocean wherever there are clam beds and enough open water to afford him a home. The Pacific walrus is the most uncouth and ungainly beast that ever sets foot on land. For two or three centuries he has been called the Morse, and also the sea horse—possibly because he is more like a horse than a humming bird, though not much.

Three hundred years ago, when travelers and men of science were struggling to obtain a mental grasp of the form and habits of this strange creature, but wholly unaided by the collector and taxidermist, their pictorial efforts produced some astonishing results—just as may always be ex-



THE PACIFIC WALRUS.

pected under such conditions. Marvelous, indeed, were some of the pictures of the walrus that were published in the sixteenth century, in the dark ages when taxidermists were not, and zoological museums were "without form and void." And yet with the ex-

ception of the figure by Olaus Magnus, which is half fish and half hog, with four eyes on each side and a pair of impossible horns, none of these grotesque figures are one whit more wonderful than is the true character of the Pacific walrus.

His real personality was only half known to the world until, in 1872, Mr. Elliott landed on the rocky shore of Walrus island, armed with sketch-book, notebook and tape measure, and made an elaborate series of studies of this species actually at arm's length. His published pictures and notes were such a complete revelation regarding the actual form and habits of the Pacific walrus as to cause much astonishment among naturalists; and to some it seemed almost beyond belief that the form of the walrus was really as pictured from life by this painstaking artist.—St. Nicholas.

THE TOILET OF BIRDS.

Some Like Nice Clean Water, Others Prefer Dust for Bathing.

The feathered tribes have many peculiar ways and fancies about the details of their toilets. Some birds use water only, some water and dust, while others prefer dust and no water. Birds are not only exceedingly nice in their choice of bath water, but also very particular about the quality of their "toilet-dust."

Wild ducks, though feeding by salt water, prefer to bathe in fresh-water pools, and will fly long distances inland to running brooks and ponds, where they preen and dress their feathers in the early hours of the morning. Sparrows bathe often, both in water and in dust. They are not as particular about the quality of the water as about the quality of the dust. They prefer clean water, but I have seen them take a dip in shallow pools that were quite muddy.

The city sparrow must take a water-bath where he can get it—in the streets or on the tops of houses—but he is most careful in his choice of his dust-bath. Road dust, the driest and finest possible, suits him best. I have noticed the city sparrow taking his dust-bath in the street, and invariably he chooses a place where the dust is like powder. Partridges prefer dry loam. They like to scratch out the soil from under the grass and fill their feathers with cool earth. Most birds are fond of ashes. Some early morning take a walk across a field that has been burned over, and see the number of winged creatures that rise suddenly from the ash-heaps. A darting form, a small cloud of ashes, and the bathers disappear. —N. Y. Home.

"BROWN'S BRONCHIAL TROPHES" relieve throat irritations caused by cold or use of the voice. The genuine sold only in boxes.

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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.

Word comes from Leavenworth that in order to secure just such fruit as will satisfy the palate of royalty there has just been filled in that city an order for a car-load of Kansas apples for Queen Victoria. They were Jonathans and Pippins. The Jonathans were secured from the famous orchard of Judge F. Wellhouse.

Something for nothing is not desirable. But a good deal for small cost is what the man gets who subscribes for the KANSAS FARMER now, and receives it until January 1, 1896. That is the publishers' proposition. Mention to your neighbor the fact that he can get the "old reliable" for thirteen months for \$1 by subscribing now.

Readers of the KANSAS FARMER will remember that a few weeks ago the Secretary of the Kansas State Board of Agriculture published an exhaustive bulletin on feeding wheat to animals. The demand for copies of this has been very great, and those who procure copies must apply very soon. The editor hopes that every subscriber who has not obtained a copy of this most valuable bulletin will immediately write either a letter or a postal card to the Secretary, asking for a copy before the edition is exhausted.

We desire to call attention of our friends to the fact that on January 1, 1895, about ten thousand of KANSAS FARMER subscriptions will expire. If only five thousand of you will kindly send in your renewals during December, it will be a great accommodation to us and will cost you no more than it would a month later. The other five thousand with an equal number of new ones we naturally expect each January will keep our subscription department busy the whole of that month. Please carefully consider our modest request. Send for our supplement for clubbing list.

Yesterday morning's dailies contained the sad news of the death of Prof. C. S. Mason, of our Agricultural college. The dispatch states that he disappeared from a Union Pacific train at Mirage, Col., on November 16, and that his body was found on the prairie eight miles south of that place on November 26, by his son and Daniel Tows. Prof. Mason was a graduate of the college. After several years in the world's activities he was called to an instructor's position in the horticultural department, in which, on account of hard work and proficiency, he was recently advanced to a full professorship. The institution with which he was connected, and the State, loses a valuable worker, and a careful, efficient and kindly instructor, by his sad death.

THE ALFALFA REPORT.

Secretary Coburn, of the State Board of Agriculture, has done another grand service for Kansas agriculture in his publication of the hand-book on "Alfalfa-Growing," which will be issued this week as the regular report of the board for the month of November. Into this little volume has been gathered more authentic and usable information concerning alfalfa than has ever been compiled before. No phase has been left untreated, and the men who have been called upon to contribute to the report are the ones whose experience and study should prove most helpful to the farmer seeking for knowledge on the subject in hand.

After the introductory, in which Secretary Coburn has summed up some valuable deductions from the individual experiences of the farmers reporting, and which appears in full in another place, "A Little Alfalfa History" is given by Prof. C. L. Ingerson, of the Nebraska Experiment Station, at Lincoln. Then follows what is probably the most comprehensive article on "The Growing and Use of Alfalfa" that has ever been written. This is by Mr. B. F. Shuart, now of Oberlin, O., but until within a year a large alfalfa-grower of Bozeman, Mont. Mr. Shuart is unquestioned authority on the subject, which makes his article invaluable as a part of the report under review. "Alfalfa—Especially in Kansas" has been handled by Prof. C. C. Georgeson, of the State Agricultural college, at Manhattan, who has told of the best methods of seeding and growing, giving also some idea of the value of alfalfa as a fertilizer and as stock food. A. A. Mills, a graduate of the Kansas Agricultural college, now Superintendent of Farm and Experiment Work at the Utah Experiment Station, at Logan, contributes an article on "Alfalfa or Lucern—Especially from a Utah Standpoint." This is peculiarly valuable in that it shows the estimate in which alfalfa is held in communities where it has been grown for decades, instead of years, as in Kansas. "Alfalfa on Kansas Upland, Without Irrigation," by Prof. Hilton, of Topeka, treating of a phase of the general subject concerning which there has been much dispute, tends to indicate that alfalfa culture is not impossible or unprofitable on the higher rolling prairie if rightly handled. "The Feeding Value of Alfalfa Hay," and "Alfalfa vs. Corn," are articles showing something of the place of this valuable forage plant in the stock ration, and in "Alfalfa for Hog Raising," R. E. Van Huss, of Finney county, tells of his wonderful success in growing and fattening swine on alfalfa pasture. The subject of harvesting alfalfa is thoroughly covered by several reprinted articles from the *Field and Farm*, of Denver. One of the very important articles is on "Tympanitis, or Bloating," by Prof. N. S. Mayo, of the State Agricultural college, at Manhattan, who treats the subject from an eminently practical standpoint, giving causes, symptoms and various methods of treatment.

By far the larger portion of the book is given up to reports from individual growers in response to a list of questions sent out by Secretary Coburn some weeks ago. These reports come from the leading growers in a great number of Kansas counties, and from the alfalfa-producing States of Arizona, California, Colorado, Montana, Nebraska, Oregon, Washington, Idaho, Wyoming, Utah and New Mexico. These individual reports show what farmers have done under varying conditions and offer the best indication available as to what may be expected. It is probable that no man is beset by conditions for which a counterpart may not be found among these reports, and the counterpart having been found, information is at hand as to the methods which have been found to give the best results under those conditions. Being the deductions from actual experience this information is invaluable.

Taken altogether, the report on "Alfalfa-Growing," as has already been stated, is a gem of its kind. It is complete, authentic and eminently practical. It is a fitting companion book for "Feeding Wheat to Farm Animals,"

which was issued from the same office earlier in the fall. Each covers a subject which is prominent in Kansas agriculture at this time; each is practically the first and only work of the kind attempted, and each accomplishes most admirably its design of proving helpful to the farmer who farms. Every farmer in the State should have a copy of each. Either or both may be had on application to Secretary Coburn.

NO MONEY TO PRINT KANSAS AGRICULTURAL BIENNIAL.

When, in spite of a wholly insufficient force for it, the work on the next biennial report of the State Board of Agriculture has been done and the time for its publication is at hand, the fact appears that the money supposed to be at once available for the printing of at least a moderate edition has all been used for other purposes. Further, there is no provision for mailing any of them, even if they were printed. This is a condition of affairs well calculated to make a good many of our people interested in the agricultural prosperity of our State exceedingly weary. For at least three of the biennial periods prior to 1891-92 the importance of these valuable cyclopedias of Kansas resources and progress has been in some measure recognized by appropriations for printing and distributing editions of 20,000 copies, or, perhaps, a copy for one out of every fifteen of our voters, provided none were sent elsewhere. The edition of the report for 1891-92 was cut to a paltry 3,500 copies, or, say, a copy for one out of about every eighty-six of the State's voting population, if all the books were kept at home. As already stated, the printing or mailing of the current report is not provided for at all. It has been the intention of the agricultural board to have this report approximate its immediate predecessor in size (about 600 pages) and cost. An edition of 3,500 copies of such a book costs about double the price per volume that the same book does in an edition of 20,000 copies; that is to say, if 3,500 cost \$1.60 each, the same books, in editions of 20,000 can be made for one-half that, or 80 cents each, and in larger editions still for even much less. Those at all acquainted with the publishing business know that it is the first few books of an edition that cost, and the increased numbers are produced at figures which, in comparison, are insignificant.

It should be borne in mind that these biennial reports of our agricultural department are not simply books about farming (although the intention is to give them more of that character hereafter), but are eagerly sought and accepted throughout the world as the official, authentic statement of what Kansas is and offers to all who seek to make homes and invest capital here or have an identity with its upbuilding. No day goes by which does not bring appeals for these volumes to place in public libraries, in offices and counting rooms, by those who have sets of the previous volumes and want to maintain them complete; from those who are keeping in close touch with Kansas and its onward march; from bright farmers, artisans, merchants and men of capital in the overcrowded older communities who wish to better their conditions by locating somewhere in the great central West, and their demand for authentic information should not go unheeded nor unsupplied.

It seems to the KANSAS FARMER that the incoming Legislature should early take up the matter of providing, not only for the printing and distribution of a generous edition of these reports, but for strengthening and sustaining in every desirable way a department which stands as the bright example of its kind in all the Union, and which was never more a necessity nor more appreciated by the general public than now. Surely the agricultural and industrial taxpayers of Kansas contribute sufficient to its general revenue fund to entitle them to this modest recognition.

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

GREAT IRRIGATION CONVENTION AT HUTCHINSON.

Detailed reports of the proceedings of the great irrigation convention, held last Friday and Saturday at Hutchinson, would require more space than can be spared in the KANSAS FARMER. Readers of this journal are more interested in the information imparted and what is to be done to make irrigation more generally practicable for the average farmer than in the routine of the meeting. It is proper to say, however, that the attendance, some 2,500, was the largest ever gathered for a like purpose, and consisted more largely of practical farmers than any large irrigation convention ever held.

The exhibit of machinery for raising water surpassed all former efforts in that line, and demonstrated clearly that at least in the Arkansas bottoms a big ditch full of water can be provided without very expensive appliances. Pumps were there each throwing 4,000 gallons of water per minute. These were each driven by a common thresher's engine. There were also smaller machines doing proportionately heavy work. There were gasoline engines of several makes, all doing excellent work in the operation of pumps. Without doubt the use of these engines is to be greatly increased, where a supply of water is desired, without fail, at the time most needed, and where the quantity must be above the capacity of the windmill and below ten or fifteen horse-power. In gasoline engines we noted, as doing especially satisfactory work, one by Fairbanks, Morse & Co., and one by the Weber Engine Co., both of Kansas City. Windmills were there in great numbers and variety and they received merited attention. The beginner at irrigation first thinks of the wind as the most desirable motive power, and there is no doubt about the practicability of irrigating considerable areas, and especially gardens, by the use of wind power.

The resolutions adopted by the convention were formulated after a good deal of careful consideration and discussion by those who have studied the subject well. It is noticeable that the glittering generalities, which are sometimes indulged in, were subordinated, in this case, to the needs of the men who must irrigate or soon emigrate. The fact that, under a large proportion of the western half of the State, there exists a most valuable underground reservoir of water which is annually replenished, and that, in much of this territory, this water is readily made available, that in other portions it is reached with more difficulty, while in yet others it is not practicable to get it without greater expense than is at this time justifiable, has given rise to a demand from the settler for information as to the availability of water at his place, which can only be obtained through a comprehensive irrigation survey. The Hutchinson convention recognized this need of the prospective irrigator and resolved in favor of an irrigation survey, to be conducted under the direction of the Secretary of the State Board of Agriculture. This is undoubtedly the wisest action that could be taken. This work, speedily done, will place the settler in position to remain on his land if it is found to be readily irrigable and will give him the credit to enable him to purchase the necessary appliances, and it will be notice to the man for whom an irrigation supply of water is inaccessible to shape his course according to the facts. Placing the work under the direction of the State Board of Agriculture will be an assurance that it will be well and economically done.

The proceedings will be published in full in pamphlet form by the Hutchinson Commercial Club, under whose auspices this great meeting was held, and will be sent free to members of the Kansas Irrigation Association. Many of the papers read will appear in the Irrigation department of the KANSAS FARMER.

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.

ALFALFA, OR LUCERN.

(Medicago sativa.)

Our State Board of Agriculture has just completed an exhaustive study of this forage plant, embracing its history, characteristics, cultivation and uses, and including discussions by scientific observers and practical growers in the twelve alfalfa-producing States and Territories of America. The following introductory remarks and deductions by Secretary Coburn will be read with interest:

"Probably at no previous time in the history of the central West, or the region west of the Missouri river and eastward of the continental divide, and especially in Kansas and Nebraska, have the agricultural population taken such an intense and intelligent interest as now in the question of what crops are best adapted to their conditions of locality, soil and climate, and the methods best calculated to give adequate returns for values invested in their production. One of those crops upon which the largest measure of new interest has centered during the past year or more, in Kansas, is alfalfa (also often called lucern); and the yields and profits realized from its growth in many counties, reported by gentlemen of the highest integrity, unmistakably indicate that in this plant a large area, if not all of Kansas, has an agricultural acquisition of tremendous importance. To aid in disseminating the utmost accurate available information among the people interested, the State Board of Agriculture, with desire to neither magnify nor underrate its importance, has canvassed those most familiar with the subject in its various phases, and in all the sections of the United States where alfalfa is cultivated to any considerable extent, including the scientific experimenters, trained observers, and, particularly and largely, the practical producers. The sections where information was most earnestly sought, outside of Kansas, were the States of California, Colorado, Montana, Nebraska, Oregon, Washington, Idaho and Wyoming, and Arizona, New Mexico and Utah. From county officials in each of these were obtained the names of those whom they knew to be most largely identified or familiar with alfalfa-growing, and to nearly 1,200 of these were sent blanks containing a list of questions framed to draw out what the recipient had learned or observed that might be of practical worth to those contemplating a test of alfalfa on their own account. From the mass of most valuable information contributed, the Secretary has collated the following deductions, intended to be, as a rule, more especially applicable to Kansas than elsewhere.

"Alfalfa thrives best in a warm and friable soil, above a subsoil porous or gravelly—the opposite of a stiff, compact clay, 'gumbo,' or 'hardpan,' or any stratum through which the roots penetrate with difficulty, although occasional exceptions to the latter are claimed as having been observed. A sandy loam soil appears to afford the most favorable conditions for alfalfa growth where not irrigated. More than almost any other plant, it depends for its prosperity upon a subterranean rather than a surface water supply.

"For seeding a loamy soil to alfalfa, it should have been in cultivation a sufficient length of time to thoroughly subdue or eradicate its 'wild' nature; it should be deeply plowed, and, if not to be irrigated, subsoiled as deep as possible; the surface should be thoroughly pulverized and made smooth by a plank drag or similar implement. In sandy soils, some of the best results have come from seeding on sod, especially where the subsoil is also quite sandy and porous. Such a soil might be injured rather than benefited by subsoiling, and where such land has been in cultivation for several years a thorough preparation of the surface only will probably give best results.

"The seed should be free from seeds of weeds or other plants, and may be sown either broadcast or with a drill, and should be covered, approximately, with an inch of fine soil. The quantity of seed varies; if the crop is chiefly intended for seed-raising, twelve pounds is often sufficient, while, if a

fine quality of hay is desired, sometimes as much as thirty pounds is sown; yet, twenty pounds represents nearly the quantity used by the generality of those who raise the crop for both hay and seed. If sown in the spring, it should be as early as danger from frost is past.

"The permanent success or aggravating failure of an alfalfa crop very largely depends upon the favorable conditions attending its first year. If from any of the many possible causes, such as ground poorly prepared, feeble or foul seed, hard freezing, insufficient moisture, or too severe pasturing, an even, uniform and sufficient stand is not obtained the first year, all later efforts to bring it into a satisfactory condition result largely in disappointment. Under even the most favorable conditions, alfalfa is not expected to make much showing during its first year.

"Much the largest yearly yields are obtained by irrigation; yet there are extended areas in Kansas and other States where, without irrigation, three (and sometimes more) cuttings annually, amounting to several tons of hay per acre, are obtained, including a crop of five to ten bushels of superior seed.

"Alfalfa will neither flourish nor long survive in a soil with water standing upon or near the surface. It consumes much water, but an excess, either naturally or artificially applied (by too long-continued flooding), is altogether fatal.

"The cultivation for young alfalfa, or rather its kindly protection against being crowded or overshadowed by high weeds, and its encouragement to stool and spread, is the use of the mowing machine with its sickle-bar set high enough to prevent cutting near the ground. The clippings made in this way serve, in some degree, as a valuable mulch.

"Under some conditions, sowing alfalfa in connection with a nurse crop, such as oats or barley, is found very satisfactory; this is practiced most in California. These serve to protect the tender alfalfa plants, at a critical period, from injury by the sun.

"As a renovator and enricher of the soil, it is conceded the equal if not superior of red clover, for, as has been well said, it is 'a nitrogen-gatherer of the first magnitude, and the long roots draw ash elements from depths where no other crops could feed, storing them up until, by their decay, they again give them up to succeeding crops.' Owing to the toughness and size of its roots, it is difficult to plow under, and is eradicated only with much effort. Good examples of alfalfa as a soil-improver are seen in Weld county, Colorado, where are raised the large yields of superior potatoes, which have made 'Colorados' almost a synonym for potato perfection.

"Although, naturally (under irrigation), theirs are the finest of potato-producing soils, the growers have discovered their gains are greatly enhanced by planting upon land previously in alfalfa—a rotation rapidly being adopted by those most successful. "Owing to its containing 72 per cent water (1 per cent more than red clover), green alfalfa requires care, considerable time and drying weather to evaporate from it the extremely large percentage of moisture necessary to be gotten rid of before it is properly cured hay, and without getting rid of which it is not safe from heating or molding in stack or mow; although, as is well known, a very important drying and curing process takes place after storing hay that at the time appeared far from sufficiently, or even safely, dry. Those who irrigate find it very profitable to flood their ground some little time before each cutting, in order to stimulate and start at once the succeeding growth. The surface should not be wet at the time of cutting, as such a condition seriously interferes with and retards the prompt and thorough curing which is so desirable in making the best quality of hay or seed. As it sheds water but poorly, alfalfa should, if possible, be stored under cover.

"Either green, or cured as hay, the nutritive qualities of alfalfa are surpassed, by few other plants, red clover not exceeding it in protein or muscle-forming elements. Farm animals of

all kinds relish and thrive, and, in many instances, actually become quite fat on the dry hay alone, and cows kept upon it demonstrate its value for milk-making in both quantity and quality of product.

"To cattle or sheep, unless very gradually accustomed to it, rank alfalfa pasture, by causing 'bloat' or 'hoven,' is always dangerous, and extremely and quickly fatal, if they are given access to it when quite hungry or the alfalfa is wet with dew, rain or frost. If discovered bloated or bloating, there is but little time for treatment, and prompt puncturing with the trocar or knife must be the chief dependence for relief.

"A proper stand of alfalfa furnishes a great quantity of extremely valuable and much-relished pasture for swine and horses during a large part of the year, and if the swine are, about once a week, shifted from one pasture to another, when it is all heavily stocked, the change is beneficial to the animals and the pasture. For horses, idle or at slow work, the hay is also highly esteemed, but for those used in rapid driving or road work, it is often found too 'washy' or laxative.

"The ordinary machinery for threshing such crops as wheat and oats is unsatisfactory and wasteful for alfalfa, and a separator more of the character of a clover huller is much better adapted to its threshing. When cured, alfalfa easily drops both its leaves and seeds; hence the gentlest and least possible handling in its care, and prompt storing when once dried, should be aimed at.

"The ripened alfalfa from which seed has been threshed is counted of little value by some feeders, yet many others esteem it almost or quite as highly as if cut earlier for hay alone. That it has considerable feeding value can scarcely be controverted.

"While alfalfa gives sure promise of being indeed a boon to Kansas and contiguous States, there are undoubtedly localities, soils and conditions to which it is but poorly adapted. To be persuaded of its worth and importance does not necessitate accepting, without qualification, the honestly made, well-meant, yet prodigious, almost incredible statements of yields and profits sent from all the notable alfalfa-growing sections. Discouraged fully one-half, they still indicate that, under conditions such as prevail on millions of Kansas acres, alfalfa can and should early become an important factor in our agricultural economy and prosperity. The information in this volume is not collected nor published to encourage anybody to rush into alfalfa-production with the expectation of making fortunes, nor in many instances equaling the very remarkable results attained by those most successful. On the other hand, if it shall prove helpful to the more general and judicious introduction of an additional valuable crop, out of which shall come a better agriculture and a larger return for the money, brain and brawn invested, this effort by the State's Department of Agriculture will have fulfilled its present purpose."

COMMERCIAL VALUE OF SILVER.

EDITOR KANSAS FARMER:—Was silver bullion ever higher than gold prior to 1873?

J. P. P.

The terms used in considering the price of silver bullion are a little confusing. Silver bullion was never higher than gold, ounce for ounce. The silver contained in the United States silver dollar has often been quoted at a higher figure than the gold contained in the United States gold dollar. The Treasury department publishes stately a "Statistical Abstract." From number 15 of this, page 50, the relative market prices of gold and silver are given for each year, from 1687 to 1892. In 1687 the relative values of the two metals was 14.94 to 1, or the ratio is given as 14.94. There were numerous fluctuations during the next hundred years, the highest ratio being 15.52, in 1702, and the lowest 14.14, in 1760. That is, in the latter year the market price of an ounce of gold was only 14.14 times as much as an ounce of silver. In 1800 the ratio was 15.68, in 1825 it was 15.70, in 1859 it

was 15.19 and in 1873 it was 15.92. This is the lowest price ever marked, with three exceptions. In 1821 the ratio was 15.95, in 1843 it was 15.93 and in 1845 it was 15.92, the same as in 1873. Since 1873 the price of silver has fallen rapidly. Thus in 1874 the ratio was 16.17. It passed the 20 mark in 1886 but went back to 19.75 in 1890. In 1892 the market ratio was 23.72. At present prices the market ratio is something like 32.5 to 1.

It thus appears that prior to 1873 the commercial value of the silver in the silver dollar, when made at the United States coinage ratio of 16 to 1, was always greater than the commercial value of the gold dollar, and that since 1873 the reverse has been the case.

Publishers' Paragraphs.

The current number of *American Gardening* (New York city) contains beautiful half-tone illustrations of some of the best new chrysanthemums, together with other entertaining matter relating to the conservatory and garden. A copy will be sent free to any of our readers who care to apply for it.

The *Illustrated London News* is one of the finest magazines that has visited KANSAS FARMER during past week. The Christmas number contains short stories by Anthony Hope, the late Lord Brabourne, and others. The numerous engravings are by the best artists. A special feature of the December number consists of three colored plates, entitled, "Guilty, or Not Guilty," "Bo-Peep" and "Annie Hathaway's Cottage."

KANSAS TANNERY.—Elsewhere in the KANSAS FARMER appears the advertisement of the Kansas tannery, owned and operated by Mr. M. C. Byrd. This tannery is located at Lawrence, and was established in 1889. Mr. Byrd is a practical tanner, thoroughly understanding every detail in the processes of developing the skins or hides from the time they come into his hands until they come out finished goods. Do not hesitate in sending your hides to the Kansas tannery, freight prepaid. They will receive prompt attention and coming forth, in return, the best of goods—condition of hides considered. See the Kansas tannery advertisement, and read it carefully. Write Mr. Byrd for particulars. Mention this paper. It will pay you.

B. O. Flower, the editor of the *Arena*, opens a series of papers in the December issue on "Factors in Immorality," which discusses the age of consent laws in the different States. In some of the States the age at which a child can consent to her own ruin is as low as ten years, a disgrace to a people professing Christianity and calling themselves civilized. This is affording legal protection to the lowest kind of brutes that usurp the human form. At this age a girl is not legally permitted to sell her doll, and yet she can sell her body for destruction. The *Arena* is going to ventilate this sort of legislation thoroughly and put the facts as they are before intelligent American manhood and womanhood. Other writers in this series will be Frances E. Willard, Dr. O. Edward Janney, M. D., Rev. Joseph May, Rev. A. H. Lewis, D. D., Helen H. Gardner, the author of "Pray You, Sir?" Dr. Emily Blackwell, M. D., and Aaron M. Powell, of the Social Purity League.

William L. Douglas, the President of the world-famed W. L. Douglas Shoe Co., has always had a great personal interest in the army of men and women who inhabit the great factory at Montello during the working hours of the day, and who make the greatly-advertised \$3 shoe. He is a great believer in the idea that manufacturers should have this personal interest in the condition of their employees, and feels that if the idea is carried out to the extent that is possible, that it will result ultimately in the breaking down of the barriers which have been built up between employers and those whom they employ. He believes that the breaking down of these invisible but strong barriers would be a great thing for everybody concerned, as it would convince the workingmen that their employers were not their enemies, as some of them seem to think now, but their friends, with a desire to do all for them that was in their power. His latest plan, for the benefit of his workmen, is to furnish medical attendance free for any one of his employees who happens to be so unfortunate as to become sick or injured in his service. The Brockton (Mass.) *Daily Enterprise*, on 12th inst., contained a column description of the new plan, and from the tone of the article it is plain to be seen that President Douglas and his company are held in high esteem in the city where his excellent shoes are manufactured. Probably no face or name is more familiar to the people of the United States than that of William L. Douglas. His face is familiar to the eye, his shoe to the foot of every man, woman and child in America.

Horticulture.**MORE ABOUT POTATOES.**

EDITOR KANSAS FARMER:—In your issue of November 7, Mr. Gaile, of Burlingame, Kas., answers my inquiry about "potato scab," for which I wish him to accept my sincere thanks. How assuring it is to learn that there is a cheap preventive and that a brother farmer has tried it to his own satisfaction. Since I wrote the inquiry I have received Farmers' Bulletin No. 15, of the United States Department of Agriculture, also Bulletin No. 37 of the Kansas State Agricultural college, at Manhattan, both of which give the same recipe as Mr. Gaile. But I would have been slow to dip all my seed had not Mr. Gaile said he had tried it and that hereafter he would treat all his seed this way.

[The treatment referred to consists in immersing the seed potatoes for one and a half hours in a bath composed of two and one-fourth ounces of corrosive sublimate and fifteen gallons of water.—EDITOR.]

Here is just where the KANSAS FARMER gets in its work and gives a subscriber ten times the value of his subscription, often in a single article. Now, in my own case, this information is worth lots to me, as I and a relative will plant almost all the entire seed crop of the Early Kansas potato, and as we expect to put the whole crop on the market next fall, in order to introduce them to the farmers of Kansas, it is necessary that the crop be free from scab. Should we dip them and kill them it would actually ruin the whole future of this great potato, but we have decided now to dip all the seed. I firmly believe this is the grandest potato ever introduced, for our climate, and what a calamity it would be if it was almost entirely killed out by using a dip that would kill the potatoes.

One brother, in Iowa, S. A. Thomas, wrote me a long, delightful letter on the culture of watermelons and potatoes, sent me a large 10x12 photo of his melon patch, also three specimens of the Utah Pride potato, that he said he thought the Early Kansas must be.

The Utah Pride he sent me is a very pretty, smooth, oval, flat, red potato, bearing some resemblance to the California Red Peachblow, but no resemblance to the Early Kansas potato. The Kansas is a straw color when first dug, changing to a darker hue when out of the ground. I never saw an oval, flat one, although I admit that this shape is preferable for cooking.

I shall plant a few Early Kansas next year for my own seed. Each potato planted will resemble the others exactly in weight and other characteristics. Shall cut to one eye and drill 14x32 and not try to plant as early as usual, and shall leave them in the ground till very late, then bury them.

The very best ground for potatoes is ground that is sloping enough to drain well, and I am not yet sure whether it is best so drill east and west or north and south; of course one would naturally drill in the direction of the slope, if possible. This, of course, refers to rolling prairie, such as we have here in Kansas, and not to hilly ground. I would plow deep in the spring, plowing under a clover sod, harrow while moist, furrow deep to plant in, and then cultivate as deep as possible to cover them. After this I think it is very unwise to cultivate deep, and perhaps my former plan of going once between the rows with one shovel to lay them by is unwise. At any rate, I shall test this next year.

This year I plowed under a heavy crop of rye just before it was ripe and then planted melons. I cultivated the melons and kept all weeds down, and when the frost killed the vines I commenced putting on manure, and will subsoil it when I plow it. I think fall plowing is good here, but I see no reason why spring plowing is not as good.

I have always planted the Early Kansas in hills (three or four eyes), 18x30, but shall cut to one eye next year and plant as close as fourteen inches by thirty or thirty-two.

In my last letter I said I thought the

Early Kansas would be good for Colorado. Since I wrote this I have received a request from J. B. Swan, of Loveland, Col., to forward him ten pounds of Early Kansas, to be tried with 100 other varieties, in order to see which is the best potato for Colorado. The Colorado Farmer copied my article from the KANSAS FARMER and he thus got my address. If the Early Kansas proves as good to those I send them to as they do here, it will be seen that the KANSAS FARMER is the means of introducing them, and I suggest that they be called the "Kansas Farmer" strain.

Mr. Swan tested seventy-two varieties of potatoes in 1893. A photo of each variety he kindly sent me, also a comparative test. In it I notice the Freeman gave 515 bushels per acre; Polaris, 511; Early Ohio, 605; Early Rose, 691; White Star, 561; White Elephant, 592; Rural New Yorker, 407; Beauty of Hebron, 442, all of which I have tested with the Early Kansas and they are nowhere the equal of it here. Some of the yields went very high, such as: Alexander's Prolific, 798; Monroe Champion, 715, while several did not yield much over 150. He tested 180 varieties this year, but only gave special attention to one acre, and the season being poor only got an average of 430 bushels per acre. He wishes to test this year several kinds of seed corn, and any one who reads this that has a pure kind will confer a favor by sending him two pounds of each kind.

and runs this plow once between the rows. He says it leaves them just as if they had been hilled up by hand and in the most careful manner. Why hill up, as he suggests, in a dry climate, or a dry season? If I had a patch of potatoes, and the soil was too wet, I would ridge up, as he suggests, to dry it and let the hot winds and hot sun absorb the moisture. Now, let's reason a little. Suppose there was a piece of ground, the surface of which was nearly level and well pulverized to quite a depth, and you wanted to retain all the moisture you could; which would seem to be the best way to leave it, as near level as you could, or throw it up in ridges? I believe in as near level cultivation as possible, and try to ridge up as little as I can. By cultivating four to five times they will be ridged up more or less.

Those weeds that he speaks about mowing and raking off before digging! He says that these weeds prevent the hot sun from hurting the crop. This may be so. But how about the weeds? My idea is that they will be a detriment. If you want the ground shaded, keep them out and let the potato vines grow that much ranker, so that they will do it. The way I keep the weeds out after deep cultivation must cease is to use the Planet Jr. cultivator, with eleven small shovels, with a rake attached behind, which merely breaks the crust after a hard rain and completely gets away with the weeds. In due time I will give the readers of the



PEACH—BOKARA NO. 3. (See descriptive article on this page.)

Mr. Swan also sent me a printed paper on propagating new varieties from ball seeds, read by him at the farmers' institute in Loveland, Col., and in it he says that farmers can develop the best kind adapted to their particular locality. Perhaps this is why the Early Kansas proves the best here, while it may not be so good anywhere else. At any rate, we will know next fall, as I have sent samples to several States.

I have just read an article in the Prairie Farmer on the winter care of potatoes. The writer labors to keep them from freezing and remarks much about the shrinkage from sprouting, and so on. Now, my advice is to keep them as near freezing as possible, say 28°, and avoid all sprouting. [This is 4° below freezing. The writer probably had 34° or 38° in mind.] The best way is to bury and cover with straw and four inches of earth, potatoes to be buried on a cold day, and on no account cover them any deeper until the four inches is frozen nearly through, and then cover so as to keep this frost in and thus have a cold storage and no sprouts. C. J. NORTON.

Morantown, Kas.

The Cultivation of Potatoes.

EDITOR KANSAS FARMER:—Permit me, through the columns of your paper, to answer Mr. Clarence J. Norton's article on potato culture, or rather to criticise part of his way of growing potatoes. He says, "I have to use level cultivation until I lay by." Then he uses a single-shovel plow, with

KANSAS FARMER an opportunity to send for my catalogue, containing my mode of growing potatoes and a cut of the tools used. I give the above criticism in the most friendly way. Have read Mr. Norton's articles with great interest. But I don't like to see weeds in a potato field, and it all hilled up of a dry season. S. A. THOMAS.

Bingham, Ia., November 19, 1894.

The Bokara Peach, No. 3.

The people of this country have endeavored to secure a peach tree that would withstand the climatic changes, and be fruitful as well; yet it has been quite difficult to find such a tree. Experiment after experiment, however, has finally received its reward in the founding of what lovers of peaches have desired—a hardy, and at the same time, a tree that could be depended upon as a bearer.

Such a tree is found in the Bokara No. 3, offered for the first time to the general public by the Mount Hope nurseries, of Lawrence, Kas. This tree will stand a freeze of 28° below zero and crop; hence, for the table, the market and for shipping, you can have peaches from Bokara No. 3 when all others fail.

The report of the Iowa exhibit at the World's Fair has the following paragraph by Prof. Hansen: "In the Iowa exhibit were shown a number of plates of new

Old Leather

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New leather always new if you use

Vacuum Leather Oil.

It won't mend cracks, but will keep leather from cracking.

If there are cracks in it the oil won't mend them.

25c. worth is a fair trial—and your money back if you want it—a swab with each can.

For pamphlet, free, "HOW TO TAKE CARE OF LEATHER," send to VACUUM OIL CO., Rochester, N. Y.

Bokara peaches, sent in by John Wragg & Son, of Waukeen, and A. Snyder & Son, of Center Point. Bokara No. 3 was the largest, one of them measuring seven inches in circumference. It did not rot easily, being inclined to shrivel rather than rot. I saw one plate in good condition, September 26, which had been exhibited at the Iowa State fair the first week in September. Fruit yellow with red cheek, skin tough, flesh of good quality, a perfect freestone. Bokara No. 2 was nearly equal in size; Bokara Nos. 4 and 6 were smaller; all yellow with red blush, of good quality and perfect freestones.

HORACE.

"I escaped being a confirmed dyspeptic by taking Ayer's Pills in time." This is the experience of many. Ayer's Pills, whether as an after-dinner pill or as a remedy for liver complaint, indigestion, flatulence, water brash and nausea, are invaluable.

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FITS CURED

(From U. S. Journal of Medicine.)

Prof. W. H. Peeke, who makes a specialty of Epilepsy, has without doubt treated and cured more cases than any living Physician; his success is astonishing. We have heard of cases of 20 years' standing cured by him. He publishes a valuable work on this disease which he sends with a large bottle of his absolute cure, free to any sufferer who may send their P.O. and Express address. We advise anyone wishing a cure to address, Prof. W. H. PEEKE, F. D., 4 Cedar St., New York.

A. H. GRIESA, Prop'r KANSAS HOME NURSERIES, Lawrence, Kas., grows trees for commercial and family orchards—the Kansas Raspberry, Blackberries, standard and new Strawberries—also shade and evergreen trees adapted to the West.

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The Poultry Yard

Portable Hen House.

There is always more or less grain lost in harvesting—shelled off the heads or broken down out of reach of the reaper. When grain was high in price farmers could afford to ignore this waste and let it seed the land with a volunteer crop. The writer has often herded cows on the great Colorado wheat fields, that were seeded in this way. In these times, however, "every little counts," and even the waste in the grain fields must be picked up and utilized. But whose labor is so valueless that it will not cost more than the grain is worth? Mr.



PORTRABLE HOUSE FOR POULTRY.

and Mrs. Hen are the people to do the work properly. We illustrate the way this thing is done in England. A little henhouse on wheels, large enough for twenty-five hens, is hauled about from one part of the field to another. Wherever it stops, the hens clean up all the scattered wheat for many rods in every direction. They come back to the house to sleep and lay. All the farmer has to do is to move the house and gather the eggs—the hens do the rest. There is progress for you—a step in advance of "hens by the acre." On many an American wheat farm the hens could make the waste wheat worth a good deal of money.—*Rural New Yorker.*

A Small Fortune in Poultry.

An acre of ground may yield by poultry raising from one hundred to two or three hundred dollars; but the management has much to do with the produce and the profits. A bright, energetic man or woman can often bring about results that another would say were impossible. A certain Massachusetts farmer makes \$4,000 per annum from poultry, because he knows how to go about it. He makes it pay better than farming, and keeps his flocks on the land that used to feed his cattle.—*Rural World.*

Money in Winter Eggs.

The practical farmer knows that there is more money in winter eggs than in those produced in summer. He likewise knows that if he allows the fowls to roost in open sheds and cold places and feeds nothing but corn he cannot secure a winter egg crop. He gets ahead of the average farmer by having good, warm houses, by feeding the very best grains for manufacturing eggs, by keeping the birds at work in scratching pens while the ground is covered with snow, by hatching his pullets in April and May and bringing them to profit at the right time.

Silage as a Poultry Ration.

There is nothing in the world which hens enjoy better in the winter time than silage. They will greedily jump into the cow stalls and rob the cows of their share if possible. Green silage is a delicious food for them in the winter time and it ought to be just as profitable to raise and store this for the hens as for cattle. Good, sweet green cornstalks carefully preserved in the silo makes a tempting food ration that stimulates the hens to better health and productive work. The professional poultry man who raises hens by the hundreds might well consider the advisability of preparing silage for their winter food. Those who have only a few on the farm should take some of the silage prepared for the cattle and give it to the poultry every day or two.—*Breeders' Gazette.*

Milk as an Egg-Producer.

Hens should have all the milk they can readily eat; no kind of food is better adapted to egg production. Some milk mixed with bran will not fatten them; but if given freely, the vessel in which it is fed will need frequent cleansing to prevent them becoming offensive. With milk to drink fowls on a range will do well enough on one meal a day, as this will encourage activity and picking up what they can. This feed should be given very early in the morning and should steamed clover hay, with a little corn and oat chop and bran mixed with it, and a little salt added to make it more palatable. A bird will have a ravenous appetite, and they can eat all of this food they want without injury.—*California Candler.*

The Hen as a Money-Maker.

There is no poetry in our make-up, but when a pleasant truth is presented in pleasing language we can overlook the fanciful description and see the solid facts beneath. So in the following from the *Fanciers' Review*, the plain statement that there is money in keeping hens is dressed up: The best money-maker on the farm is the hen. She turns grass into greenbacks, grain into gold, and from the sand and gravel she coins silver. There is nothing else on the farm to compare with her. The horses and cattle are heavy consumers, and to get their value we must part with them, but not so with the hen. In her small way she is a gold mine on the face of the earth, a mill that grinds that which others overlook or refuse.

Many Uses of Tar.

Poultry raisers seem to have failed to learn the value of tar. It is valuable in many ways, says C. W. Norris in the *Epitomist*. I am led to believe that to tar the fence around the poultry-house, instead of whitewashing, will be much better. It will contribute largely to the durability of the wood, protecting it from storm and time. It is in the poultry-house that the value of tar is the greatest, for it conduces greatly toward healthfulness. When cholera makes its appearance, we would advise, first, a thorough cleaning of the house, next, an application of tar on all the joints, cracks and crevices of the inside of the building, and then plenty of fresh whitewash properly applied. The tar absorbs or drives away the taint of disease, and makes the premises wholesome. The smell is not offensive, in fact many people like it, and it is directly opposite to unhealthy. To vermin, lice, etc., the smell of tar is very repulsive, and but few will remain after you have tarred the house. A neighbor of ours was once troubled with chicken cholera, and by adopting the above, in connection with removing affected fowls, he soon put a stop to its ravages. A small lump of tar in the drinking water supplied to the fowls will be found beneficial. It is also very beneficial to the human system in case of consumption, bronchitis and severe colds.

Poultry Notes.

A SANDY soil is the best location for a poultry yard.

THE growing fowls should have a change in the grain ration every week.

GESEES lay three times a year, and as many as a dozen eggs each time.

KEEPING the nests dark will often prevent the hens from eating the eggs.

TWO WEEKS is long enough to make a fowl fat if highly fed with a fattening ration.

AIR-SLAKED lime freely used in the poultry quarters will destroy unpleasant odors.

THE late-hatched turkeys can nearly always be given a fresh range much younger than those hatched earlier.

AFTER the chickens are six weeks old there is a steady gain on the part of the large breeds over the small ones.

WHERE the poultry are allowed to shift for themselves and are given the range of the farm they often prove a nuisance.

DRY earth is the best deodorizer known. It is also the best absorbent to preserve the manure in the least offensive way.

In the Dairy.

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

Dairy School.

A strong effort will be made during the coming session of the Legislature to get an appropriation to establish a dairy school in connection with the State Agricultural college, at Manhattan. This action will be heartily approved by the dairymen in Kansas, who have been advocating such a movement for several years past. In asking the State for money to build up any new enterprise it will be necessary to show some tangible evidence that the request comes from persons who expect to be benefited by such an outlay. As further proof that a dairy school is demanded by those who would be most interested in such an institution, the dairy editor of the *KANSAS FARMER* calls upon every man and woman in the State who feels the need of a dairy education to signify their wishes by mailing a postal card to this office. It is hoped that young ladies, as well as gentlemen, will take advantage of this call.

Dairy Association Notes.

The association was called to order at 10:30 a. m. on Wednesday, the 21st, with more than the usual attendance. Hon. J. G. Otis made the address of welcome, which was responded to by Mr. C. F. Dexter, of Chicago. President Nissley read his annual address, which was short and full of good points.

The following prominent persons from outside of the State were in attendance: C. F. Dexter, of the Merchants' Dispatch Transportation Co., Chicago; A. E. Anderson, representing John C. Mahr & Sons, commission merchants, New York; J. H. Monrad, of the *National Dairymen*, Kansas City; W. F. Farrington, Chicago, representing Worcester salt; Frank Bair, Elgin, Ill., representing De Laval Separator Co.; J. Y. Sawyer, Chicago, representing Davis & Rankin Building and Manufacturing Co.; E. O. Sharples, Council Bluffs, Ia., representing Sharples separators; H. C. Parker, Kansas City, representing Merchants' Dispatch Transportation Co.; Ed. Sudendorf, Elgin, Ill., representing Wells, Richardson & Co., butter color; Ed. F. Davis, Kansas City, representing refrigerator transportation.

Prof. C. C. Georges, of the State Agricultural college, was a visitor and is down for a paper on "Dairying in Denmark."

Mr. J. E. George, the famous butter-maker of Burlingame, Kas., was a visitor at the meeting for the first time.

F. D. Coburn, Secretary of the State Board of Agriculture, was a visitor and made a short address before the association.

Mr. J. L. Hoffman, of Newton, was put in charge of the dairy exhibit. More than the usual amount of butter and cheese has been entered for premiums, and the association awards will be made this year on the pro rata plan.

The *National Dairymen* furnished Miss Nellie M. Kelsea, stenographer, to take down the proceedings of the association.

A novel feature introduced by the association this year is the offer of \$10 by P. M. Sharples to the butter-maker that can prove he is the best-looking butter-maker in the State.

Mr. Newberry, general agent of the *KANSAS FARMER*, is attending the

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meeting. He was one of the first organizers of this now important Kansas industry.

The Committee on Resolutions consists of A. E. Jones, Topeka; H. J. Newberry, Newton, and E. N. Garber, of Holton.

Albert Griffin was an interested attendant at the evening session.

In the evening A. W. Orner, of Hesston, read a paper on "Ripening Cream," which brought out an interesting discussion on the relative merits of sweet and sour cream butter.

Mr. Nissley, in his address, referred to the oleo question, which is just now agitating the dairymen of Kansas and of all the Western States, and recommends that imitation butter be not colored.

Secretary Coburn, of the State Board of Agriculture, congratulated the association on the work it was doing, and expressed a desire for closer communication between the association and the board, and tendered the services of himself and his department to the furtherance of the dairy interest.

A full report of the meeting will be given later on.

Asked and Answered.

EDITOR KANSAS FARMER:—Which is the better ration for milk cows with plenty of hay and other roughness, shorts or wheat bran, and what do you consider a fair daily allowance? Please reply through the *KANSAS FARMER*.

A. T. ELLISON.
Piqua, Kas.

In point of economy, considering the price of feeding stuffs, bran or shorts would not furnish a desirable milk ration; whether purchased outright or grown on the farm, nothing at present is nearly so cheap as ground wheat, and certainly nothing within itself comes as near being a perfect feed as this cereal. But in order to furnish all the requirements of animals in the way of supplying bone, muscle and tissue, and putting on fat, the ideal ration would be ground peas or corn meal, wheat chop and bran. This, fed in the proportion of one part of corn or pea meal, one part wheat, and two parts of bran, makes a first-class milk or butter ration. If straw or corn fodder be used instead of hay for "roughness," a small quantity of oil meal will be needed to balance the highly carbonaceous nature of the dry stuff, which is deficient in protein. From a large number of reports obtained by the State Board of Agriculture, wheat fed to milch cows gave highly satisfactory results. From four to six quarts of the above mixture, varied to suit the age of the cow and the period of lactation, given twice a day, will satisfy the most exacting dairyman. Keep the cows warm and smooth their coats every day with the card and brush.

\$100 Reward \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages, and that is catarrh. Hall's Catarrh Cure is the only positive cure known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer one hundred dollars for any case that it fails to cure. Send for list of testimonials.

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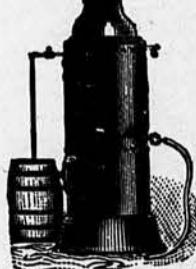
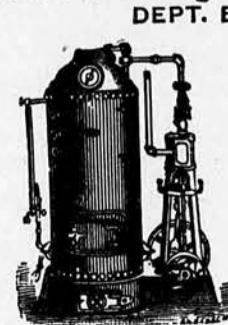
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LIVE STOCK FIELD NOTES.

Mr. T. E. Martin, whose farm is west of Ft. Scott, Bourbon county, is founding a strong herd of registered Poland-Chinas, and proposes to assist in raising the standard of swine husbandry in southeastern Kansas. There are now twelve registered females among the aged brooders, of the best families. Doing service at the head of the herd is the young chap Royal Perfection (Vol. 9), sired by King Perfection 22087 S., he by King Perfection 21847 S., out of Moorish Bess 21 66470; dam Tecumseh Model. He is a grand good one and something more than ordinary is expected of him. His breeding is all that one could ask. His sire, it will be remembered, won first in sweepstakes in a strong ring at the late St. Louis fair. In close company is the youngster Black Prince (Vol. 9), bred by B. R. Adamson, of Ft. Scott. He was sired by Black Stop 10550 S., dam Ellen Countess (24533). His sire is a son of the noted World's Fair winner, Short Stop 16853, exhibited by the Dorseys. The 240-acre farm shows good tilth and bears all the marks of good modern husbandry, and if the future operations and plans laid out by Mr. Martin prove only ordinarily successful, and the produce of the brooders that are of Adamson, Taylor, Baldridge and Risk breeding counts anything for success, then Martin's herd will be better known in the future.

The seeker after Berkshires will find a well-founded herd on the 400-acre farm of John W. Bell, that lies near the city of Paola. Mr. Bell breeds horses, Jersey cattle and Berkshire swine; also uses Poland-Chinas in breeding cross-bred swine as stockers and feeders. The first pure-bred registered Berkshires were brought on the farm in 1892 from Gentry's Wood Dale herd. At the head of the herd is Kansas Duke 26819, by Lee Duke II. 23852; dam Beauty F. 19951. He is, in his conformation, a sure-enough Berkshire, and weighs in his everyday breeding coat over 800 pounds. In his scale he measures 75 inches in length and stands 36 inches in height; front bone 8½ inches, rear bone 9½ inches. He is assisted by the yearling Lord Wellington 27105, by Miami Duke 24389 and out of Stumpy Duchess XIII. 21282. He weighs in only ordinary condition over 500 pounds. He is a grand, long, even, active fellow, and his sons and daughters at once place him up among the toppy and profitable sires. Keeping these older fellows company is a yearling farrowed in June, 1893, sired by Kansas Duke and out of Mary Lee III. 22677, that will be spared if some one wants a well-bred and good individual Berkshire. There are yet two select youngsters and a few good gilts that could go now at any time. Among the more highly prized harem queens is Mary Lee III. 22677, and Paola Belle 29952, perhaps the favorite female of the herd, is by Kansas Duke and out of Mary Lee III. The largest one of the bevy of harem ladies is Royal Beauty LXIII. 27330, by Black Prince 25716; dam Royal Beauty XXX. 22678. The reader will, on reviewing the names and record numbers, readily recognize that the females are of Gentry's breeding. One young lassie deserves a mention—Minnie Oxford, by Victor Duke 25715; dam Oxford Belle XXX. 27560. She is sure to be placed in the final show-yard leet and in company with Paola Belle II., by Kansas Duke and out of Mary Lee III., make a pair of strong show-yard competitors. Space forbids that individual detailed description that the middle and more aged members of the herd deserve. In conclusion, will say that the visitor will find a promising lot of youngsters coming on that are well-bred and the conformation make-up of the herd of the modern Berkshire regulation standard.

Among others in eastern Kansas engaged in breeding fine stock we take pleasure in "stock gossiping" a little about the herd of fifty-five pure-bred Poland-Chinas belonging to Mr. D. M. Cherry, whose farm lies in Miami county, near Paola. He is gradually working up to the standard arrived at by the modern swine-breeder in having the best obtainable. The aged harem kings used during the past year were Lail's Victor Pony (Vol. 9), sired by Lail's Victor and out of Tecumseh's Maid. Many of the younger individuals in the herd were sired by the great four-year-old breeder Hurrah, bred by one of Franklin county's successful breeders, I. L. Whipple. Hurrah was sired by Combination 3207 S. and out of Juliet's Gold Drop (9446). The expectant coming pig crop will be mainly by Lord Corwin 6th 8464 S., by Lord Corwin 4th; dam Highland Beauty (7905). The get of four other sires will appear later on, and the visitor will find quite an array of select breeding among the youngsters. It is, perhaps, safe to say that the strongest individual re-enforcement to the herd will be the young fellow that will arrive in a few days from one of Ohio's greatest and most noted herds. He will come carrying credentials as one of the sons of the noted World's Fair prize-winner, J. H. Sanders 17219 O., that won first in class for boar 3 years and over, first boar and three sows over 1 year, first boar and three sows bred

by exhibitor, and sweepstakes boar, any age, bred by exhibitor. The youngster's dam, Queen Wilkes 82494 O., is proving herself a prolific and profitable breeder. Among the harem queens are several descendants of Bruce's Fay, she by Bruce 2058 S. and out of Fay (6886). There are also two daughters of Lady Peffer by Perfection B. 5485 S., out of Zenda's Corwin (11914). Another one well up in the front array is Paola Belle, by Butler Chief 4648 S., dam Whipple's Fay (5902). Such is her high character that two of her daughters have been retained in the herd for future usefulness. Paola Belle was shown in strong company at the Miami county fair last fall and won first in class as aged sow. Among the new-comers from other herds that lately have been quartered on the farm are two from Killough & Sons, of Richmond, and one from E. T. Warner, of Princeton, Kas. In the fall of 1894 litter array is one of eight out of a daughter of Paola Belle that were sired by Lail's Victor Pony. More will be given in a future stock gossip notice concerning Mr. Cherry's herd and his methods of breeding.

Among the Franklin county, Kansas, breeders visited last week by the writer was the firm of H. Davison & Son, of Princeton. The senior member of the firm has had fifteen years of practical experience in breeding registered Poland-China swine and now has one of the best herds in the State. The ten aged brooders now in the herd belong mainly to the Corwin and U.S. families, with a strong array of Tecumseh strain, of which several gilts have been retained for future usefulness in the herd, that were sired by the very excellent, deep, wide and low-down harem king, Business 11637 C., sired by Square Business 28168 O., he by Minority 18471 O., and he by Success N. 1147; dam Corwin Lass 65818 A., by Adam 4299 and out of King's Best 2456. He is assisted by Guy Wilkes 3d 12131 C., he by Guy Wilkes 2d 17777 O., and he by George Wilkes 21281; dam Irma 45232 O., she by North Star and out of Courtney 4th 38922 O. Among the late re-enforcements that have been added is the young fellow Scrub Hog (Vol. 10), sired by Hadley's Perfection 29899, he by One Price 98639, out of Hadley's Model 44998; dam Daisy Queen 6th 85156. Business is in his two-year-old form, having been farrowed September 27, 1892. Guy Wilkes 3d shows up in his yearling form since February 20, 1894, and the youngest one in yearling form since October 9, last. A still younger little chap that was farrowed March 31, 1894, bred by T. A. Pugh, of Ohio, lately came to the Princeton herd; was sired by Made to Order 12073 S., he by Souvenir 9421 S.; dam Tecumseh Girl 3d (26392), she by U. S. Tecumseh 9422 S., out of Clarar (20382). Fifteen of the thrifty, mellow, broad-backed gilts that were sired by Business and Guy Wilkes are being bred to Scrub Hog and the son of Hadley's Perfection. Among the young boars fitting and about ready to go out are four of February and March farrow, two by Guy Wilkes and the others by Christmas Gift 22239 A., by Dorsey's Glory 21919 A.; dam Anna 66920 A. In the division of gilts are some March and April farrow that are by Business and Guy Wilkes. The value of these two sires is very satisfactorily demonstrated in four extra good fall litters showing groups of strong, wide-backed little ones. The junior member of the firm, Master Thomas, though young in years takes great interest in all that pertains to the herd and its breeding, and possesses that degree of liking for the business which every parent engaged in all branches of husbandry should endeavor to instill in the minds of those who are to become the soil-tillers of the coming generation.

Among others visited by our live stock field man last week was Mr. V. R. Ellis, of Gardner, Johnson county, Kansas. His herd of Short-horn cattle, that has been favorably known for many years, now consists of thirty-eight head, whose female representatives belong to the Rose of Sharon, Elizabeth, Young Mary, Galatia and Miss Mott families. All 2 years old and under are by the broad, blocky, deep-meated bull Gold Dust 108081, he by Master Primrose 93750; dam May 19th (Vol. 29, p. 864), and she by Duke of Missouri 26319. All the young heifers of breeding age have been bred to the yearling Godwin 115676, by Imp. Spartan Hero 77932; dam Imp. Golden Thistle (Vol. 26, p. 792). The reader will learn, on looking up his extended pedigree, that he is one of the best of those descended from the breeding of the noted Scotch Short-horn breeder, Amos Cruckshank. He was bred by Col. Harris, of Linwood, is a roan in color, a mellow, sappy fellow, and as deep, wide and blocky as one could wish for. When Mr. Ellis purchased him, last spring, at the Harris clearance sale, this youngster was considered by many of the breeders present the third best one in the sale. All the young fellows have left the farm except two very promising weanlings by Gold Dust. One of them is out of Duchess 39th and the other one a son of an Elizabeth cow. Both will be ready for service next spring and are worthy the care of some ambitious mas-

ter. In the female division are ten heifers under 1 year and over that are sure to attract the attention of the visitor. Our field man's attention was called to the exhibit of dairy products, at the late fair held at Edgerton, Johnson county, where the first premium for best butter went to Mrs. V. R. Ellis, and whilst on the farm last week six very excellent registered Jersey cows were looked over, which soon explained, in connection with her ambition and skill, why the blue ribbon was carried home to the Ellis homestead. While Mr. Ellis exercised his skill and judgment at breeding Short-horns and Berkshire swine, his better half increases the annual income on the farm's ledger with prize Jersey butter and the profits of raising pure-bred Plymouth Rock and Light Brahma chickens. The Plymouths are mainly from the pens of the noted breeders, Conger and Emery, and the Brahmans from Phelps, of Massachusetts, and Emery. She will select two strong pens of each breed for the coming season's trade. A new and rather expensive poultry house has just been completed, yet on account of the hard times she will supply her customers with eggs in season at \$1 per setting of thirteen.

Mr. J. S. Magers, proprietor of the Bourbon County herd of Berkshires, whose farm lies in Bourbon county, Kansas, near Arcadia, has, perhaps, the highest toned Berkshire herd in all Kansas. His extensive sales during the year have reduced the herd to about fifty head, all ages, that are now headed by Imp. Western Prince 32202, he by Lord of the Isles, that won first and champion cup over all the only time that he was shown in England. The dam of Western Prince, Highclere B., has a great prize record, having won the three champion cups offered in all England in 1893. His get in the youngster division all show their royal breeding, and such is their high Berkshire quality and individuality that they are sought for by every breeder of the up-eared kind that knows something of their merits. Among the ten brooders is a full sister, Western Princess 32203, also two full sisters of Majestic Lad 32201, that were bred by Metcalf Bros., of New York. They were sired by Imp. Royal Hayter 30457 and out of the Imp. Majestic 30459, that won second in class at the World's Fair. Then comes Chicago Belle and Metcalf's Majestic Lady, sired by Royal Hayter and out of Majestic. Royal Hayter was pronounced, by the Berkshire breeding fraternity, the best boar in all England in April, 1893, and immediately afterward, on his arrival in America, he won first in strongly contested prize rings at the Ohio and New York State fairs. One that is sure to be placed in the front line is Elma Beauty, by Royal Hayter and out of Hamlin's Beauty, that was never beaten in the show ring and weighed, at 15 months of age, over 600 pounds. The visitor to the Magers farm will find one of the cleanest and thrifty looking herds in all his rounds, and further, that all show vigor and strength of constitution. Mr. Magers believes that the female should have no set-back, and consequently does not breed his gilts until they reach between 12 to 15 months of age. Every breeder whose patience tires and can't wait learns sooner or later that the constitutional vigor of his brooders is not what it should be when bred too young, and that however much care and rest the little young mother may have after her first farrowing she is never what she ought to be—a strong, growthy, maternal kind of a mother, whose little ones, when they come, are what may be termed fully developed pigs and are more apt to be even litters and start right off with a better inherited constitutional vigor. Among the youngsters belonging to the spring of 1893 farrow are four oars and five gilts that are about ready to go out. In the brooder division are eighteen sucklings of October farrow of the broad-backed kind that the Berkshire breeder is looking for and can raise if he has the courage to pay a little more for his foundation stock or re-enforce and judiciously incorporates new blood into his herd.

One of the best known herds of Poland-China swine in eastern Kansas is that bred and owned by J. R. Killough & Sons, near Richmond, in southern Franklin county. It now consists of about 125 head, all ages, and is composed of the leading strains or families. The harem is now presided over by the twenty-months Onward (Vol. 9),

that was sired by McKinley 8777 S., he by Tariff Reform 4423 S.; dam Black Bess (20139), she by Tom Crowder 11428 S. He is assisted by the eighteen-months Little Giant (Vol. 9), by Solidity 10479 S., and he by Adam's Chip 21 10480; dam Broad Back (20138), by Royal Duke 7363 S. Next in line comes the fifteen-months Upright Wilkes, by George Wilkes 21281 O., he by King Tecumseh 11959 O.; dam Luyster's Lady 69922 O., and she by Luyster's Choice 27443 O. Among the strong array of harem queens is Black Bess (20139), farrowed June 18, 1891, sire Tom Crowder 7361, out of Choice (16677). She now has a litter of five October youngsters sired by Little Giant. Another matronly little brooder sure to attract the attention of the visitor is Little Bess (24453), a March of 1892 farrow, by Duke 7362 S.; dam Black Bess. She is raising a litter of broad-backed little ones by Little Giant. Queen Bess, a full sister, is one of the finest and well up to the front array of the herd. One of the most prolific and profitable females in the herd is the two-year-old Seaskin (24450), by Duke 7362 S. and out of Choice (16677), that is now raising a fine litter of five October pigs. One of the best conformed, according to the ethics of modern Poland breeders, is the three-year-old Ruby (20135), by Duke 7362 S. and out of Mattie K. (16679). She is one of the kind sought out and landed in the final short leet for show ring honors. She usually farrows and raises large litters, but meeting with a mishap she is raising only four of her last litter by Upright Wilkes. Too many good ones in the brooder division for a brief notice like this, hence we will take up the younger ones for a moment. They were sired mainly by Solidity 10479, and collectively number about thirty that are of last spring and summer farrowings. Among them are some extra good ones that are ready to go out into the hands of a new master. There are several good, broad-backed, deep-hammed and mellow young boars that are sure to catch the eye of the visitor. The reader will readily understand that the pedigree and blood lines are first-class and will find, if he visits the herd, that a nice, strong strain of individuals of both sexes are there from which to make selections. The fall farrowings are doing nicely and at this time promise something more than ordinary for next spring's trade. Those ready to go now are good enough for the highest of high-toned breeders, and thus far this season of the nearly 100 head that left the farm no complaint has been entered up against the come-out of their usefulness or individuality.

W. P. BRUSH.

Pond's Business College, Topeka, offers to give farmers' boys three months' tuition this winter for only \$15, and then next year, if they wish to come again and finish the course, they can do so for only \$15 more. Now, boys, here is your chance.

MISCELLANEOUS.

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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. ORR, Manhattan, Kas.

SICK HORSE.—I have a horse that was taken sick suddenly while at work. He looked back at his flanks and bloated, and I gave him soda and water for colic, but it did him no good; then one of my neighbors said it was his kidneys, so I gave him some water-melon-seed tea, but that did no good. Then I gave him three and a half ounces of sweet spirits of nitre and that relieved him at once. Now what was the matter? What can I do if he has another attack? Can I feed him anything to prevent it? E. E. L. Agra, Kas.

Answer.—Your horse simply had an attack of flatulent colic from indigestion. If he has another attack you can give him sweet spirits of nitre, 2 ounces; sulphuric ether, 1 ounce; laudanum, 1 ounce; water, 1 pint; mix and give as a drench at one dose. If the pain is not relieved in one hour repeat the dose. After a severe attack of colic an animal should have from 6 to 8 drachms of Barbadoes aloes, dissolved in a pint of warm water and given as a drench to cleanse the bowels. The best way to prevent colic is to feed nothing but good grain and hay, and give it regularly, always watering before feeding. A small quantity of salt should always be kept where the horse can get it at will.

NASAL DISCHARGE.—I have a mare, 4 years old, that had the distemper two years ago, and in the winter there came a lump on the left cheek about the size of a walnut, and in the following summer she began to discharge from the left nostril. A dentist examined her and said she had bad teeth; he extracted the third molar, which was decayed some, but she got no better. I then had the fourth molar taken out, which was also ulcerated, but still she got no better, and the gland under the jaw was swollen a little. About a month ago she commenced to discharge from the right nostril also, and the swelling in the gland is reduced some. The discharge has a very bad odor. What would you advise? J. H. N. Ness City, Kas.

Answer.—While in most cases of prolonged nasal discharge there is some foundation for suspicion of contagion, yet it is my opinion that in your case the teeth were the first cause of the trouble, and had the enlargement been opened on the outside and all diseased products removed the wound would have been healed and the discharge stopped long ago. The only remedy will be to have a competent veterinarian operate upon the jaw and remove the diseased parts, which can only be done by trephining from the outside. As the diseased condition has existed so long it is likely that pus has become lodged in all the sinuses on that side of the head, hence it will require some care to get everything removed. This operation can only be performed by some one who understands the anatomy of the parts.

PIGS COUGHING.—My pigs cough quite violently and persistently, but otherwise seem healthy and thrifty. It seems worse with small pigs and seems not to be in any way connected with their sleeping quarters, as they cough wherever they sleep. I purchased two pigs in the summer, three or four months old, which brought a cough with them, and it is since then that mine have been coughing. They mingled with pigs of similar age, but young pigs, not the offspring of these, cough likewise. Many that have coughed have ceased entirely or nearly so. In young pigs especially it is not unlike whooping cough. What is the matter? W. H. C. Topeka, Kas.

Answer.—Coughing in pigs is the result of so many different causes that it is often difficult to form a diagnosis without an examination. From your own description you seem to think the disease due to contagion. The violence of the cough and its resemblance to whooping cough is symptomatic of

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either a mild attack of swine-plague, or of verminous bronchitis, and yet either disease could scarcely be so mild as to permit the pigs to be in their otherwise healthy condition. If it is the latter it may be determined by placing some of the frothy mucus, coughed up by the pigs, under an ordinary microscope, when the small, hair-like worms (*Strongylus paradoxus*) will be seen. A good magnifying glass may answer the purpose if the mucus is thinned with a little warm water first. If worms are found they will be difficult to get rid of; but it may be done by placing the pigs in a close room and burning sulphur in small quantities and causing them to inhale the fumes for half an hour. The fumes must not be so strong as to cause coughing. It should be repeated two days in a week for three weeks. If no worms are found give each pig half a tablespoonful of pine tar on its tongue once a day for several days. The tar may be dissolved in warm water and given in feed.

A good remedy for intestinal worms is wood ashes and salt mixed in equal parts and kept in the pen. Or, concentrated lye may be given in swill in the proportion of a tablespoonful to each ten hogs.

Gossip About Stock.

The annual meeting of the American Guernsey Cattle Club will be held at the Flith Avenue hotel, New York city, on Wednesday, December 12, 1894, at 10:30 a.m. At 1 p.m. the meeting will be open to all Guernsey breeders, whether members of the club or not. At this time the President's address will be read, to be followed by a discussion of questions regarding the breeding and handling of Guernseys and any other matter brought before the meeting. A good attendance is hoped for.

M. H. Alberty, of Cherokee, Kas., writes KANSAS FARMER as follows: "Appreciating the value of printer's ink, I desire now to increase my advertisement to three times its present size. I have made recent sales of four Holsteins, two pairs of Duroc Jersey Reds and five gilts. In Poland-China department sales have been very good, with many inquiries for descriptions and prices. My pigs are doing fine." Notice the new advertisement of Mr. Alberty's stock, and then, if you want a difficult task to perform, try to find a copy of KANSAS FARMER which does not have an advertisement for him in it during the past six years.

W. S. Tough & Son, managers of the Kansas City Stock Yards Co.'s horse and mule department, report the market during the past week as showing considerable of an increase in the volume of business. Receipts were unusually large and there was a fair attendance of buyers. Prices, however, suffered considerably, as the offerings were hardly up to the standard in quality. Tuesday's market opened up quite brisk, and all the shippers who were fortunate enough to get in on that day made a little money, but Wednesday afternoon prices began to fall off and Thursday it was simply awful, \$7.50 to \$10 lower. There was more demand for the cheaper grades of blocky chunks, running from \$20 to \$25, than anything else. Southern dealers claim that as cotton is so cheap it is impossible to sell a planter a horse for over \$40 or \$50. The Eastern trade is very quiet, absolutely no demand from this district. Some little trading in mules, but there was no perceptible change in prices. Old dealers in the South, who have been regular dealers in mules, claim that they can buy horses so much cheaper than mules that it does not pay to ship them. This is going to very materially hurt the mule market during the coming season. It takes an extra nice mule with good hair, flesh and plenty of quality to bring anything like a marketable price.

See Chicago Sewing Machine Co.'s advertisement in next week's issue.

Interesting circulars sent to farmers. Send name to Bureau of Immigration, Spokane, Wash.

MARKET REPORTS.

Kansas City Live Stock.

KANSAS CITY, Nov. 26.—Cattle—Receipts since Saturday, 7,980; calves, 676; shipped Saturday, 3,254; calves, 106. The steer market was very dull and about steady; cows weak; Texas cattle active and strong; calves, slow. The following are representative sales:

DRESSED BEEF AND EXPORT STEERS.
20..... 1,445 \$4.50 | 42..... 1,319 \$4.10
21..... 1,264 4.00 | 20..... 1,217 3.49
11..... 1,245 3.80 | 2..... 1,403 2.75

WESTERN STEERS.

121 "L. E." 1,393 \$3.25 | 13 N. M.... 766 \$2.05
9 Phd.... 984 2.25

COWS AND HEIFERS.

28..... 971 \$3.03 | 14..... 844 \$2.99
2..... 1,145 2.83 | 80..... 998 2.00

16..... 1,028 2.83 | 1..... 1,220 2.40

1..... 1,340 2.40 | 2..... 1,205 2.00

3..... 1,100 1.83 | 2..... 940 1.80

3..... 1,020 1.75 | 5..... 1,014 1.70

1..... 920 1.40 | 1..... 870 1.40

1..... 800 1.30

WESTERN COWS.

17 Phd.... 891 \$2.10 | 146 Phd.... 787 \$1.85
151 Phd.... 781 1.85

TEXAS AND INDIAN STEERS.

4..... 1,117 \$3.00 | 2..... 1,020 \$2.70

880 2.25 | 8..... 790 2.25

61..... 384 2.20

TEXAS AND INDIAN COWS.

51..... 871 \$2.15 | 19..... 813 \$2.15

800 2.05 | 18..... 822 2.05

6..... 720 2.00 | 41..... 786 2.00

18..... 800 2.00 | 109..... 749 1.90

STOCKERS AND FEEDERS.

52..... 992 \$3.25 | 6..... 1,015 \$3.25

1,044 3.17% | 106..... 705 2.80

690 2.80 | 50 yr..... 474 2.00

11 N. M.... 1,031 2.25 | 80 yr..... 663 2.65

Hogs—Receipts, since Saturday, 6,087; shipped Saturday, 613. The market was 5 to 10c lower. The top was \$4.50 and the bulk of sales were \$4.20@4.40; against \$4.55 for top and \$4.30@4.45 for bulk Saturday. The following are representative sales:

61..... 293 \$4.50 | 72..... 272 \$4.45 | 65..... 288 \$4.45

66..... 243 4.45 | 58..... 318 4.45 | 60..... 272 4.45

85..... 244 4.42% | 81..... 254 4.40 | 20..... 264 4.40

82..... 283 4.40 | 44..... 273 4.40 | 50..... 318 4.35

75..... 251 4.35 | 437..... 251 4.33 | 61..... 233 4.35

89..... 219 4.35 | 61..... 282 4.33 | 81..... 231 4.35

92..... 213 4.35 | 83..... 236 4.33 | 76..... 271 4.35

82..... 243 4.35 | 73..... 210 4.33 | 51..... 227 4.35

80..... 151 4.31 | 170..... 225 4.38 | 63..... 221 4.32%

162..... 237 4.32% | 80..... 237 4.30 | 97..... 196 4.30

74..... 207 4.30 | 41..... 199 4.30 | 48..... 247 4.25

55..... 213 4.20 | 42..... 170 4.20 | 94..... 211 4.20

36..... 218 4.20 | 52..... 204 4.15 | 65..... 198 4.10

16..... 182 3.85 | 54..... 182 3.75 | 4..... 290 3.80

4..... 192 3.0 | 79..... 158 3.50 | 2..... 155 3.45

1..... 230 3.40 | 28..... 112 3.23 | 5..... 138 3.10

29..... 123 2.50 | 8..... 106 2.23 | 44..... 80 3.00

Sheep—Receipts, since Saturday, 1,805; no shipments. A large part of receipts were direct to packers, but few were on sale. The market for good sheep was fairly active and steady to strong, while common were hard to sell. The following are representative sales:

152 lambs.... 60 \$3.00 | 77 mut..... 88 \$2.25

120 Col. mut.... 82 1.65 | 109 mut..... 75 1.75

Horses—Receipts, since Saturday, 11; shipped Saturday, 11. The market was quiet.

Chicago Live Stock.

CHICAGO, Nov. 26.—Hogs—Receipts, 55,000; official Saturday, 16,600; shipments Saturday, 8,211; left over, about 14,000; quality fair; market slow; best heavy and mixed lots, steady; other grades, weak and 5c lower. Sales ranged at \$3.60@4.30 for light; \$4.05@4.30 for rough packing; \$4.05@4.60 for mixed; \$4.35@4.80 for heavy packing and shipping lots; pigs, \$2.35@3.90.

Cattle—Receipts, 20,000; official Saturday, 6,057; shipments Saturday, 1,533; market dull; prices 10c lower.

Sheep—Receipts, 15,000; official Saturday, 1,156; shipments Saturday, 718; market slow and weak.

St. Louis Live Stock.

ST. LOUIS, Nov. 26.—Cattle—Receipts, 3,300; market steady; fair to good native steers, \$3.25@5.00; stockers and feeders, \$2.00@3.40; Texas steers, \$2.40@3.30; Texas cows, \$1.60@2.25. Hogs—Receipts, 7,000; market 5@10c lower; heavy, \$1.35@2.45. Sheep—Receipts, 1,500; market steady.

Chicago Grain and Provisions.

Nov. 26. Opened High'st Low'st Closing

Wheat—Nov.... 54% | 54% | 54% | 54%

Dec.... 53% | 51% | 53% | 55%

May.... 59 | 60% | 58% | 60%

Corn—Nov.... 48% | 48% | 48% | 48%

Dec.... 47 | 47 | 46% | 47

May.... 48% | 48% | 48% | 48%

Oats—Nov.... 28% | 28% | 28% | 28%

Dec.... 28% | 28% | 28% | 28%

May.... 32% | 32% | 32% | 32%

Pork—Nov.... 12 07% | 12 07% | 12 07% | 12 07%

Jan.... 12 02% | 12 07% | 12 00 | 12 07%

May.... 12 35 | 12 40 | 12 30 | 12 40

Lard—Nov.... 6 97% | 6 97% | 6 87% | 6 95

Jan.... 6 97% | 7 02% | 6 95 | 7 02%

May....

200 EGG INCUBATOR ONLY \$10.00
F. M. CURYEA, Box 151, Lincoln, Neb.



INCUBATORS & BROODERS
Brooders only \$5. Best & Cheapest
for raising chicks. 401st Premiums
4000 Testimonials. Send for Cat'l'g.
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absolutely self-regulating and
to hatch 90 per cent. of the fer-
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Most perfect machine, best material
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Send 40c for large catalog.
Testimonials, etc. High Class Poultry
& Eggs. First Stock Poultry Supplies.
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THE IMPROVED VICTOR INCUBATOR

Hatches Chickens by Steam.
Absolutely self-regulating.
The simplest, most reliable,
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the market. Circulars free.

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J.I.C. DRIVING STILL LEADS THEM ALL.
IT WILL CONTROL THE MOST VIOLENT HORSES.

75,000 sold in 1891.
100,000 sold in 1892.

THEY ARE KING.

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J. F. Davies, Man.



STEEL WEB PICKET LAWN FENCE.
Steel Posts, Steel Rails and Steel Gates; Steel Tree,
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How cheap you can
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MILL? If not, write
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ish you. The "Kaw"
grinds corn and cob,
shelled corn and all
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Especially adapted for
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AGENTS WANTED.
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for stock. Only Root Cutter with
a self-feeding device. Send for
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BELLE CITY FEED AND ENSILAGE CUTTER.
The most perfect
Cutter made. We
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Cutters in all
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A full line of
Tread
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Hand and
Barrel Carts,
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BELLE CITY MFG. CO., RACINE, WIS.



Strongest, Most Durable, Easiest Running, and
in every way
THE BEST FEED CUTTER MADE

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a King.

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porters—guarantee perfect fit, superior workmanship
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Or Hand-Book of Diseases of Horses
and Cattle.

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THE FAVORITE ROUTE TO THE
East, West, North, South.

Through cars to Chicago, St. Louis, Colorado,
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Half Rates to Texas Points!

LOW RATES TO ALL POINTS.

Especially California, Texas and Southeastern Points. If you are going to the Midwinter Fair at San Francisco, if you are going to Texas, if you are going East on business or pleasure—in fact, if you intend to do any traveling, be sure to consult one of the agents of the

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LARGEST All kinds of tools. Fortune for the driller by using our
Adamantine process; can take a core. Perfected Economic
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Mills,
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We manufacture the celebrated TEETZEL WELL AUGER AND ROCK DRILL and the LIGHTNING HYDRAULIC DRILLING MACHINE. The latest improved and fastest driller on record. Rock Tool Rigs, Jetties. Also first-class Well Tools of every description. WRITE FOR PRICES. CATALOGUES FREE. Address Teetzel & Liebendorfer, Ottawa, Ill.

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\$1 and \$1.25 per day. Five minutes ride on
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The most humane, rapid and durable
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THE ELI TWO FEEDS STEEL HAY PRESS TO CIRCLE
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HANDY COBBLER MEND YOUR SHOES
and Boots, Harness, Rubber
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HANDY OUTFIT. 4 best
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Case with order. 50cts. gift
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Express. Nothing equal
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Kansas City to
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1894, the MEMPHIS ROUTE, Kansas
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for all points in South Florida. The
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run every day in the week, leaving
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INDIAN TERRITORY,
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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.

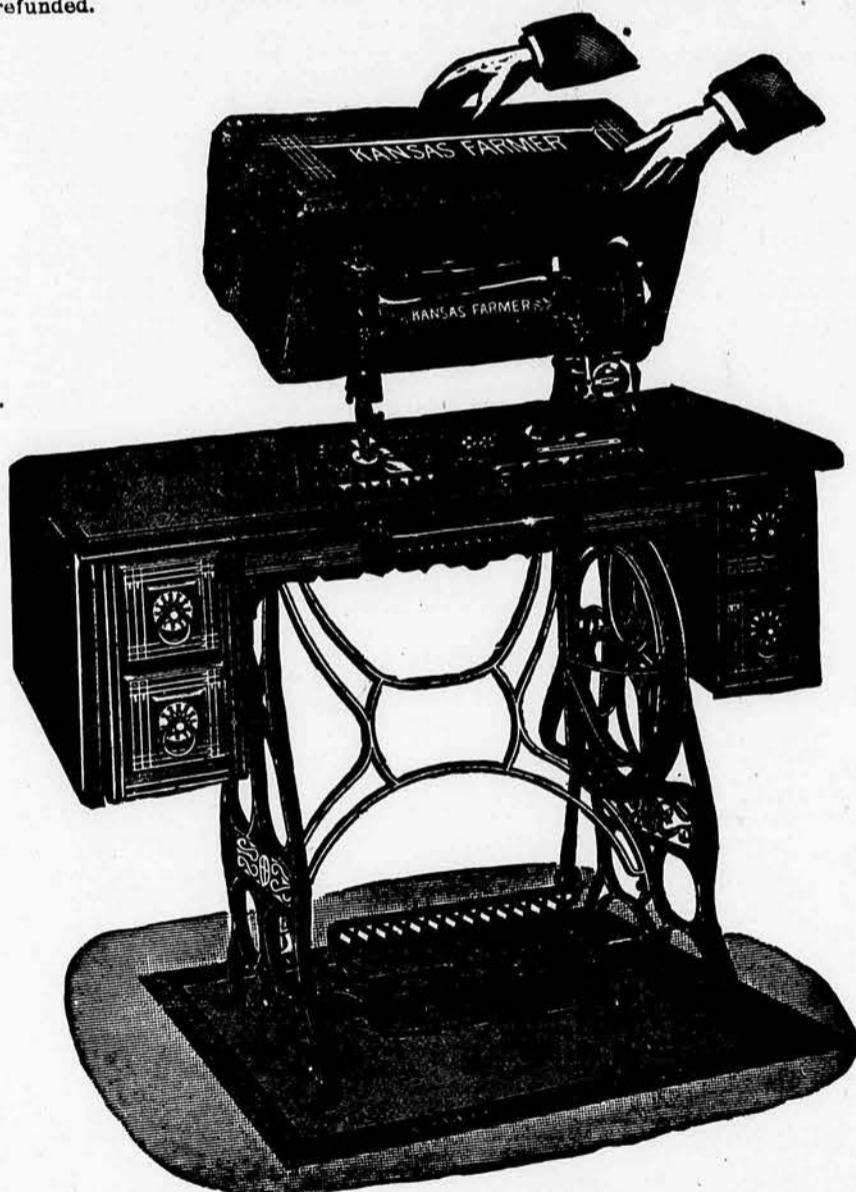
A \$65 Machine, Delivered, including a Year's Subscription to the KANSAS FARMER, for \$20.

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.



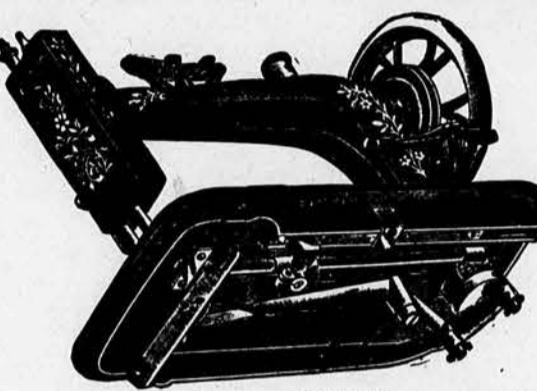
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Traveling agents sell no better machines than ours, and half of them not as good, for prices ranging from \$50 to \$70. Agents will use their best arguments to convince you that our machine is not first-class, and at the same time insist upon your 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 trifling 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

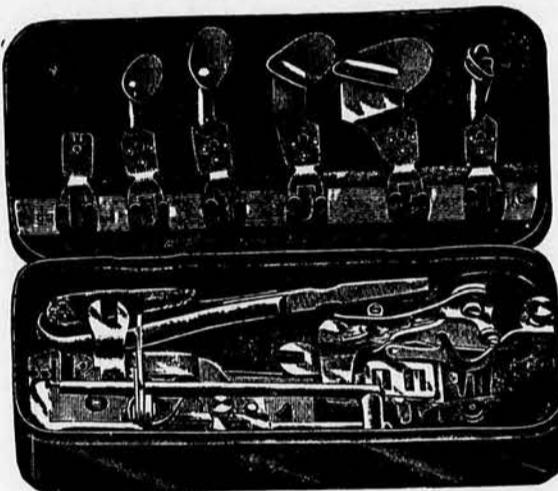
Our New Improved Sewing Machine



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Money Earned
Money Saved Is

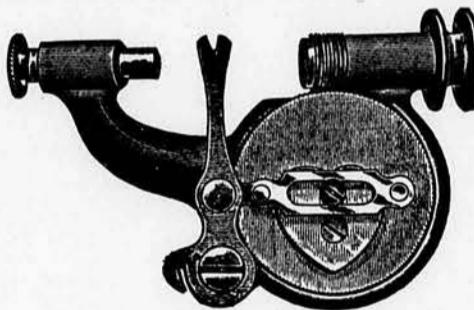
It Pays to
Buy the Best.



BOX OF SELF-ADJUSTING ATTACHMENTS.

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 faller, 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.

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THE AUTOMATIC BOBBIN-WINDER.

The improved automatic bobbin-winder shown in half size in foregoing cut, 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.

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The Cheapest
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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!

FOR SALE—My Chester White herd boar, Ben Buster 6189, he by Gov. Scott and Cady Stanton. He is a fine sire, good on feed and docile. Address C. J. Huggins, Louisville, Kas.

EARLY KANSAS POTATOES—Fifty cents a peck, \$1.50 per bushel f.o.b. C. J. Norton, Morantown, Kas.

FOR SALE—An improved eighty-acre farm, ten miles southwest of Topeka. Good five-room house, barn, corn cribs, 200 bearing apple trees, well, cistern, etc., all in good shape. Apply to Chicago Lumber Co., Third and Jackson Sts., Topeka, Kas.

THOROUGHBRED POLAND-CHINA PIGS—For sale, both sexes, cheap. Call or address Wm. Maguire, Haven, Reno Co., Kas.

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

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

READ—Famous Duroc-Jersey and Poland-China pigs for sale cheap. Great breeders, rustlers and growers. D. Trott, Abilene, Kas.

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

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

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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.

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

WE MAKE A GOOD FARMER'S SPRING WAGON on 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 Western 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—Tecumseh, Square Business strain, cheap. J. D. Ziller, Hiawatha, Kas.

SUNNYSIDE—YAKIMA VALLEY.—Irrigated lands. Produce apples, pears, prunes, peaches, hops, alfalfa. Worth \$30 to \$600 per acre. Twenty acres enough. For map, prices, particulars, write F. H. Hagerty, Sunnyside, Washington.

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.

RED SHORT-HORN BULL CALF—Very fine individual and breeding. Will sell at half price. Also offer some pure Scotch Collie pups. John Grattan, Caldwell, Kas.

WANTED—Car-load of 1894 alfalfa, German millet, cane and Evergreen broomcorn seed. Address Geo. A. Arnold, Box 146, Kearney, Neb.

WANTED—To rent, with privilege of buying, a good farm in eastern half of Kansas. Have a partly improved half section of land in northeast quarter of Nebraska for sale or exchange for stock or land. Address Box 76, Waldo, Kas.

FOR SALE NOW—The choice individual pure-bred Po-and-China boar Guy Wilkes 3d 12181 C., farrowed February 20, 1893. He was sired by Guy Wilkes 2d 17771 O., he by the noted George Wilkes 21281 O.; dam Irma 45242 O., she by North Star and out of Courtney 4th 88922 O. He is a good breeder but I cannot use him in my herd longer, hence will sell him at a reasonable price. If you are after Wilkes blood write or come and see him. H. Davison & Son, Princeton, Kas.

RED POLLED CATTLE—Seventy-five head to select from. Bull calves weigh from 500 to 800 pounds. Will sell at rock-bottom prices. D. F. Van Buskirk, Blue Mound, Kas.

FOR SALE—Choice Light Brahmans, from \$1 to \$3. Mrs. N. Van Buskirk, Blue Mound, Kas.

HOLSTEIN BULL FOR SALE—Calved September 16, 1892. Bred by Whitney. Sire DeVries Prince 10734 H. F. H. B. Dam Missouri DeVries 1864 H. F. H. B. He belongs to a noted milk and butter family. Have used him all I can, hence will sell him cheap to right party. Address D. M. Cherry, Paola, Kas.

SILVER-GRAY DORKING COCKERELS FOR SALE—Exceedingly fine. Also Barred Plymouth Rock cockerels. Mrs. S. H. Engel, Wakefield, Kas.

JONES' PIG FORCEPS.

By mail, postpaid, \$1.50. Agents wanted. Send for circular and terms. D. M. Jones, Wichita, Kas.

THE STRAY LIST.

FOR WEEK ENDING NOV. 21, 1894.

Lafayette county—J. F. Thompson, clerk.

MULE—Taken up by H. E. Bradbury, in Elm Grove tp., October 24, 1894, one black horse mule, 5 years old, some small white spots on each side of neck; valued at \$25.

HORSE—Taken up by Michael Hahn, in Hackberry tp., October 21, 1894, one bay gelding, 6 years old, left ear split near top; valued at \$20.

MULE—Taken up by D. M. Miller, in Hackberry tp., October 26, 1894, one brown horse mule, 13 or 14 years old, fourteen hands high, blind in right eye; valued at \$10.

MARE—Taken up by C. E. Fox, in Hackberry tp., November 9, 1894, one bay mare, 11 years old, fifteen hands high, slit in left ear; valued at \$25.

Shawnee county—Chas. T. McCabe, clerk.

COW—Taken up by F. H. Schone, in Monmouth tp., one red cow, about 7 years old, branded H on left hip, small star in forehead; valued at \$23.

Greenwood county—J. F. Hoffman, clerk.

STEER—Taken up by M. P. Mitchell, in Janesville tp., November 12, 1894, one pale red steer, 2 years old, crop of each ear and right ear split.

Woodson county—H. H. McCormick, clerk.

STEER—Taken up by Owen Dwinney, P. O. Yates Center, one red and white yearling steer; valued at \$12.

Leavenworth county—J. W. Niehaus, clerk.

MARE—Taken up by J. I. Gardner, in Fairmount tp., P. O. Basehor, October 18, 1894, one bay mare, 8 years old, scar on right side of head, scar on each fore leg above the knees, hind feet white; valued at \$12.

FOR WEEK ENDING NOV. 28, 1894.

Cherokee county—P. M. Humphrey, clerk.

HORSE—Taken up by M. J. Alms, in Lowell tp., one dark bay horse, fifteen hands high, black mane and tail, white spot in forehead, both hind feet white.

Lyon county—C. W. Wilhite, clerk.

THREE STEERS—Taken up by Johnson Bros., in Waterloo tp., October 26, 1894, three steers; one red and white spotted, red ears, red about neck, dehorned, 2 years old, valued at \$15; one red and white, white under belly, white in forehead, white tail, cut in left ear, dehorned, 2 years old, valued at \$16; one red yearling steer, white head, little red about eyes, some white under belly, white on end of tail, white hind legs, cut in right ear.

STEER—Taken up by Ross Bros., in Emporia tp., November 19, 1894, red steer, 2 years old, branded 7 on right hip; valued at \$20.

STEER—Taken up by Stephen Wilson, in Jackson tp., November 10, 1894, one red yearling steer with bit out of right ear; valued at \$12.

Sheridan county—J. B. McPherson, clerk.

STEER—Taken up by W. M. Dawes, in Bow Creek tp., September 27, 1894, one red-roan steer, 1 year old, piece taken out of right ear; valued at \$12.

Osage county—E. C. Murphy, clerk.

THREE MARES—Taken up by Ben Bozell, Burlingame, one sorrel mare valued at \$20; two brown mares, one with star in face, valued at \$40.

Morris county—June Baxter, Jr., clerk.

HORSE—Taken up by T. S. Starkey, in Valley tp., October 29, 1894, one black horse, about 8 years old, collar marks on neck; valued at \$30.

Pottawatomie county—Frank Davis, clerk.

MARE—Taken up by E. A. & A. M. Newman, in Pottawatomie tp., P. O. Myers Valley, November 10, 1894, one light roan mare, 3 years old; valued at \$12.

Farm for Sale--160 Acres !

FIRST-CLASS FARM AT A BARGAIN.

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