

KANSAS FARMER

ESTABLISHED IN 1863.
VOL. XXXVII. NO. 14.

TOPEKA, KANSAS, THURSDAY, APRIL 6, 1899.

SIXTEEN TO TWENTY
PAGES—\$1.00 A YEAR.



JAVA 64045, ONE OF THE HERD BULLS AT SUNNY SLOPE FARM, EMPORIA, KANS.

Won first in class at Ohio State Fair, in 1896; first in class at Toledo Tri-State Fair in 1896, also first in sweepstakes over all beef breeds at five of the largest county fairs in Ohio. In 1897 he won second in class at New York State Fair, second at Ohio State Fair; first at the head of herd, Michigan State Fair. In 1898 the get of Java won first and second at New York State Fair, also at Indiana State Fair. He is also the sire of Dolly 5th, shown by F. A. Nave, of Attica, Ind., champion 2-year-old heifer at Omaha, 1898.

Mr. John Hooker, of New London, Ohio, who was the former owner of Java, says in his letter: "I would give more money for Java to-day than any bull in America."

BREEDERS' DIRECTORY.

Cards will be inserted in the Breeder's Directory as follows: Four line card one year, \$15.00; six lines, \$25.00; ten lines, \$30.00; each additional line \$3.00. A copy of the paper will be sent to the advertiser during the continuance of the card.

CATTLE.

HEREFORDS—My females are top selections, out of the best herds of this country. Entire herd of about 30 head of females for sale. Ill health cause for selling. Lord Spencer, Vol. 19, 84318, very best son of Beau Donald 58996, at the head of herd.

T. H. PUGH,
Maple Grove, Jasper Co., Mo.

ENGLISH RED POLLED CATTLE—PURE-BRED. Young stock for sale. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo. Mention this paper when writing.

CENTRAL KANSAS STOCK FARM.—F. W. Ross, Alden, Rice Co., Kas., breeds pure-bred Short horns, Poland-Chinas and Barred Plymouth Rocks. Stock for sale.

SCOTCH SHORTHORN CATTLE—Cows, heifers and young bulls for sale. Herd headed by Imperial Knight 119669 and Duke of Walnut Grove 127010. Inspection invited.

JOHN MCCOY, Sabetha, Kans.

H. R. LITTLE, Hope, Dickinson county, Kans., breeder of Shorthorn cattle. Herd numbers 100 head.

FOR SALE: TWENTY-FIVE SHORTHORN BULLS OF SERVICEABLE AGE.

CATTLE.

NORWOOD SHORT-HORNS—V. R. Ellis, Gardner, Kas. Rose of Sharons, Lady Elizabeths and Young Marys. Richest breeding and individual merit. Young bulls by Godwin 116676 (head of Linwood herd). Sir Charming 4th now in service.

POULTRY.

D. A. WISE, BREEDER OF BLACK LANGSHANS AND PEKIN DUCKS. TOPEKA, KANSAS. Eggs in season. \$1.50 per sitting. Residence and yards south of Highland Park.

Silver Wyandottes.

We are selling eggs from our prize-winners scored by Shellabarger & Savage, \$2 for 15; \$3.50 for 30. White P. Rock eggs, \$1 for 15.

R. F. MEEK, Hutchinson, Kans.

Partridge Cochins and White Leghorns

at Hutchinson show took sweepstakes in Asiatic and Mediterranean classes (silver cup and silver teapot); Shellabarger judge. Eggs, \$2 and \$1 per 15. Write for descriptive circular. Address, J. W. Cook or Carrie A. Cook, Hutchinson, Kans.

CANFIELD'S WHITE PLYMOUTH ROCKS WON first pen, first cock, first cockerel and first hen at the Kansas State Poultry Show, 1899, besides the grand sweepstakes for best ten birds in the American class. Eggs, \$2 for 15, \$5 for 45. M. L. Canfield, Belleville, Kans.

GOLDEN WYANDOTTES AND GOLDEN SEBRIGHT BANTAMS.

Prize-winners at State Show, Topeka, January, 1899. Eggs, \$2 for 15; 30 for \$3.50. Eggs after June 1, \$1 for 15.

L. V. MARKS & CO.,
501 Jackson, Street, Topeka, Kans.

SWINE.

J. U. HOWE, Wichita, Kans., Maple Avenue Herd of J. pure-bred Duroc-Jersey hogs. Choice stock for sale. Reasonable prices. Personal inspection and correspondence invited.

KAW VALLEY HERD OF POLAND-CHINAS—1899 pigs from the following prize-winning boars: Perfect 1 Know, Chief 1 Am, Gem's U. S. Chief and Dick Wainwright. M. F. Tatman, Rossville, Kans.

KANSAS HERD OF POLAND-CHINA SWINE—Has eight yearling sows. They have had pigs and bred to U. S. Tecumseh (20368), he by old black U. S. Also some fine boars by U. S. Tecumseh ready for service; and one Tecumseh-bred boar. Address F. P. Maguire, Haven, Kans.

Silver Spring Herd Poland-China Hogs. Headed by HADLEY'S MODEL T. Bred sows, gilts and boars of choicest breeding for sale. Address WALTER ROSWURM, Council Grove, Kas.

V. B. HOWEY, TOPEKA, KAS.

Breeder and shipper of thoroughbred Poland-China and Large English Berkshire swine and Silver-Laced Wyandotte chickens.

VERDIGRIS VALLEY HERD—Large-Boned Poland-Chinas.

Three hundred head, six good spring boars, good bone, large and growthy, very cheap. Six June boars, very heavy bone and fancy, four of them will make herd-headers. Twenty yearling sows and spring gilts, bred, good ones, at from \$12 to \$15. One hundred and fifty of the finest fall pigs we ever produced. For sale cheaper than you ever bought as good pigs before. WAIT & EAST, Altoona, Wilson Co., Kans.

HORSES.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORT-HORN CATTLE, and POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McAfee, Topeka, Kas.

CATTLE.

MAPLE LAWN HEREFORDS.

E. A. Eagle & Son, Props., Rosemont, Osage Co., Kas. For sale, five yearling pure-bred bulls. Also one carload of high grade cows and one car bull calves. Will be in Kansas City with young bulls for sale February 28, 1899.

SILVER CREEK HERD

SHORT-HORN CATTLE.

Scotch and Scotch-topped, with the richly-bred Crutcher's bulls, Champion's Best 114671 and Gwendoline's Prince 13913, in service. Also high-class Duroc-Jersey swine. Can ship on Santa Fe, Frisco and Missouri Pacific railroads.

J. F. STODDER, Burden, Cowley Co., Kans.

CLOVER CLIFF FARM.

Registered Galloway Cattle. Also German Coach, Saddle and Trotting-bred horses. World's Fair prize Oldenburg Coach stallion, Habbo, and the saddle stallion, Rosewood, a 16-hand, 1,100-pound son of Montrose, in service. Visitors always welcome. Address

BLACKSHERE BROS., Elm Dale, Chase Co., Kas.

Agricultural Matters.

PLANT BREEDING.

(Continued from last week.)

The chemical substances in the seed no doubt have a great influence upon the growth of the resulting plantlet. These substances nourish the seedling until it has gained sufficient strength to successfully compete with other plants in the struggle for food. Plants, like animals, develop appetites or tastes for certain kinds of food. Tastes for certain kinds of food may be developed artificially in animals by feeding the food to the animals when very young. Within certain limitations, the same rule seems to hold good for plants. The mother plant provides for the proper education of the taste of her offspring. The plant which feeds principally upon carbohydrates stores up an abundance of these materials around the embryos of its children in order that the seedlings may be started out in life with the same tastes as the parent. It is well known that rice and the seeds of the various sorghums are exceedingly rich in starch and other carbohydrates, and correspondingly poor in protein. It is from such plants as these that man gets the starch and sugar of commerce, substances which are pure carbohydrates.

The seed also serves the important function of the transmission of specific characters. When we desire to improve the composition of a plant, the first and chiefest of our efforts should be directed towards a modification of the seed. Hence the art of an agricultural plant breeder may with propriety be called "seed breeding."

Not only does the chemical nature of the seed have a great influence upon the offspring, but the size of the embryo is of great importance. It is well known that the "germ" or embryo of the cereals is very rich in both protein and fat. The increase in the size of the germ will make the grain a richer feed-stuff. Hellriegel found that the specific gravity of grain is a good index to the stage of development of the embryo, the heavy kernels having the large embryos. Here, then, is another good reason for the use of the specific gravity test in grading seed corn and seed wheat.

CLIMATE A PLANT VARIANT.

The topic of the variation of plants due to climate is a very difficult one to discuss, since authorities differ radically in their opinions on the subject. It is evident from Darwin's writings that he did not consider climate a potent cause of variation. It seems to me, however, that many of the examples of variation cited by him as caused by soil could just as readily be attributed to climate. The recently deceased Arthur A. Crozier, of Michigan Agricultural College, has written an excellent article entitled "Modification of Plants by Climate." The chief modifications noted by Professor Crozier are mostly those which accompany a removal into a higher latitude or altitude. Among the most manifest are dwarfing, reduction of the length of life of the plant, change of form, increase in leaf surface probably due to greater amount of daylight in northern regions, increase in fruitfulness, increase in the intensity of colors of leaves, flowers, and fruits, change of composition, and other less important modifications. Alfred Russell Wallace remarked that "aromatic plants are characteristic of deserts, the world over;" and Professor Bailey says, "There is modification in the flavor and essential ingredients of various parts following a change of climate."

The question that concerns us most as plant breeders is whether climate has an influence upon the composition of plants, especially of the seed. More than fifteen years ago, in the Department of Agriculture, Clifford Richardson began a series of analyses of American wheat and corn which furnishes some very interesting data for the study of the protein question. In his first bulletin he showed that American wheats are deficient in protein as compared with those grown on the continent of Europe. He also noticed that they grow better as we approach the Rocky Mountain range from the east, but suddenly fall to the lowest percentages on record when we reach the Pacific coast. At this time in his investigations Professor Richardson attributed the difference to exhaustion of the soil in the Atlantic States and to its greater fertility in the region west of the Mississippi. He did not attempt to explain the reason for the low protein content of wheats grown on the Pacific coast in the fertile valleys of Oregon and Washington. Neither did he try to account for the fact that the protein content of European wheat is lowest in England under the most intensive system of cultivation, and highest in Russia where fertilizers are seldom used and where agricultural practice is very rude. Many subsequent analyses were made by Professor Richardson, and in his third report he had

so modified his opinion as to make the following statements: "From observations in this and previous reports, it may be said that of all grains, wheat is probably the most susceptible to its environments. * * * The most powerful element to contend with is the character of the season or unfavorable climatic conditions." (Page 25, Bulletin 9, Division of Chemistry, United States Department of Agriculture.) Variation in protein content due to season may be illustrated by Professor Blount's wheats of Colorado. The average protein content of these was 13.40 per cent in 1881, 13.04 per cent in 1882, 11.74 per cent in 1883, and 12.53 per cent in 1884. The low percentage of 1883 was attributed to a hail storm which seriously damaged the crop.

From Professor Richardson's three reports, I have been enabled to glean the following statistics: The average protein content of American wheats given by 484 analyses was 12.21 per cent; the maximum was 18.03 per cent from a Dakota sample and the minimum 7.70 per cent from a sample from Washington State. Nineteen analyses from Texas gave an average protein content of 13.14 per cent with a maximum of 15.23 per cent and a minimum of 10.68 per cent. One hundred and eighty-three analyses from Colorado gave an average protein content of 12.64 per cent with a maximum of 15.94 per cent and a minimum of 8.93 per cent. Twelve analyses from Dakota gave an average of 14.95 per cent of protein with a maximum of 18.03 per cent and a minimum of 12.43 per cent. Thirteen analyses from Minnesota gave an average protein content of 13.19 per cent with a maximum of 17.15 per cent and a minimum of 10.85 per cent.

From Professor Wiley's analyses of 166 American wheats collected at the World's Columbian Exposition, I learn that Nebraska sent in the sample having the highest protein content, 17.15 per cent, and Oregon the sample containing the lowest, 7.88 per cent. In the same list I find that 28 samples from Kansas gave an average protein content of 12.15 per cent with two maxima of 14.18 per cent and a minimum of 10.50 per cent.

From these figures, I conclude that there is a strip of country east of the Rocky Mountains, stretching from the Rio Grande on the south away into Canada on the north, which is especially adapted to the growth of wheat rich in protein. This corresponds to the arid belt of the Great Plains. In studying the analyses of European wheats, I find that the arid plains of Russia produce the finest wheat in the world. In 24 analyses of Russian wheats, Laskowsky found the average protein content to be 19.48 per cent with a maximum of 24.56 per cent and a minimum of 10.68 per cent. It is said that good crops of wheat are grown in central Russia with less than 15 inches of annual rainfall.

From the evidence at hand, I have concluded that hot dry weather, especially at ripening time, has more to do with increasing the protein content of wheat than all other causes together. If this is true, western Kansas is destined to be one of the greatest wheat-producing countries in the world at no distant future day. I believe that, when farmers learn to adapt themselves to the climatic conditions of our arid prairies, it will be discovered that annual summer drought is a great blessing instead of a curse. Varieties of wheat will have to be bred that ripen early, so as to escape the worst of the drought. The moisture that falls will have to be conserved by proper methods of soil culture to give the young wheat plants a vigorous start in the fall. It will be necessary to save enough seed wheat over each year to sow a second crop, so as to obviate the necessity of sowing seed reduced in protein by some accidental unfavorable weather conditions, like the hail storm mentioned above in connection with Professor Blount's wheats. If western Kansas is to produce wheat equal to her possibilities, every wheat grower in the region will have to become a seed breeder, and no seed should be sown which does not show a high percentage of protein when submitted to chemical analysis.

In the study of the above mentioned analyses, it was observed that a cool, moist climate which prolongs the time of ripening is conducive to the production of a large percentage of starch in the wheat grain. Correlated with high starch content is always a low percentage of protein. The climate most suitable for the production of starchy wheat is like that of the northwestern extremity of the United States. It was noticed that the protein content of Pacific coast wheats gradually grows better as one travels south towards the arid regions of southern California. It is evident that every seed breeder must study the meteorological conditions of his district. He will need to keep on hand constantly the seed of several successive crops in order to be able to provide against unfavorable seasons, so that no deterioration shall be allowed to occur in the seed planted. The great variability of protein in the wheat grain offers a wonder-

ful opportunity for the improvement of its quality.

The influence of climate on the composition of the corn grain is not as manifest as in the case of wheat. From various sources, I have succeeded in compiling the analyses of 288 samples of American field corn. From these analyses, I find that the average protein content is 11.20 per cent, the minimum 7.53 per cent from Pennsylvania and the maximum 14.37 per cent from Kansas. Sixty-six analyses of New England flint corn yielded an average protein content of 10.66 per cent, a minimum of 8.25 per cent and a maximum of 13.25 per cent. Seventy-eight analyses of Kansas field corn give an average protein content of 11.86 per cent with a minimum of 8.44 per cent and a maximum of 14.37 per cent. Twenty-three analyses of sweet corn showed an average protein content of 11.76 per cent and a maximum of 15.31 per cent. It is seen by these figures that Kansas corn is even richer in protein than the average of the quick-growing sweet corns of the Northern States, and that the Kansas average is considerably above that of the whole country. Although the evidence is not as conclusive in the case of corn as it is for wheat, I am of the opinion that hot, dry weather at the time of ripening of the crop increases the protein content of the grain.

GEORGE L. CLOTHIER.

Cornell University, March 25, 1899.

Filling the silo.

Editor Kansas Farmer:—Just as soon as one commences to write to the Kansas Farmer, just so soon the letters come in from all over the country, asking all sorts of questions. It is a great pleasure for me to answer these letters when I can, but sometimes it is necessary to delay and answer through the Farmer.

It is surprising where all these letters come from and the class of people that write them. As this paper is always on file in every county clerk's office in the State, many letters come to me from county officials who have farms of their own, while railroad men, bankers and lawyers, also, frequently write me, from every State and from Mexico. For this reason I sometimes become quite personal and give names, which makes it appear as though I was interested in advertising someone, or thing, and many may think I have some axe to grind; but if they would only remember that I am only a plain, roughly-dressed farmer, not used to writing, with a home-made desk to write on and babies to fall over me while I am writing, and that I must needs work hard out of doors in order to make a living, they will understand why their letters are answered briefly and why I prefer to delay and answer through the Kansas Farmer.

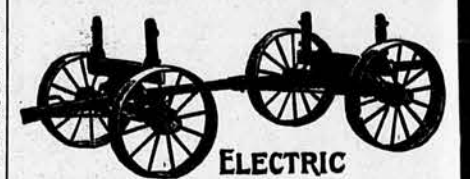
One man in an Eastern State who lately subscribed for the Farmer, wrote me a list of questions that will take me all summer to answer. This kind of a letter is the very one I most like to receive, as it shows the writer has a deep interest and is really anxious to learn anything he can.

Among the pleasant letters received was one from Edwin Taylor, in his frank and gentlemanly style. He says he has been quite interested in my continued articles on cornfodder, but his problem is in handling green corn for the silo. He says: "If you haven't a silo, I hope you will build one, for I am curious to know what labor-saving devices your fertile brain would conjure up for that work. In any event suppose you give us an article on the subject."

"Now, if I had a suitable place on the farm to build a silo to suit me, I would do it just to see what I could do, as I have ample power and a cutter of large capacity and lots of chain and elevator slats. I want a chance to dig a hole in the ground, build a round stone silo, and be able to under-drain it; but I have no such chance here, as the prairie is too level. I certainly should rack my brains to save the present cost of filling the silo, and although I do not know what I would do, I have often thought that I could keep the cutter running with a force of only four men and two teams, which is about half the usual expense. Two teams, changed about every hour, would run the tread-power and cut and haul the green corn, if the field was close by, while one man in the silo to place the silage, one to feed the cutter, and two to cut and haul the corn. I would get an old one-wheel table (reel) rake reaper, knock the seat and rakes off, cut the tongue off short, put a coupling on end of tongue, and couple this reaper under the edge of the "Handy" wagon, or any low-wheeled farm "Handy" in such a way that while the team straddled the first row, the reaper would cut the third row. A plank bolted on under the wagon frame and extending out to one side and forward would make a V-shaped space to gather up the row with, and also furnish a seat for the man who gathers the corn in armfuls as fast as the machine cuts the row. The horses would need no driving, as there would be a cut row between them and the corn, and

Buy the Best.

If you want the best low down wagon you should buy the Electric Handy Wagon. It is the best because it is made of the best material; the best broad tired Electric Wheels; best seasoned white hickory axles; all other wood parts of the best seasoned white oak. The front and rear hounds are



ELECTRIC

made from the best angle steel, which is neater, stronger and in every way better than wood. Well painted in red and varnished. Extra length of reach and extra long standards supplied without additional cost when requested. This wagon is guaranteed to carry 4,000 pounds anywhere. Write the Electric Wheel Co., Box 46, Quincy, Illinois, for their new catalogue which fully describes this wagon, their famous Electric Wheels and Electric Feed Cookers.

the driver could take away the armfuls of corn from the man who gathers it in, and stow it on the wagon. I should want the head- and tail-boards on, and perhaps one side-board, with a double rope or sling on the wagon floor under the corn. A good large team could draw the wagon and reaper, that ought to have a short sickle, and a small rear platform to hold the butts of the armfuls of cut corn, and when a load is cut, the reaper should be uncoupled and the load driven to the cutter, the tail-board removed, the sling tied to a stake, the team started and the whole load dragged off behind the wagon and just where the feeder could get it so handily that he would not need any help—and another load would be there as soon as needed. If one team could not haul fast enough, other teams could be added, with a sling and driver to each wagon. This is my plan, the details to be yet worked out, but I know I could do it just as well as if I had practiced it for years.

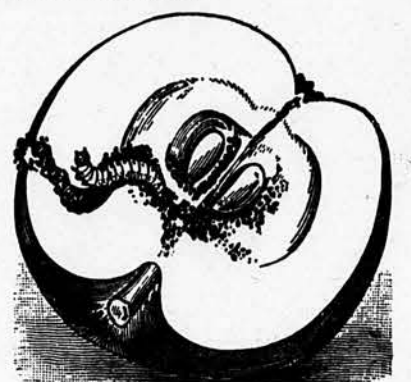
Mr. Taylor also asks about feeding sheep. I make a practice of feeding only my breeding ewes, as I much prefer to turn off a lamb crop fat on grass about September 1, at \$6.25 per hundredweight, with my cull ewes at \$5 for stockers, thus always realizing from 100 to 200 per cent. That is all the per cent I really care for, and is no joke, as many a ewe has made me a net profit of twice her cost every year, while fattening for market on grain will never give anywhere near such results, and sometimes a loss.

Here is the whole thing in the sheep business, when a good mutton breed is used: The wool and manure will pay all cost of keeping, and the lamb crop is all clear profit. Without counting the yearlings, which should not drop lambs, a good flock of sheep will raise to maturity a lamb each, and it is almost always the case that more are raised, so that there is a lamb for every sheep, including ram and yearlings, and it is not at all uncommon to greatly exceed this. Now, then, it is a simple matter of figures: If 100 ewes raise 100 lambs that average 70 pounds each in Kansas City on September 1, raised on grass, and sell for \$6 to \$6.25 per hundredweight, they will average a net profit of \$4 for each ewe in the flock, and if the ewes are valued at \$4 each, it will be seen that the profit is 100 per cent. I have many times sold \$9 worth from a ewe, besides the fleece, and one of my ewes has netted me \$15 a year for four years. I have 20 now that I fully expect to net me \$10 each. They are worth about \$10 each and this is 100 per cent. Just think of this, brethren, 20 ewes consuming the same as 2 cows and netting \$200 above all expense. How would about 40 such ewes strike you?

J. CLARENCE NORTON.

Spraying Fruit Trees.

The question of spraying fruit trees to prevent the depredations of insect pests and fungus diseases is no longer an experiment but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Ill., and get his catalogue describing twenty-one styles of Spraying Outfits and full treatise on spraying the different fruit and vegetable crops, which contains much valuable information, and may be had for the asking.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

APRIL 27—G. W. Glick & Son, Powell Bros., and John McCoy, combination sale of Shorthorns, stock yards sale pavilion, Kansas City.

CONTAGIOUS ABORTION.

Editor Kansas Farmer:—Several times during the past year the Farmer has had up the subject of abortion in cattle, and dealt at length on contagious abortion. I have not much belief in that mysterious disease. Practical men, who make their living dairying, have settled pretty generally to the belief that abortion arises principally through the lack of phosphate of lime in the blood. That in building up the bony frame of the foetus, the mother's supply of bone-making material becomes exhausted, her food supply does not furnish a new supply, and for want of phosphate of lime, exceedingly small though the quantity needed, the unborn animal must be rejected. Consequently it is the practice of large dairymen to feed ground bone, or better yet, phosphate of lime, to their cows in limited doses. A still better practice is to make it a point to vary the food and change the pasture, for it is nearly always the case that when a herd gets to aborting, that it is found that the pasture is worn out or that the cows have been pushed for a long time on milk and butter foods and not on bone- and flesh-formers. Some trifling chemical becomes lacking in the blood.

About a year ago, the attention of the entire dairying fraternity of the United States was attracted to the statement of one of their number who for more than a year had had "contagious abortion" in his herd. He said he lost calf after calf in spite of everything he could do, and at last, after nearly losing hope of ever overcoming the evil, he resolved to make a radical change in the feed, and commenced feeding whole oats exclusively. He said the result was almost magical. He said he got gallons and gallons of slime, in fact his stable was flooded with slime, but from the day he commenced feeding oats he never lost another calf, nor had he since, because he several times a year changed his milk herd off to whole oats.

It is well to call attention here to the fact that fancy breeders know the value of oats for growing large-framed, strong-muscled, solid-fleshed breeding stock—the colts that nearly mature at 2 and 3 years old, the heifers that have great slashing calves, and the hogs that weigh from 700 to 800 pounds in breeding condition (but the hogmen have to beware of the sharp oat hulls).

Resuming our topic, most breeders like to have their breeding animals in poor rather than high condition, yet poverty is a frequent cause of abortion, if it has resulted in impoverished blood.

The above are negative causes and consequently more or less mysterious. There are a host of active causes of abortion. One the most likely to affect the whole herd is ergot of rye or other cereals. From this cause, rye pasture is not safe for pregnant animals, however valuable it may be for animals not in that condition. I know of a herd that had "contagious" abortion at great loss, and the mystery seemed to clear up when a change of mill feed was made. A lot of cheap feed had been bought at a country mill and that mill had a habit of throwing its floor sweepings and cleaning refuse into the bran box, and it was concluded that in this way ergot was in the bran and brought premature calves by wholesale.

A frequent cause is a stench or fetid smell from blood or carrion. I know of a case where a stall was cleaned of old manure and when empty the smell was awful. No air-slacked lime or fresh dirt nor ashes were sprinkled in it, but a filly in foal was put in that stall that night—result, next morning a premature foal was dead in that stall. I never think of butchering where a pregnant cow or mare will have to pass. I butcher and hang the meat in a large chicken yard where no animal can enter or get very near. There is abundant reason to know that a dead dog or hog in the pasture, or an afterbirth thrown carelessly on top of the manure pile, may lead to bad results.

Worm medicine is a frequent cause of abortion. Medicine of any kind is very dangerous, and one had best be very reluctant to dose a pregnant animal. There are still many other causes. A cross old cow with sharp horns, who makes a practice of carrying the heifers and young cows clear across the corral on her horns, will cause all the heifers to suddenly develop that mysterious disease, "contagious" abortion. A bog hole through which the cows must wallow on their way to and from pasture may cause short-term calves, and so may a deep creek ford, through which the heated mare is suddenly plunged, cause short-term colts. Cottonseed meal is con-

sidered a more or less dangerous food for breeding animals. Fright is a frequent cause of abortion, and a weaking for a male is another.

Where a predisposition to abort exists, it is known that hemp seed proves a valuable anti-spasmodic. I have given it to brood mares for this purpose—a three-finger pinch of the seed in the feed every few days, when convenient to remember about it.

Now, Mr. Editor, I hope those of your readers who have had actual experience on any of the points I have touched upon in this article, will take up the subject for the general good in the Kansas Farmer. A friend down near Madison writes me that two young heifers have aborted for him—supposed cause, ergot on fodder. I replied that my opinion was that it was rye winter pasture. GEO. W. MAFFET.

Lawrence, Kans.

Nature and Treatment of Sheep Scab.

The United States Department of Agriculture has in press and will soon issue Bulletin No. 21, Bureau of Animal Industry, entitled "Sheep Scab: Its Nature and Treatment." This bulletin was prepared by D. E. Salmon, D. V. M., Chief of the Bureau of Animal Industry, for the purpose of correcting many erroneous ideas prevalent regarding the exact nature of the disease and the methods by which it may be eradicated, and to meet the necessity of exact information on the subject. It begins with a historical introduction showing that this disease, one of the oldest known, most prevalent, and most injurious maladies which affects this species of animals, is a contagious skin disease caused by a parasitic mite, and that the impression that has arisen among some sheep raisers that the scab is hereditary is incorrect.

The losses in home industry and to the export trade are referred to in the bulletin, and in it will be found descriptions of the various forms of sheep scab and of conditions which may be mistaken for scab.

Attention is called to the necessity of keeping sheep under proper hygienic conditions; but that alone, it is stated, though of importance in connection with the subject of treatment, cannot be relied upon to cure scab. The only rational treatment consists in using some external application which will kill the parasites.

The bulletin says: "By far the most rational and satisfactory and the cheapest method of curing scab is by dipping the sheep in some liquid which will kill the parasites."

A description is given of various kinds of dipping plants for use on small and large farms, directions for preparing certain home-made dips and directions for dipping.

The bulletin also contains extracts from the Federal laws and regulations relative to sheep scab and gives notice that the Department of Agriculture will hereafter take such steps as may be required to stop the dissemination of this contagion through the channels of interstate commerce.

Dr. Salmon also says: "The disease of scab is one of the most serious drawbacks to the sheep industry, and results in enormous financial loss. Yet, despite its insidious nature, its ease of transmission, its severe effects, and its prevalence in certain localities, it is a disease which yields readily to proper treatment. If all the sheep owners of the country would dip regularly and thoroughly, there is no reason why this scourge should not be totally eradicated from the United States. There should be stringent scab laws in every State, with State inspectors to see that those laws are carried out."

The bulletin is illustrated by six plates and thirty-six text figures.

Artichokes.

Editor Kansas Farmer:—In growing grain, farmers have learned to supply such fertilizers or foods as the plants may require. So, in taking care of stock, the owner should fully supply their appetites. In climates where stock is maintained six months or more each year on dry food it is apparent that succulent food should be liberally fed, as improperly fed stock only pays a per cent of what the food could have been sold for. In England, stock can eat grass a much longer period than in this country, and during their short winter they are supplied with roots. That is the secret of the superiority of stock in Great Britain, which, when imported, takes the premiums at our fairs. Artichokes, the very best roots we can raise in this country, will produce from 18 to 25 tons per acre. The cost of raising and storing does not exceed \$1.50 per ton. How could a person fail to profit on feeding 20 pounds to cattle or 4 pounds to a hog or a sheep, since the latter would eat but 1 cent's worth a week?

In this way, with cheap corn, the feeder is enabled to make a handsome profit on all good, growing beef cattle, on his dairy cows, on sheep, or on hogs.

Melville, Ill. J. P. VISSERING.

Rape Culture in the United States.

It is no exaggeration to say that for the past four years a thousand inquiries respecting the nature, culture and uses of rape have annually come to the office of the American Sheep Breeder. The impossibility of answering each of these inquiries in detail through the columns of our paper, leads us to make the following general statement regarding this remarkable plant: Generically, rape belongs to the same order as cabbage, kale, turnips, etc., and is a grazing and soiling plant, not susceptible of conversion into hay. It may be sown broadcast, or planted in drills from 26 to 30 inches apart, if desired for cultivation with the plow or cultivator. From four to five pounds of seed may be used for seeding broadcast, and from two to three pounds per acre if planted in drills.

For quickness and immensity of growth, it is without a rival; growing on rich soils to a height of 12 or 15 inches in six or eight weeks, and in its full growth three or four feet high, producing 20 to 30 tons of feed to the acre. Sheep, cattle or swine, may be turned into the rape field when it has reached a height of 10, 12 or 15 inches, the owner always using caution to limit sheep or cattle to an hour, or less, of grazing for the first four or five days to prevent the possibility of bloating until they are accustomed to the feed.

For early summer grazing, rape should be sown about oat-seeding time in April, or May, according to latitude, and for late summer and fall feeding, it may be sown in June, July and early August. It may be sown alone for a full early crop, or sown with oats, in which case it makes slow growth till the oats are harvested, when it comes forward with great rapidity. It is often sown on oat, wheat or barley stubble, without plowing, and harrowed in with a light-tooth harrow, in this way making an abundance of fall feed. As a supplemental crop, however, it is more extensively sown in corn, by scattering the seed ahead of the cultivator at time of last cultivation. The corn shades and protects the young plant during its early growth, and within six or eight weeks lambs may be turned in for weaning. Rape in the cornfield is a paradise for lambs before corn harvest, and makes a splendid fall feed for sheep, cattle, or swine, when the corn is harvested. In seeding the cornfield to rape, it is a good plan to use about two pounds of rape seed mixed with half a pound of common flat turnip seed for each acre. The same mixture may be profitably used in seeding with oats, or on stubble land.

The progress in rape culture in this country is one of the marvels of latter-day husbandry. Five years ago, the plant was little known and less understood. Last year millions of acres were devoted to its culture and other millions of acres will be added to its broad green domain the present year. All progressive English and Canadian shepherds cultivate it and the perfection of their flocks attest its great value. The English and Canadian shepherds cultivate it mainly for sheep, but progressive American farmers are turning it to broader uses, having found it quite as profitable a grazing and soiling plant for their cattle and swine.

To say that rape is revolutionizing the sheep industry in this country, is putting the case none too strong. It adds immensely to the popular tendency toward intensive sheep farming by yielding a vastly greater amount of succulent and healthful green food to the acre than any other crop, thereby increasing in like ratio to the sheep-carrying capacity of the farm. It tides the sheep farmer over the dry hot season when the grasses are dead and the fields are brown, with a wealth of green, palatable and nourishing food such as no other product of the farm can or does furnish. It is alike valuable for the silo, for soiling the flock in the cool shadows of grove or barn in the scorching heat of the midsummer day, or for grazing the sheep in the cooler hours of morning and evening. Nothing equals it for ewes and lambs during the nursing period, and for weaning lambs, it is incomparable, carrying them from mother-milk to self-sustaining lambhood with scarcely a sign of shrinkage. It is without a rival in all the list of succulent summer and autumn feeds for starting mutton sheep and lambs on the flesh-making road to full grain feeding.

It promotes the healthful growth of wool by furnishing the best wool-producing food in the best elemental form. It furnishes more and better green food to the acre and at less expense than any other plant in all the long list of succulent summer feeds. It is not a feed of the week or month, but carries the flock in perfect "bloom" from early June to bleak December. It enriches the soil with a wealth of nitrogen possessed by few other plants. There is nothing that can be successfully substituted for it, because nothing in the whole range of plant life carries in such large measure the flesh-making, health-giving, life-inspiring, wealth-yielding elements that make the "golden hoof" and "golden fleece" the blest of heaven and the best friend of the farmer. To the rape culturist, whether for sheep,

"Want of Watchfulness"

Makes the Thief."

Many cases of poor health come from want of watchfulness. But if you keep your blood pure no thief can steal your health.

The one effective, natural blood purifier is Hood's Sarsaparilla. It never disappoints.

Impure Blood—"Five years I suffered with pimples on face and body. Hood's Sarsaparilla cured me permanently. It also cured my father's carbuncles." ALBERT E. CHAST, Tustin City, Cal.

Catarrh—"Disagreeable catarrhal droppings in my throat made me nervous and dizzy. My liver was torpid. Hood's Sarsaparilla corrected both troubles. My health is very good." MRS. ELVIRA J. SMILEY, 171 Main St., Auburn, Maine.

Hood's Sarsaparilla
Never Disappoints

Hood's Pills cure liver ills; the non-irritating and only cathartic to take with Hood's Sarsaparilla.

cattle or swine, we give joy of his possession of this most generous product of his lands and toil! For sheep it is pre-eminently the summer "food for the million," and may its shadow never grow less on the American farm.—American Sheep Breeder.

Mutton Sheep Questions.

A writer in the Country Gentleman offers interesting observations relating to mutton production, etc., and says: It has been the habit of those acquainted with English mutton to judge our American product by that high but entirely foreign standard. No other country has mutton like that of Great Britain, in whose breeds there are heavy, fleshy and excessively fat Lincoln, the tender Leicester, the solid Shropshire, and the high-flavored Southdown. Besides these the local markets have their Wensleydales, the Romney Marsh, the deer-like Welsh, the high-flavored Black-faced of the Scottish mountains, and other local breeds which have not the general reputation of these four.

On the continent of Europe, we find a distinctly different style of sheep in the market. The French and Germans make the Merinos their standard mutton sheep, although the French have at least one distinctly mutton sheep, a cross of the French Merino and the English Leicester. This sheep, however, does not make much headway in France. The reason is by no means obscure. And just here we touch the spot where our American mutton and the English begin to vary. We do not care to have our meat too fat. We don't want an inch of clear fat on our sheep's ribs, not to mention the three fingers of it that used to be, and still is to a large extent, the acme of excellence in an English mutton chop. Our climate is the cause of this difference in taste, and climate, being an irremovable obstacle, the adoption of English tastes in this direction is not a matter for our sheep breeders to waste time over. We are becoming educated in this respect. We are rapidly becoming mutton-eaters, at least in the North; but in the South it will be some time before the slab-sided razor-back will be ousted from its first position by any kind of sheep whatever. In the South the few sheep kept are reared for the fleece, and the home-spun hose and the local jeans of mixed cotton and wool are the sole objects as yet of those Southern farmers who keep a small bunch of sheep.

But American mutton will be for many years, if not always, quite a different thing from that of England. Our tastes run mostly with the French and German mutton-eaters, and it is interesting to a student of this subject to notice how we are gradually falling into line with these in regard to the most favored sheep for the markets. No Englishman, I dare say, could be induced to change a Leicester or a Southdown chop for one of a Merino, or a cross of this breed. But equally an American could not be induced to tolerate the exceedingly fat mutton, there thought to be the best in the world. This is a matter of climate. The English climate may not be really so very cold, but it feels so; and a March wind blowing, not under the freezing point, or within several degrees of it, and which would pierce to the marrow of an American, makes an Englishman shiver and wrap his great-coat close about him. Then the fat meat comes in as a natural protection for the Englishman, who thus, by his more carbonaceous food, protects himself from his damp, moist, unpleasant weather.

Climate has a wonderful influence on man-

TEST IT.

A Babcock tester is a good thing—one of the best—but butter yield under average conditions is better. Try a Sharples Hand Separator that way and you win every time. The butter quality is better, too, and the machine is simple and durable, easily understood, easily washed, no repair bills, etc. A TRIAL FREE. Send for Catalogue No.



BRANCHES: P. M. SHARPLES,
Toledo, O. Omaha, Neb. West Chester, Pa.
Dubuque, Ia. St. Paul, Minn.
San Francisco, Cal.

kind and our habits. Ours tends to the consumption of protein more than carbon in our food. So we do not want very fat meat, but sweet-flavored, tender lean, only having fat enough in it to make the lean tender. Thus we eat Merino mutton in preference to the Lincoln or the Leicester, and the South-downs and the related breeds are, and I think necessarily will ever be, more valued than these bigger sheep. And the larger Merinos, the various strains of the French sheep, will make up our most popular breeds for market. This prevailing taste is most conspicuously exhibited in our large consumption of small animals. Our pigs of less than 200 pounds, our lambs of 60 to 80 pounds live weight, our lighter beeves, all tend to show to our stockmen the general drift of the popular taste, to go against which is simply self-destruction. The people make the markets. To some extent it is possible to change this drift, but it must be done by some immediate popular innovation, such as the early lamb, which I well remember was in the struggle for existence some thirty years ago when I began sending early lambs to the New York market; and I well-nigh stalled the market by a single shipment of ten head at one time. Three or four could be got rid of on a brisk market day, but more were risky to venture. What a change since then! Then a few hundred sheep on a Monday's market might be sold, possibly; now ten, for one then, are disposed of, and the city markets show more mutton on a single stall than could have been seen twenty or thirty years ago in all the markets of any of our great cities.

We may wisely go slow in regard to what is called mutton quality. We have to educate the public, as the swine breeders have been doing for some years back, if we wish to improve the public taste. But it is a hard thing to stop the flowing tide by sweeping it back with a parlor broom, and it is safer to go with it than to strive against it. So all concerned should see for themselves by visiting some of the big markets, and go with the stream, rearing what the people want; and as the people may change, we should be quick to meet them. Producers do not, as a rule, make markets. The people make these, and producers should be wide awake to learn what is going on, and what the people want, and make it their business to meet the popular taste. It is not true that the Shropshire lamb has made more profit for the feeder than any other. The Leicester has beaten it in this respect, for while the 9-months-old Shropshire brought \$5.60 per 100 pounds it cost \$3.21 per 100 to feed. The Leicester, fed a few days less, brought \$5.25 per 100 pounds, and it cost to feed \$2.65 per 100 pounds; and the Leicester lamb's fleece was heavier and brought more per pound. It might be well to study thoroughly the records of experiments in this line made by the Iowa and Wisconsin Experiment Stations, before deciding what the future has in store for the American shepherd.

Registered Saddle Stallions.

I have on hand for immediate sale two registered saddle stallions. Shropshire's Homer 179, sire Homer by Mambrino Patchen; dam by King William 67 by Washington Denmark 64; second dam by Shropshire's Tom Hal or Bald Stockings 76. Certified to under rule 3, National Saddle Horse Breeders' Association. His get has sold recently in Chicago and New York at prices ranging from \$450 to \$1,500. Chestnut Hal 1271 is by Eddy Ward 178, he by Expert 77; dam Lou Davis 126 by Expert 77. This horse is a high school saddler of large size and great style. Color dark chestnut, 16 hand high, and weighs 1,200 pounds. He is in good flesh, has heavy bone and sound feet, heavy mane and tail. He is well gaited to walk, trot, rack, canter, running walk.

These two saddle stallions have been consigned for sale by A. C. Shropshire, of Leesburg, Ky. These horses will be warranted breeders and as represented. Mr. Shropshire is now here ready to make transfers

any time. Any of the readers of the Kansas Farmer needing registered saddle stallions should take up the matter at once as this is an exceptional opportunity.

We also have for sale two jacks, 15 hands high, one 4 and the other 6 years old. For further information address W. H. Wren, Marion, Kans.

A Coming Hereford Sale.

The well-known and successful breeders, Messrs. Scott and March, who founded their herd, now aggregating over 500 head, in 1882 with imported animals from the noted English herds of Philip Turner, B. Rodgers, G. Pitt and that of Thomas Fenn, will hold their third annual sale on Monday, April 24, 1899, in their sale pavilion, on the farm, adjoining Belton, Cass County, Missouri. The offering will consist of 105 head, 43 serviceable bulls and 62 heifers, the tops of their young stock, and will range from 13 to 26 months of age. This offering consists of the sons and daughters of Hesiod 29th 66304, Monitor 58275, Henry 4th 62086, Rob Rorer 52626, and Sam 57265. The get of Hesiod 29th 66304 ought to prove a very strong attraction, as his undefeated State fair show ring record for 1896 and 1897 has but few equals in Hereford history. In 1896 he won at the Iowa and Nebraska State fairs first in class, and in 1897 at Des Moines, first in class, sweepstakes and breeders' special, and the same prizes at the Illinois and at the St. Louis fairs. The show at St. Louis is usually the final battle ground in the annual show season, hence the reader will understand the worth of the entire three prizes won there. Thirty-three of the heifers that go into the sale have been bred and are safe in calf, and among them several good ones that are in sure expectancy by Hesiod 29th 66304. The writer is of the opinion that Hesiod 29th now shows a more desirable character than at any time since he was in his calf form—massiveness and an all-over beef animal expression but seldom seen among the top and most desirable Hereford bulls in this country. The Imp. Roderick 80155 was bred by J. Smith, Hereford, England, sired by Lington, a son of Albion 76960; his dam, Rebecca (Vol. 19), a daughter of Hero 79189. He was thought by several competent judges to be the best individual bull that went through Mr. Armour's October sale in 1898. Imp. Victor 76070 was bred by A. P. Turner, Pembroke, England, and has for his four great-grand-sires Lord Wilton 4057, Hardwick 10491, Lord Wilton again and The Grove 3d 2490. His great-granddams were Bella 6980 by De Cote, Spot 4th 57961 by Horace, Delight 6959 by Sir Frank, and Sylph (Vol. 18) by Spartan. Here in this pedigree is a combination of blood that, when commingled with the Anxiety 4th found in the Scott & March herd, ought to result in something extra good. The bull, Monitor 58275, in his third remove shows Anxiety 4th 9904 three times and has immediately behind two of these remove dams, Sir Thomas and Sir John. Individually he is far above the average herd bull, yet he has not had anything but ordinary care. He possesses great scale and plenty of up-to-date beef animal character. Tribune 10th 78558 was bred by S. B. Packard, Marshalltown, Iowa, sired by Tribune 43421, he a grandson of Imp. Leader 15257, bred by P. Turner. His dam, Flower Girl 48179, was a daughter of Governor S. 25995, that did great good in his day for Fowler & Van Natta, of Indiana. The reader well up in white-face lore will readily recognize that the 33 heifers in expectancy by either one of the above-mentioned herd bulls ought to be and in reality are good enough to go anywhere. There are far too many salient pointers to be mentioned in notes at this time.

To briefly close, the writer believes that this offering is much the best one yet announced by Messrs. Scott & March. For further information consult the announcement elsewhere in this issue and write for a free copy of the sale catalogue.

W. P. BRUSH.

The Coming Shorthorn Sale.

Catalogues are now out announcing the joint sale of 68 Shorthorns, to be sold to the highest bidder at Kansas City, at the stock yards sale pavilion, on April 27, 1899. The offering consists of 24 bulls and 44 females, select consignments from the following well-known and representative herds: G. W. Glick & Son, Atchison, Kans.; Powell Bros., Lee's Summit, Mo., and John McCoy, Sabetha, Kans. The individual quality of the animals is sure to please all. The breeding represents straight Bates and straight Scotch, also Cruickshank-topped Bates, and Bates-topped Cruickshank; in fact, none of the good, reliable strains of Shorthorn blood have been overlooked. The bull consignment is unusually attractive, including herd-headers and show bulls, while the females will prove a desirable acquisition to any herd. Some of the most notable animals from each of the consignments will be mentioned in these columns in advance of the sale. The success of this sale is assured if the Shorthorn fraternity

are alive to their best interests and realize the unique and representative character of this offering, which will not be surpassed at any Shorthorn sale this season. It is the breeders' opportunity. Consult their advertisement and secure catalogues at once.

Gossip About Stock.

On Tuesday of last week, at Omaha, 55 head of Ward's Scotch Shorthorns averaged \$256.80, 44 females bringing \$286.65 and 12 bulls \$233.35. The top price was \$1,095 for Monarch's Lady, 4 years, a superb show cow, bought by C. B. Dustin.

Secretary C. R. Thomas, writes: "At a meeting of the board of directors of the American Hereford Cattle Breeders' Association, held March 28, Mr. Thomas Clark, of Beecher, Ill., was unanimously elected a member of the executive committee, to fill the vacancy caused by the death of Mr. Charles B. Stuart, of Lafayette, Ind."

Kansas City Drovers' Telegram: A. T. Knollin is back from a trip to Nebraska. He says there were 700,000 sheep on feed there this season, against 1,000,000 last. The winter has been against the feeder; not that he admits any unusual loss from the extreme cold, but his feed bills have been very heavy. The market has also been less favorable than last year. Feeders have therefore held their sheep and lambs much longer. He thinks, too, that there are about 60,000 fed sheep to come to market from Kansas.

In a recent letter to this office, Mr. C. E. Stubbs, of Fairfield, Iowa, secretary of the National French Draft Horse Association, says: "The stock of horses must soon run down to a very low quality unless the breeders replenish it very rapidly. A few good stallion sales have been made this spring, one at \$2,200 and another for \$1,900. The French Draft Stud Book of America is kept in our office, and there has been more registration of horses this winter and spring than for many years, but it is no great thing for the whole of the United States and Canada."

The demand for all horses of export grade remains far in excess of the available supply, and last week the exporters were more aggressive than they have so far shown this year, though their competition for the best offerings has neither been slow nor weak since the new year. From Chicago alone, last week, 690 horses were shipped to Europe, more by a good many than have this year been sent out in one period of seven days. The values of fancy driving, carriage and coach horses are continually rising, and the prices are now a little better than they were even on the top of the bulge two weeks ago.

The market for prime drafters in Chicago last week in the auctions was topped by W. H. Hirschburg, Alton, Ill., who sold at auction a black gelding weighing 2,100 pounds for \$290. J. T. Thornton, Charleston, Ill., did next best with a chestnut Shire mare that brought \$250 in the ring. She is 6 years old and tipped the beam at 1,900 pounds. She is a model in every respect. Newmond Brothers bought the gelding for export to Frankfurt, Germany, and Miller Brothers took the chestnut mare for export to England. There were quite a good number of sales of good drafters at \$200 and upward to \$225, one large load averaging in price right on the back of \$180.

At the Escher & Son sale of Angus cattle, at Omaha, last Tuesday, the number of cattle sold was 52 head, averaging \$177.50. The cold weather was against the Daddies, and the offerings were somewhat larger than the buyers could absorb. Prices were generally considered good and beat all the estimates made in the forenoon, before the sale began. Some of the best Angus men of the country did not attend, but some good buyers were present and sharp competition developed in some of the best selections. The bulls averaged \$161.50 and the females \$185. H. L. Leavitt, of Olney, Ill., was the leading buyer, taking 14 females, but no bulls. Henry Taylor, of Earlham, Ia., was the leading buyer of bulls.

Dr. Bull's Cough Syrup should be kept in every household. It is the best remedy for cough or cold, and is especially recommended for that gripe cough. Price 25 cents.



In olden times a leper was stoned out of town; in modern times a sick man is stoned out of all his chances in life by the crowd of busy, hustling men who have no place and no use for him. A man who has bilious turns and tired feelings and frequent "off-days" might as well go out of business.

These things are bad enough in the self-disgust and wretchedness they involve if they do not go any further. But you never know what is going to develop in a half-nourished, bile-poisoned constitution. If a man as soon as he feels that he is not getting the forceful strength and energy out of his food that he ought to, will begin taking Dr. Pierce's Golden Medical Discovery, he will soon put himself in the position where he can do a man's work easily and cheerfully.

His appetite will be sharpened; his liver invigorated; his digestion strengthened; an edge put on his whole nutritive organism. Those subtle poisons which debilitate the entire organism and invite consumption and a host of other diseases, will be driven out of the system; and he will gain plenty of pure nourishing red blood, muscle-power and nerve-force. In short he will be a man among men.

There are hundreds of delusive temporary stimulants, "malt extracts," sarsaparillas and compounds, which are more or less "boomed" by merely profit-seeking druggists; but an honest druggist will give you the "Golden Medical Discovery" when you ask for it. If well-informed, he knows that its sales have steadily increased for thirty years and that it is the invention of an educated, authorized physician who has devoted a life-time of active practice and profound study to chronic diseases.

Paint Talks--XV.

A NOVEL PAINT THEORY.

Quite recently a very interesting theory has been promulgated regarding paint. The authors of this theory claim that a paint should crumble off gradually in order to provide a good surface for repainting, and that unless this happens the coating will eventually become too thick. They say that pure white lead, being the only paint that fulfills this condition to perfection, is the only desirable paint.

This theory may be all very well from the point of view of the lead corroder or of the painter—those whose profit lies in the sale and application of paint; but from the point of view of the man who pays the bills and whose property is well or ill protected according to the permanence of the material with which it is painted, the theory is not attractive.

Let those who have to buy paint and pay for its application remember that the fewer pounds of paint at a given price it requires to paint their buildings, and the longer the paint selected will keep these buildings protected from the weather, the better are their interests served.

Pure lead paints certainly chalk off rapidly enough and become porous still more rapidly, so that water is admitted through the coating of paint long before the paint is gone. Another defect is that these paints darken, and white lead destroys the color of many brilliant pigments with which it is tinted.

Combination paints, based on zinc white, on the other hand, do not chalk off, do not become porous, do not darken, and do not affect the color of other pigments combined with them. I have known a building painted with such a combination to stand without repainting for sixteen years, and at the end of that time it actually did not need repainting. If repainting had been desired, however, the surface was in excellent condition for it.

Paint is intended to stay on and not to come off, and the wise house owner will select the "stay-on" kind, regarding his own interests rather than those of the manufacturer or of the painter, whose profits lie in frequent repainting.

STANTON DUDLEY.

Apt Quotations.

Proverbs, axioms and wise sayings have been uttered by Confucius and other wise men from time immemorial, but few people realize how many there are of them. C. I. Hood & Co., of Sarsaparilla fame, have over two thousand and they have originated the ingenious plan of serving them up in delectable shape in thousands of newspapers, with each one neatly turning a point as to the merit of their well-known medicine. The extensive use of these proverbs is original and creditable to Hood & Co.

Weather Report for March, 1899.

Prepared by Chancellor F. H. Snow, of the University of Kansas, from observations taken at Lawrence:

The month just closed was unusually cool, snowy, damp and cloudy. The mean temperature was nearly 7° below the March average, only two Marches on our thirty-two years' record having had a lower mean. There were fourteen winter days with a mean temperature below the freezing point. This is twice the average number and more than for any preceding March. Only two March days in the past thirty-two years have been colder than the 6th, with a mean temperature of 9°. The mean temperature of the second half of the month was several degrees below that of the first half.

The total depth of snow for the month was nine and one-half inches, which is six inches above the average, and with one exception the greatest for March on record. This makes the total precipitation—rain and melted snow—slightly above the average.

The relative humidity was much above the average, being the highest on record. The run of wind was less than usual. The mean cloudiness was somewhat above, and the mean barometer was somewhat below the average.

Mean temperature was 34.59°, which is 6.79° below the March average. The highest temperature was 69°, reached on the 10th; the lowest was 2.5°, on the 6th, giving a range of 66.5°. Mean temperature at 7 a. m., 28.56°; at 2 p. m., 41.50°; at 9 p. m., 34.16°.

Rainfall, including melted snow, was 2.82 inches, which is 0.46 inch above the March average. Rain or snow in measurable quantities fell on nine days, in quantities too small for measurement on two days. There were two thunder storms.

Mean cloudiness was 53.05 per cent of the sky, the month being 3.90 per cent cloudier than usual. Number of clear days (less than one-third cloudy), eight; half clear (one to two-thirds cloudy), eighteen; cloudy (more than two-thirds), five. There was one day entirely clear, and there were three days entirely cloudy. Mean cloudiness at 7 a. m., 56.67 per cent; at 2 p. m., 67.87 per cent; at 9 p. m., 34.51 per cent.

Wind was north 10 times, northeast 12 times, east 10 times, southeast 8 times, south 4 times, southwest 9 times, west 4 times, northwest 36 times. The total run of the wind was 13,270 miles, which is 786 miles below the March average. This gives a mean daily velocity of 428 miles and a mean hourly velocity of 17.83 miles. The highest velocity was 50 miles an hour, between 3 and 4 p. m. on the 11th.

Barometer.—Mean for the month, 29.042 inches; at 7 a. m., 29.047 inches; at 2 p. m., 29.024 inches; at 9 p. m., 29.054 inches; maximum, 29.590 inches at 9 p. m. on the 6th; minimum, 28.688 inches, at 9 p. m. on the 10th; monthly range, 0.902 inches.

Relative humidity.—Mean for the month, 81.56 per cent; at 7 a. m., 92.77; at 2 p. m., 68.58; at 9 p. m., 83.35; greatest, 100, twenty-one times during the month; least, 30, at 2 p. m. on the 14th. There were two fogs during the month.

Dr. Bull's Cough Syrup will cure croup and whooping cough. No danger to the child when this wonderful medicine is used in time. Mothers, always keep a bottle on hand.

Removed Tumor, Also Cured Fistula.

Como, Henry Co., Tenn., April 9, '98.
The Lawrence-Williams Co., Cleveland, O.:
Replying to yours of 5th inst., in regard to the tumor I removed from back of my hand, will say that it had been growing for two or three years. I had shown it to two doctors and they both led me to believe it might be cancer. I began using the Caustic Balsam by applying it once or twice per day, with my finger; did not rub it to create any friction. I kept this up for two or three weeks, when it became loose, and I took hold of it with my fingers and pulled it out by the roots. It left quite a hole, but it has healed, and there is no scar or anything by which you can tell it was ever there. I also cured a fistula on a fine mare with three applications.
H. H. LOVELACE.

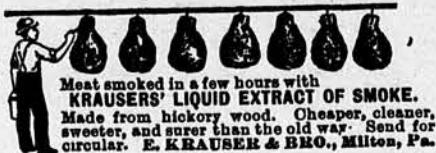
LIVE STOCK AUCTIONEERS.

GEORGE W. BARNES, Auctioneer, Valencia, Kas.
Lowest terms. Extensive experience both as breeder and salesman. All correspondence given prompt attention.

J. N. HARSHBERGER,

LIVE STOCK AUCTIONEER, LAWRENCE, KAS.
Years of experience. Sales made anywhere in the United States. Terms the lowest. Write before claiming date.

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



Geo. Groenmiller & Son,

Centropolis, Franklin Co., Kas.,

Breeders of Red Polled Cattle and Cotawold Sheep. Buff and Partridge Cochins, Light Brahmas, Brown S. C. Leghorns and Golden Wyandottes.

Only a few seven-eighths Red Polled bulls for sale.

Rocky Hill Shorthorns.

At Newman, Jefferson County, Kans. Straight and Cross-Bred Bates and Cruickshanks. Five yearling Bulls for sale. Send for catalogue.

J. F. TRUE & SON.

D. P. NORTON,

Breeder of Registered Shorthorns, DUNLAP, KANSAS.

Imp. British Lion 133692 and Imp. Lord Lieutenant 120019 in service. Sixty breeding cows in herd. Lord Lieutenant sired the second prize yearling bull at Texas State Fair, 1898, that also headed the second prize herd of bull and four females, any age, and first prize young herd of bull and four females.

POLAND BREEDERS
can secure a sample pair of our
Famous O.I.C. Hogs
ON TIME, and agency if they will
write at once. 2 weighed 2806 lbs.
L. B. SILVER CO.
179 Summit Street, Cleveland, Ohio.

BEE SUPPLIES.
Wholesale and Retail.
Send for Catalogue.
TOPEKA BEE SUPPLY HOUSE,
107 West Fifth Street,
TOPEKA, - KANSAS.

FOR RENT—MADISON FARM.

A 40-acre farm three miles southwest of Washburn; specially adapted to dairying. Fine large barn for 30 head of stock. Two wells of never-failing water.

THE ACCOUNTING TRUST CO.
TOPEKA, KANS.

SOMETHING YOU WANT

to keep your stock and poultry in a
GOOD, THRIFTY CONDITION.

Give them **ECONOMY CONDITION POWDERS!**
Best made for the money. Wards off Disease.
Gives an appetite. Package by mail 30c. Five
packages by express \$1. Order now. Say which
kind. **ECONOMY CO.,** Eldon, Mo.

PAINT.

We manufacture Paints
and Varnishes and we sell
them direct
TO THE CONSUMER.

We save you the dealers' profit. Write for
prices and our new catalogue.

CONSUMERS' PAINT CO.,
121 West Van Buren Street, CHICAGO.

Binder Twine
Our famous
"Blue Label Brand."
Prices and samples
ready April 20th. Write
now and we will send
when ready. Prices will
be lower than you think.
We deliver from Chicago
Omaha or St. Paul, as
desired. **MONTGOMERY WARD & CO., CHICAGO.**

Gluten Feeds.

The cheapest source of Protein for a
Balanced Ration.

Will produce richer milk and more of it; a more
rapid growth and development of Cattle and Hogs,
and better meat for market purposes than any other
feed on the market. Highly recommended by Prof.
H. M. Cottrell, of Manhattan Agricultural College
For information and prices address
N. T. GREEN & CO., Kansas City, Mo.

SEND TO B. P. HANAN,

Arlington, Reno Co., Kans., for

**PRICE LIST of SURPLUS
NURSERY STOCK**

at the Arlington Nursery, on the C. R. I. & P.
R. R., 17 miles southwest of Hutchinson.

R. H. WILLIAMS,
Wholesale and Retail Groceries,
537-539-541-543 and 1015 Main Street,
KANSAS CITY, MO.

Largest mail-order grocery house in the
West. Send for our April catalogue.
Free. Contains groceries, hardware, drugs
and farm supplies. Wholesale prices direct
to the consumer in large or small quantities.
No charge for packing or drayage.

BLOSSOM HOUSE—Opposite Union depot, Kansas
City, Mo., is the best place for the money, for
meals or clean and comfortable lodging, when in
Kansas City. We always stop at the BLOSSOM
and get our money's worth.

When writing to any of our advertisers, please
state that you saw their "ad." in Kansas Farmer.

PUBLIC SALE OF HEREFORD CATTLE

TO BE HELD AT OUR SALE PAVILION AT BELTON, CASS COUNTY,
MISSOURI, ON MONDAY, APRIL 24, 1899.

105 Registered Herefords

Forty-two bulls and 63 Heifers, from 13 to 26 months old. Thirty-three of these
heifers have been bred and safe in calf by either the undefeated Hesiod 20th 66304,
in leading State fairs in 1896 and 1897, Imp. Roderick 80155, Imp. Victor 76070, Moni-
tor 58276 or Tribune 10th 78558. This selection is from our herd of over 500 head of
our own breeding and the tops of our young stock. Many of the bulls are good
enough to head herds and quite a number of the heifers are good enough for the
show yard. Sale will commence at 10 o'clock a. m. Write for free copy of cata-
logue.

A special train will leave Kansas City Union Depot over the Kansas City, Fort
Scott & Memphis Railway on April 24 at 8 a. m., arriving at Belton at 9:20 a. m.,
will leave Belton at 7 p. m., arriving at Kansas City at 8:20 p. m. Cois. F. M. Woods,
James W. Sparks, and S. A. Sawyer, auctioneers.

Belton is 30 miles south of Kansas City and is on the Pittsburg & Gulf, the
Memphis and Frisco railroads.

SCOTT & MARCH, Belton, Mo.

SUCCESS
WITH

ALFALFA

is certain if you sow our Alfalfa Seed. We
also sell choice qualities of Cane and Millet
Seeds, Kafir and Jerusalem Corn, etc. All
crop '98. Our book, "How to Sow Alfalfa,"
free. **McBETH & KINNISON, Garden
City, Kas.**

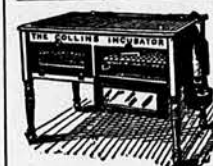
TWO NEW MILLETS FROM DAKOTA.

NEW SIBERIAN AND DOKATA HOG MILLET.

Price per pound by mail, postpaid, 15 cents; price per peck at depot or express office.
Lawrence, 50 cents; price per bushel at depot or express office, Lawrence, \$1.25. For de-
scription send to

KANSAS SEED HOUSE, F. Barteldes & Co., Lawrence, Kans.

Our New Catalogue for 1899 mailed free on application.



COLLINS INCUBATOR CO.

Full line of Poultry Supplies and
Bone Mills. Write for circular or send
6 cents for catalogue.

1411 Main St., Kansas City, Mo.

INCUBATORS
AND BROODERS.

PEACH TREES 4 to 6 ft. at 3 1/4 cts.; 3 to 4 ft. at 2 1/4
cts.; all 1 yr. from bud, healthy
and thrifty; no scale. Official certificate
accompanies each shipment. Sample by express if
wanted. Can ship any time. Trees kept dormant till
May 10th. **R. S. JOHNSTON, Box 17, Stockley, Del.**

STOCK SALE.

I will sell on the late Alber Davis' farm, 3 1/4 miles
southwest of Salina, Kans., commencing at 1 o'clock
p. m., April 14, 1899, 280 head of choice native stock
steers, coming 3 years old, all in good, thrifty condi-
tion, to be sold in one and two car load lots; eight
head of work and driving horses; 20 head of stock
hogs and brood sows.

EFFIE CAMPBELL, Administratrix,
C. Post, Auctioneer. Salina, Kans.

Free Samples of
WRIGHT'S CONDENSED SMOKE.

Send us 10 cents in stamps (to pay
postage) and the names of ten or
twenty of your neighbors that cure
their own meats and we will send
you a sample of **WRIGHT'S CON-
DENSED SMOKE**, the great meat
preservative, the great time,
money and labor saver. Address,
**E. H. Wright & Co., 915 Mulberry
street, Kansas City, Mo.**
In writing mention **KANSAS FARMER**.

Excursion Rates to
Western Canada

And particulars how to secure 160
acres of the best wheat-growing land
on the continent, can be secured on
application to the Superintendent of
Immigration, Ottawa, Canada, or to
the undersigned.
Specially conducted excursions will
leave St. Paul, Minn., on the first
and third Wednesdays in each
month, and specially low rates on all
lines of railway are being quoted for
excursion leaving St. Paul on April
5 for Manitoba, Assinibola, Alberta
and Saskatchewan.

J. S. CRAWFORD,

214 West Ninth St., Kansas City, Mo.,
Government Agent.

NO DRUGS. NO MEDICINE.

Cures every known dis-
ease, without Medicine
or Knife. Hundreds wil-
lingly add their testi-
mony.

Prof. Axtell heals all
manner of diseases,
and teaches this art
to others.

He grants to all men the
power he claims for him-
self. The reason why
he can heal without
medicine is because he
knows how; he not only
cures all manner of dis-
eases in his office but **HE CURES AT A DISTANCE**
WITH EQUAL EFFICACY. Circulars of many
prominent people—who sign their names and recom-
mend his treatment—mailed on application.

Prof. Axtell is endorsed by the leading business
men of this city. Address all communications to

PROF. S. W. AXTELL,
200 W. 3d St., Sedalia, Mo.



CHLORO-NAPHTHOLEUM
THE PREVENTIVE TREATMENT
Prevent Hog Cholera.
It is possible to save yourself from
this serious loss. The expense is but a
trifle, and the result certain if direc-
tions for using
Chlora-Naphtroleum
are carefully followed. Little trouble;
little expense and certain results.
Endorsed by thousands of prominent
swine breeders, by Experiment Sta-
tions, and by Veterinary Experts. Kills
lice, kills ticks on sheep and cattle,
cures screw-worm.
Write for free book. It will help you.
Chlora-Naphtroleum will be supplied
from our nearest local agency, or from
local dealers. Agents wanted in unoc-
cupied territory. Write or telegraph
West Disinfecting Co.
E. TAUSSIG & CO., Proprietors,
25 East 59th St., New York.
"An ounce of prevention is worth a pound
of cure."

WATCH AND CHAIN FOR ONE DAY'S WORK.

Boys and Girls can get a Nickel-Plated Watch,
also a Chain and Charm for selling 11-3 dozen
Packages of Blaine at 10 cents each. Send your
full address by return mail and we will forward
the Blaine post-paid, and a large Premium List.
No money required.
BLUINE CO. Box 349 Concord Junction, Mass.

ROOFING IS GOING UP.

Buy your Corrugated iron roofing, steel
roofing, metal shingles, etc., before the ad-
vance in price. **CHEAPER THAN SHIN-
GLES**, easier put on, last longer. How to
order and how to use, estimates of cost,
etc., contained in our catalogue No. 8. To all
who enclose 2c for postage. Tells all about
DONKEY PAINT, rust proof, for metal,
wood or felt. Mention this paper.

THE KANSAS CITY ROOFING & CORRUGATING CO.,
KANSAS CITY, MO.

7000 BICYCLES
Overstock; must be closed out.
'98 Models \$9 to \$16.
Shopworn and secondhand
wheels, as good as new \$3 to
\$10. New '99 Models,
\$11 to \$20. Great Factory
clearing sale. We ship to any-
one on approval, without a cent
in advance.
EARN A BICYCLE
by helping us advertise our superb line of '99 models. We give one
Rider Agent in each town **FREE USE** of sample wheel to in-
troduce them. Write at once for our special offer
MEAD CYCLE CO., 291 Ave. F., Chicago, Ill.



The Home Circle.

SPRING'S AWAKENING.

From all the blasts of heaven thou hast descended;
Yes, like a spirit, like a thought, which makes
Unwonted tears throng to the horny eyes,
And beatings haunt the desolated heart,
Which should have learned repose; thou hast descended
Cradled in tempests; thou dost awake, O Spring!
O child of many winds! As suddenly
Thou comest as the memory of a dream,
Which now is sad because it hath been sweet;
Like genius, or like joy, which riseth up
As from the earth, clothing with golden clouds
The desert of our life.
This is the season, this the day, the hour;
At sunrise thou shouldst come, sweet sister mine,
Too long desired, too long delaying, come!
How like death-worms the wingless moments crawl!
The point of one white star is quivering still
Deep in the orange light of widening storm
Beyond the purple mountains; through a chasm
Of wind-divided mist the darker lake
Reflects it; now it wanes; it gleams again
As the waves fade, and as the burning threads
Of woven cloud unravel in pale air;
'Tis lost! and through yon peaks of cloud-like snow
The roseate sunlight quivers; hear I not
The Aeolian music of her sea-green plumes
Winnowing the crimson dawn?
—Shelley ("Prometheus Unbound.")

QUEEN VICTORIA'S DESCENT FROM ADAM.

In The Apostolic Faith, a new publication recently begun in Topeka and printed on Kansas Farmer presses, appeared an article (March number) with the above caption.

It is certainly worth a careful reading, even though all may not believe the proof entirely reliable.

The "oath to David" referred to may be found recorded in II Samuel, vii, 16; I Kings, ii, 4; Psalms, lxxxix, 29, 30; Jeremiah, xxxiii, 17, but the last reference would scarcely fit Queen Victoria, as a man is required; possibly the Prince of Wales might do. Then, too, Jeremiah xxxiii, 31 and 37, seems to define the locality as "this place"—Jerusalem, therefore London would scarcely fit.

But there is one point in which all will agree, viz, that Victoria and David are direct descendant from the same ancestor. There are seventeen or more families in Kansas who are related in the same manner. The article referred to is as follows:

The following genealogy was first studied by Rev. F. R. A. Glover, M. A., of London, in 1861, but no depths of fact were reached, when others took it up, until Mr. J. C. Stevens, of Liverpool, compiled the evidence which resulted in bringing to light the wonderful fact that God has proved His oath to David that he would never want for an heir to sit on the throne, and infidelity is nonplussed.

This, then, was discovered to be no new fact; that the Saxon kings had done the same was found in MS. in Herald College, London, and in Sharon Miner's History of Anglo-Saxons, Vol. I.

At the capture of Jerusalem, Zedekiah was taken to Babylon and died there, but Jeremiah, his father-in-law, fled with the heir to the throne, Tea Tephi, to Egypt, and when Egypt fell fled on board a ship carrying tin from Britain, and thus reached Ireland, and there died.

"In the following genealogy those who reigned have K fixed to their names. The dates after private names refer to their birth and death; those after sovereign's names to their accession and death. Wherever known, the wives have been mentioned. Besides those mentioned in Genesis, some have been obtained from Polano ('The Talmud,' London, 1877.) b. and d. stand for born and died."

ADAM TO VICTORIA.

Generations.

1. Adam, B. C. 4000, 3070, Eve.
2. Seth, B. C. 3870, 2978.
3. Enos, B. C. 3765, 2860.
4. Cainan, B. C. 3675, 2765.
5. Mahalaleel, B. C. 3605, 2710.
6. Jared, B. C. 3540, 2578.
7. Enoch, B. C. 3378, 3013.
8. Methusaleh, B. C. 3313, 2344.
9. Lamech, B. C. 3126, 2344.
10. Noah, B. C. 2944, 2006, Naamah.
11. Shem, B. C. 2442, 2158.
12. Arphaxad, B. C. 2342, 1904.
13. Salah, B. C. 2307, 2126.
14. Heber, B. C. 2277, 2187.
15. Peleg, B. C. 2243, 2004.
16. Ren, B. C. 2213, 2026.
17. Serug, B. C. 2181, 2049.
18. Nahor, B. C. 2052, 2003.
19. Terah, B. C. 2122, 2083, Amthetha.
20. Abraham, B. C. 1992, 1817, Sarah.
21. Isaac, B. C. 1896, 1716, Rebekah.
22. Jacob, B. C. 1837, 1690, Leah.
23. Judah, B. C. 1753, Tamar.
24. Hebron.
25. Aram.

26. Aminadab.
27. Naashon.
28. Salmon.
29. Boaz, B. C. 1312, Ruth.
30. Obed.
31. Jesse.

KINGS OF ISRAEL.

32. K. David, B. C. 1085, 1015, Bathsheba.
33. K. Solomon, B. C. 1003, 975, Naamah.
34. K. Rehoboam, B. C. b. 1016, d. 958, Maacah.
35. K. Abijah, B. C. 958, 955.
36. K. Asa, B. C. 955, 914, Azubah.
37. K. Jehoshaphat, B. C. 914, 889.
38. K. Jehoram, B. C. 889, 885, Athaliah.
39. K. Ahaziah, B. C. 906, 884, Zibiah.
40. K. Joash, B. C. 885, 839, Jehoaddin.
41. K. Amaziah, B. C. b. 864, d. 810, Jehoiah.
42. K. Uzziah, B. C. b. 826, d. 758, Jerushah.
43. K. Jotham, B. C. b. 783, d. 742.
44. K. Ahaz, B. C. b. 787, d. 726, Abi.
45. K. Hezekiah, B. C. b. 751, d. 698, Hephzibah.
46. K. Manasseh, B. C. b. 710, d. 643, Meshullemeth.
47. K. Amos, B. C. b. 621, d. 641, Jedidah.
48. K. Josiah, B. C. b. 649, d. 610, Hamutah.
49. K. Zedekiah, B. C. 578, 599.

KINGS OF IRELAND.

50. K. Heremon, b. B. C. 580, Tea Tephi.
51. K. Irail, Foidh reigned 10 years.
52. K. Ethrail, reigned 20 years.
53. Follain.
54. K. Tighernmas, reigned 50 years.
55. Eanbotha.
56. Smiorguil.
57. K. Fiachadh Labhraine, reigned 24 years.
58. K. Aongus Ollmuchaigh, reigned 21 years.
59. Moain.
60. K. Rotheachta, reigned 25 years.
61. Dein.
62. K. Siorna Saoghalach, reigned 21 years.
63. Oholla Olchaoin.
64. K. Giallachadh, reigned 9 years.
65. K. Aodhain Glas, reigned 22 years.
66. K. Simeon Breac, reigned 6 years.
67. K. Muireadach Bolgrach, reigned 4 years.
68. K. Fiachadh Tolgrach, reigned 7 years.
69. K. Duach Laidrach, reigned 10 years.
70. Eochaidh Buaigilorg.
71. K. Ugaine More the Great, reigned 30 years.
72. K. Cobhthach Colbreag, reigned 30 years.
73. Meilage.
74. K. Jaran Gleofathach, reigned 7 years.
75. K. Coula Cruaidh Cealgach, reigned 4 years.
76. K. Oiliolla Caisfhiachach, reigned 25 years.
77. K. Eochaidh Foltleathan, reigned 11 years.
78. K. Aongus Tuirmheach Teamharch, reigned 30 years.
79. K. Eana Aighneach, reigned 28 years.
80. Labhra Suire.
81. Blathucta.
82. Easamhuin Eamhna.
83. Roighnein Ruadh.
84. Finlogha.
85. Fian.
86. K. Eodechaidh Feidhloch, reigned 12 years.
87. Fineamhuas.
88. Lughaidh Raidhdearg.
89. K. Criomthan Niadhna, reigned 16 years.
90. Fearaidhach Fion Feachtuigh.
91. K. Fiachadh Fionoluidh, reigned 20 years.
92. K. Tuathal Teachtmair, reigned 30 years.
93. K. Coun Ceadhathach, reigned 20 years.
94. K. Arb Oanflier, reigned 30 years.
95. K. Cormae Usada, reigned 40 years.
96. K. Caibre Liffeachair, reigned 27 years.
97. K. Fiachadh Sreabhthuine, reigned 30 years.
98. K. Muireadhach Tireach, reigned 30 years.
99. K. Eochaidh Moigmeodhin, reigned 7 years.
100. K. Niall of the Nine Hostages.
101. Eogan.
102. K. Muireadhach.
103. Eareca.

KINGS OF ARGYLESIRE.

104. K. Feargus More, A. D. 437.
105. K. Dongard, d. 457.
106. K. Conran, d. 535.
107. K. Aidan, d. 604.
108. K. Eugene IV., d. 622.
109. K. Donald IV., d. 650.
110. Dongard.
111. K. Eugene V., d. 692.
112. Findan.
113. K. Eugene VII., d. A. D. 721, Spondan.
114. K. Echinus, d. A. D. 761, Fergina.
115. K. Achais, d. A. D. 819, Fergusia.

SOVEREIGNS OF SCOTLAND.

116. K. Alpin, d. A. D. 834.
117. K. Kenneth II., d. A. D. 854.

118. K. Constantin II., d. A. D. 874.
119. K. Donald VI., d. A. D. 903.
120. K. Malcolm I., d. A. D. 958.
121. K. Kenneth III., d. A. D. 994.
122. K. Malcolm II., d. A. D. 1033.
123. Beatrix m. Thane Albanach.
124. K. Duncan I., d. A. D. 1040.
125. K. Malcolm III. Canmore, A. D. 1055, 1093, Margaret of England.
126. K. David I., d. A. D. 1153, Maud of Northumberland.
127. Prince Henry, d. A. D. 1153, Adama of Surry.
128. Earl David, d. A. D. 1219, Maud of Chester.
129. Isabel m. Robert Bruce III.
130. Robert Bruce IV. m. Isabel of Gloucester.
131. Robert Bruce V. m. Martha of Carriok.
132. K. Robert I. Bruce, A. D. 1306, 1329, Mary of Burke.
133. Margary Bruce m. Walter Stewart III.
134. K. Robert II., d. A. D. 1390, Euphonia of Ross, d. A. D. 1376.
135. K. Robert III., d. A. D. 1460, Arabella Drummond, d. A. D. 1401.
136. K. James I., A. D. 1424, 1437, Joan Beaufort.
137. K. James II., d. A. D. 1406, Margaret of Gueldres, d. A. D. 1463.
138. K. James III., d. A. D. 1488, Margaret of Denmark, d. A. D. 1484.
139. K. James IV., d. A. D. 1543, Margaret of England, d. A. D. 1539.
140. K. James V., d. A. D. 1542, Mary of Lorraine, d. A. D. 1560.
141. Queen Mary. d. A. D. 1587, Lord Henry Darnley.

SOVEREIGNS OF GREAT BRITAIN.

142. K. James VI. and I., A. D. 1603, 1625, Ann of Denmark.
143. Princess Elizabeth, 1596, 1613, K. Frederick of Bohemia.
144. Princess Sophia m. Duke Ernest of Brunswick.
145. K. George I., 1698, 1727, Sophia Dorothea Zelle, 1667, 1726.
146. K. George II., 1727, 1760, Princess Caroline of Anspach, 1683, 1737.
147. Prince Frederick of Wales, 1707, 1751, Princess Augusta of Saxe-Gotha, 1744, 1818.
148. K. George III., 1760, 1820, Princess Sophia of Mecklenburg Strelitz.
149. Duke Edward of Kent, 1767, 1820, Princess Victoria of Leinengen.
150. Queen Victoria, b. 1819, cr. 1838, Prince Albert of Saxe-Coburg.

"From this royal princess, we obtain, then, a direct and unbroken line of ancestry to King Fergus, who went from Ireland to reign as king of Scotland; and from King Fergus I. of Scotland we get the same unbroken line to the time of King James of Scotland, who himself became king of England; and from King James we get the same unbroken line to our beloved queen, she being, then, the seed royal to King David's house, and therefore the royal seed of King David; she is, and must be, the ruling monarch over the Ten Lost Tribes of Israel.

"The Rev. Joseph Wild, D. D., says the old Irish histories say when Jeremiah landed in Ireland with Princess Tea Tephi, he took with him a stone, which stone was known to have been in the temple at Jerusalem. On this very stone all the monarchs in Ireland were crowned, until Fergus I., King of Scotland, who caused the same stone to be taken from Ireland to Scotland, and so were all the monarchs in Scotland crowned upon it, from Fergus to King James, after which it was brought to England; and so all the monarchs in England, from King James to our beloved Queen, have been crowned upon it, she being the last crowned upon this wonderful stone; so that for 2,450 years monarchs have been crowned upon this stone, which stone may be seen this very day under the coronation chair in Westminster Abbey, London. It received the names, Wonderful, the Precious Stone, Jacob's Stone, and is now called Jacob's Stone. The Lord said Jacob's stone should be a pillar of witness that he would fulfill his promises to Israel. The stone was kept in the temple at Jerusalem as a witness, and from there was removed to Ireland, and then to Scotland, and now we have it as a witness in England. 'Joshua (xxiv, 27) said unto all the people, behold, 'this stone' shall be a witness unto us, for it hath heard all the words of the Lord, which he spake unto us; it shall be, therefore, a witness unto you, lest ye deny your God.' I ask, why does this enlightened nation keep such a stone so many generations if there is no meaning in it? Why, because it must continue with the royal seed to be a witness that our Queen is the seed royal to King David's house, and her subjects are the Ten Lost Tribes of Israel.

Queen Victoria's peaceful, prosperous, successful reign for well-nigh three-score years has been almost phenomenal. Who next? Possibly the Prince of Wales for a turbulent time during the final war with Esau, and then possibly 'A child shall lead

BUY GOODS IN CHICAGO



Have you tried the Catalogue system of buying EVERYTHING you use at Wholesale Prices? We can save you 15 to 40 per cent. on your purchases. We are now erecting and will own and occupy the highest building in America, employ 2,000 clerks filling country orders exclusively, and will refund purchase price if goods don't suit you.

Our General Catalogue—1,000 pages, 16,000 illustrations, 60,000 quotations—costs us 72 cents to print and mail. We will send it to you upon receipt of 15 cents, to show your good faith.

MONTGOMERY WARD & CO.
MICHIGAN AVE. AND MADISON ST.
CHICAGO.

them,' since the next heir is a baby now. And then Jesus, who was born to this end. 'Thus saith the Lord God, Behold, I will take the children of Israel from among the heathen, whither they be gone, and will gather them on every side, and bring them into their own land; and I will make them one nation in the land upon the mountains of Israel; and one king shall be king to them all, and they shall be no more two nations, neither shall they be divided into two kingdoms any more at all.'

Duke of Sutherland.

Editor Kansas Farmer:—I have read in Kansas Farmer of February 16 a fine sketch concerning the British peerage. It mentions the death of Duchess of Sutherland, and I would like to know if you can tell me the name of the old Duke of Sutherland, that is, the father of the present duke; his given name I wish to know. What part of Scotland do they live in? This will be a great favor to me if you will answer.

MRS. NETTIE MARTIN.

Newton, Kans.

The county or division of Scotland known as Sutherland is one of the most northern portions of Scotland. It is bounded on the north and west by the Atlantic Ocean and on the east by the North Sea and the county of Caithness. Its southern boundary is formed by Ross and Cromartie. The father of the present Duke of Sutherland was George Granville William Sutherland-Leveson-Gower. He was born December 19, 1829, and was a member of the House of Commons for Sutherlandshire from 1852 to 1861, and he succeeded to the dukedom February 21, 1861. He was one of the wealthiest of the British peers, having large estates in England and Scotland. His principal residences were Stafford House, London; Dunrobin Castle, and Loch Inver House, Sutherlandshire; Trentham Hall, Staffordshire; Lilleshall House, Shropshire, and Tarbat House, Rosshire. His eldest son, the present duke, who is the fourth Duke of Sutherland, during the life of his father was the Marquis of Stafford. He was born July 20, 1851. He was an officer in the life-guards, and from 1874 he represented Sutherlandshire in the House of Commons, and his brother became the Earl of Cromartie.

Fast Dyes for Cotton.

Brilliant and Unfading Colors
Made by Diamond Dyes.

A Ten-Cent Investment Often
Saves Dollars.

Professional dyers always use different dyes for cotton than for wool, as cotton is a vegetable fibre, while wool comes from an animal. In Diamond Dyes there are some fifteen fast colors that are prepared especially for cotton and mixed goods. These dyes give colors that even washing in strong soap-suds or exposure to sunlight will not fade.

For coloring carpet rags, rugs, and everything liable to exposure to sunlight or to hard usage, nothing equals the Diamond Dyes. People whose rag carpets have been colored with Diamond Dyes say that the color lasts as long as the carpet itself.

Sample card of colors and direction book free. Wells, Richardson & Co., Burlington, Vt.

The Young Folks.

FORERUNNERS OF SPRING.

Where the gusty skies o'erarch
Hill and hollow, rick and river,
Comes the blustering wind of March,
Setting all the reeds a-shiver;
Leafless willow-tree and larch,
How their branches shake and quiver.
Touch of grasses on the hill
Where the awkward lambs are playing;
Color-glints that nestle still
Where the violets are staying;
Sound of waters by the mill
Where the current down is straying.
Swallows in their figured flight,
Upward rising, downward dipping,
Fass, as would a shaft of light
Into opened shutter slipping,
Now above in airy height,
Now across the mill-pond skipping.
Now the world is in its prime,
Banished all the signs of sadness,
Spring's wild winds are set to rhyme
Sweeter than Midsummer's madness;
Even on the face of Time—
Old and wrinkled—there is gladness.
—Ernest McGaffey, in the Woman's Home Companion.

LIQUID AIR.

Not strictly a new feat in science is the production of liquefied air. The gases which envelop the earth to a depth of some fifty miles are several mixed together. But the quantities of all save oxygen and nitrogen are so small that it is customary to speak of the air as composed of these two. It used to be taught that these and other of the so-called permanent gases could not be liquefied, and that in this respect they differed from steam and other vapors. Later, it was said that gases had not yet been liquefied. Still later, persistent effort by patient scientists produced small quantities of liquid air.

A few months ago it was announced that methods had been perfected whereby air could be liquefied on a commercial scale, and bucketfuls of the liquid were exhibited by Mr. Charles E. Tripler, of New York.

It is not safe to accept as free from error every statement made about this strange liquid, but the following account of an exhibition given in Washington will be read with interest:

"The most extraordinary exhibit ever given in Washington was witnessed at the Arlington Hotel last night by the scientific circle of this city, members of the Cabinet, Supreme court, diplomatic corps and other public men. It was given under the auspices of the National Geographical Society, presided over by Prof. Bell, the inventor of the telephone, and furnished an opportunity for Charles E. Tripler, of New York, to show for the first time in public the new motive power which he has discovered and calls liquid air. A description of this remarkable liquid and its uses appears in McClure's Magazine for March and a more elaborate account will be given in the April Century.

"Briefly and simply stated, Mr. Tripler takes 800 gallons of ordinary air drawn from any window and by compression and cold reduces it to one gallon of a liquid that looks like glycerine and retains its form at a temperature of 312° below zero. As it warms it expands into vapor and then into air, just as water is expanded into steam by heat. By controlling this expansion Mr. Tripler proposes to furnish a new motive power for every use of transportation companies on sea and on land, for factories, furnaces, and for every other purpose for which steam and electricity are now used. The expansive force is equal to 2,000 pounds a square inch, and without an exhaust pipe the pressure is so great that there is now no material of sufficient strength to restrain it. In other words, a pint or a quart or a gallon of this liquid will burst any vessel in which it may be confined unless there is an opportunity for its gradual escape.

"Liquid air is manufactured by apparatus which Mr. Tripler has invented. The first gallon or two is made by the use of coal or any other ordinary fuel, just as ice is made in a factory, but thereafter he is able to reproduce ten gallons of the fluid by the expenditure of two. A railway locomotive or a steamship will therefore create its own power from the atmosphere as it passes along its way, and a factory engineer will simply turn the key of a ventilation pipe, start his machine and manufacture fuel as he needs it. Mr. Tripler insists that this energy can be used with no more difficulty and at a cost 70 per cent less than steam, and, having mastered the secret of its production, he now proposes to apply it to practical use.

"Mr. Tripler brought six gallons of liquid air with him from New York, and in the presence of four or five hundred persons performed the experiments that are described in McClure's Magazine. He dipped the stuff out of his can with an ordinary tin dipper, just as a milkman would dip milk. He dropped a potato in it, lifted it out in two or three minutes and threw it on the floor, where it broke into a thousand little crystals. He took a rubber ball, immersed it in the liquid and then broke



Cutting the cables under fire at Cienfuegos. After a drawing in Harper's Magazine. Copyright, 1899, by Harper & Brothers.

The same day that the Winslow, the Hudson and the Wilmington were having their action at Cardenas, far away on the southern coast of Cuba another fight was taking place, in the progress of the work of separating the great island from the rest of the world. On the night of May 10, Captain McCalla of the Marblehead called for volunteers to protect the cable-cutters in their work. The roll was soon filled, and the next morning the steam launches of the Marblehead and Nashville, towing the two sailing launches under command of Lieutenants Winslow and Anderson, started into the harbor of Cienfuegos about quarter before seven. They carried a squad of marines picked for proficiency as marksmen, and a machine gun in the bow of each boat. The Nashville and Marblehead then opened fire on the Spanish batteries, and under cover of this, and that of the steam launches, the crews of the other boats went to work. It was a perilous business, but the sailors grappled and cut successfully the two cables they had been ordered to destroy. They also found a small cable, but the grapnel fouled the bottom and was lost. Meantime the Spanish fire grew hotter and hotter, pouring out from the batteriots and machine guns, and the boats began to suffer. The well-directed fire from the rifles of the marines and from the one-pounders kept the Spaniards from reaching the switch-house which controlled the submarine torpedoes, but launches could not contend with batteries at close range, and when the work for which they came, and which had all been performed under a heavy fire, was done, they withdrew to the ships. Nine men, including Lieutenant Winslow, had been wounded, some seriously, and three, as was reported later, mortally. It was a very gallant exploit, coolly and thoroughly carried through, under a galling fire, and it succeeded in its purpose of hampering and blocking in the enemy at the important port of Cienfuegos,



WINCHESTER

Big Shotguns, Ammunition and Shells. Winchester guns and the standard of the world, but not any more than poorer makes. We sell Winchester goods.

Write name on a postal for 158 page Illustrating all the guns and ammunition

WINCHESTER REPEATING ARMS CO.,

Winchester Ave., NEW HAVEN, CONN.

the loaded gun. There on the streets of the strange tropic city they are as impersonal as gods.

It all made me sigh for the riot and roar of Whitechapel or the lower East Side, or some of the ginger of Chicago after candle-light, and I appealed to my officer friend. I asked him to kindly hit some passing straggler over the head with his six-shooter, since I could make nothing out of all this but a pastoral.

"Well," he said laughingly, "it was more interesting at first. There was a function here, and I was told off with my company to keep the crowd back. The people pressed the marching column, and as I passed along I said to the sentry at that point, 'The crowd must be kept back.' 'Yes, sir,—and I noticed that it was Private Shaunnessy, a good old vet, and passed on. Casually turning around, I beheld the greatest commotion and rushed back.

"'Stop, stop!' I yelled, 'I don't want you to kill them!'

"The crowd was flying from the quickly placed 'butts to the front,' and Private Shaunnessy soon had room.

"My dear man, you must not kill them," I said.

"I was not killing them, captain. I thought it best to assume a threatening attitude—sir."

"Another soldier in dispersing a crowd pointed with his finger at them, and observed in a long Southwestern drawl: 'Now—I want—you people to get back. I know you don't understand what I am talking about but I understand my orders, and now I am going to plow into you,' with which calm statement he moved forward with the light of battle in his eye. The crowd was as feathers in a wind."

But when Havana thinks over her vicissitudes in the coming years, she can say the American regular made Havana look like Sunday morning in a New England village on a summer's day, and a Spanish-American town is not like that by nature.—Frederic Remington, in Collier's Weekly.

Chronic Nasal Catarrh poisons every breath that is drawn into the lungs. There is procurable from any druggist the remedy for its cure. A small quantity of Ely's Cream Balm placed into the nostrils spreads over an inflamed and angry surface, relieves immediately the painful inflammation, cleanses, heals and cures. Drying inhalants, fumes, smokes and snuffs simply envelop dry catarrh; they dry up the secretions which adhere to the membrane and decompose, causing a far more serious trouble than the ordinary form of catarrh. Avoid all drying inhalants, use Ely's Cream Balm. It is reliable and will cure catarrh, old in the head and hay fever easily and pleasantly. All druggists sell it at 50 cents or it will be mailed by Ely Brothers, 56 Warren St., N. Y.

ONLY ONE DOLLAR DOWN

Cut this ad. out and send to us with \$1.00 and we will send you this **HIGH GRADE 1899 MODEL \$50.00 VICTORIA BICYCLE** by express, C. O. D., subject to examination. Examine it at your express office and if you find it a genuine 1899 model **HIGH GRADE \$50.00 VICTORIA**, the grandest bargain you ever saw or heard of and you are convinced it is worth \$10.00 to \$15.00 more than any wheel advertised by other houses up to \$25.00, pay your express agent the balance, **\$14.95** and express charges.

THE VICTORIA IS COVERED BY A BINDING GUARANTEE. Frame is 22 or 24 inch, made of full ball bearings, Mason arch crown, enameled black, up or down turn handle bars, best Doyle pedals, **HIGH GRADE** complete with all tools and repair outfit. **SELLING THESE WHEELS AT \$25.00.** (Bears, Roebuck & Co.)

BUCK & CO., CHICAGO, ILL.

same lamp as is now being widely advertised as a **LAR \$4.00 ACETYLENE GAS LAMP**, but

KANSAS FARMER

ESTABLISHED IN 1863.

Published Every Thursday by the
KANSAS FARMER COMPANY.

E. B. Cowgill, Pres. J. B. McAfee, Vice Pres.
D. C. Nellis, Sec'y and Treas.

OFFICE:
No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

E. B. COWGILL, Editor.
H. A. HEATH, Advertising Manager.

ADVERTISING RATES.

Display advertising, 15 cents per line, agate (fourteen lines to the inch).
Special reading notices, 25 cents per line.
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.
Annual cards in the **Breeders' Directory**, consisting of four lines or less, for \$16.00 per year, including a copy of **KANSAS FARMER** free.
Electros must have metal base.
Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.
To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.
All advertising intended for the current week should reach this office not later than Monday.
Every advertiser will receive a copy of the paper free during the publication of the advertisement.
Address all orders—
KANSAS FARMER CO., Topeka, Kans.

"The Annexation of Cuba" or words to that effect may be looked for in newspaper head-lines with considerable frequency in the near future.

The little three-cornered wrangle about the Samoan islands seems likely to be settled by giving to these people some sort of communal government under a protectorate by the United States, Great Britain and Germany. If this is not a queer mixture of masters the protege is at least given a queer remedy to emanate from such doctors.

The Ninth International Sunday School Convention will be held at Atlanta, Ga., April 26-30. The railroads have granted a very low rate, and delegates holding proper credentials will be entertained free. The Kansas delegation expects to go via Chattanooga, stopping part of a day there to visit Lookout Mountain and Chickamauga Park. Anyone desiring further information, or to go as a delegate, should write the chairman of the committee, J. F. Drake, Topeka, Kans.

As many fruit growers already know, the Agricultural College has been experimenting along the line of cold storage for fruits for some time, and has obtained some very definite results. This information is soon to be distributed in the form of a bulletin on the subject, "Cold Storage for Fruits." This is the first bulletin to be issued in the United States on this important subject and will be widely read. Send your request to the Horticultural department of the college and obtain a copy.

The feed-in-transit rates are not to be abolished at present. Secretary Martin, of the National Live Stock Association, who has been giving the matter some attention, was notified by the Santa Fe that the order abolishing the rates had been suspended until May 20. Assurances were had from the other trans-Missouri lines that they would take the same action. All the trans-Missouri lines had issued orders abolishing the rate on April 1. This caused a general protest from stock shippers all over the West.

The Wine and Spirit Gazette says: "According to the announcement of the Wholesale Liquor Dealers' Association, of St. Louis, Mo., that organization has the written promises of nearly one hundred of the newly-elected Congressmen to support any legislation looking to the reduction of the tax on whisky to 70 or 90 cents a gallon, the doing away with superfluous revenue officers, and that when whisky has once paid the tax it shall be entirely free to commerce." This is the way these people attend to the political part of their business.

The regular Government weekly crop and weather reports for Kansas will be resumed for the season in the Kansas Farmer next week. Scattering reports received thus far indicate varying conditions of wheat, even in localities near together. It has been currently believed that the heaviest damage occurred in the north-central portion of the State. Mr. H. M. George, of Minneapolis, writes under date April 1: "The ground now is covered with snow. The sun shines warm. All wheat sown on wheat stubble without plowing and that sown on corn ground is doing well; others have suffered some in the immediate vicinity."

them now and then to see if the young worms are present. If they are hatching out they will be seen to fall, suspended by silken threads, when the trees are jarred. The sooner the trees are sprayed after the first appearance of the larvae, so much the better. It would be well to have everything ready for operation. Procure plenty of pure Paris green or London purple, and have the spraying machine in good working order to secure quick and effective results."

The United States, Canada and Mexico will each have a part in the survey of the 98th meridian. This line passes through Jewell, Mitchell, Lincoln, Ellsworth, Rice, Reno, Kingman and Harper Counties in Kansas. It passes through range 6 west near the middle of the range.

S. B. Armour, the head of the Armour packing interests at Kansas City, died at his home in that city last Wednesday morning of pneumonia. Simon Brooks Armour was born on a farm in Madison County, New York, February 1, 1828. He was bred to hard work on the farm and lived there till 1870, when at the request of his brother Philip he came to Kansas City to open a branch of the Chicago house. In the fall of 1870 and the winter of 1871 the firm of Plankinton & Armour began business in a rented building. The spring of 1871 the first building of Plankinton & Armour was built. It is now part of the big plant that covers acres. The Armours, of whom there were five brothers, attribute their great success in business to the sturdy training in industry and economy received on the farm.

It is stated that the military commission investigating the complaints of General Miles against the beef furnished the army in the Spanish war, will report that there was no "embalmed" beef furnished, but that the so-called "canned roast beef" was not fit for a hospital ration. The published evidence makes it plain that much of this canned beef was unfit for any ration and that much of the refrigerator beef was in no condition to be eaten when it reached the soldiers. This last fact may itself contradict the charge that the beef was treated with any kind of "preservative" entitling it to be called embalmed beef. But mothers of the boys who were furnished such rations will not laud the efficiency of the commissary service which failed to furnish good, wholesome rations to these fighting patriots.

The chemical department of the Kansas Experiment Station has just issued a bulletin giving the results of last year's experiments with sugar beets in Kansas. The average content of sugar in the beets is given as 11.88 per cent and the average purity as 76.1 per cent. The South Dakota bulletin on the same subject, recently issued, gives the sugar content in that State as 18.44 per cent and the average purity as 88.91 per cent. It is proper to say, however, that fifteen growers in Kansas who had large plats of beets exceeded the general average of the State. Their average sugar content was 12.70 per cent and the average purity of their juice was 83 per cent. The average yield of these fifteen growers in Kansas was 15.9 tons per acre, varying from 3½ to 35 tons per acre. The South Dakota average was 16.3 tons per acre. Neither the Kansas report nor the Dakota report, nor any report yet published, gives sufficient information for the determination of the question, "Can the beet sugar industry be made profitable in any part of the United States under present conditions or under any conditions likely in future to exist?"

The following concise directions for preparation of land for alfalfa are from J. W. Haney, of the Kansas Experiment Station: "Now is the time to begin preparing to sow alfalfa. A deep, loose seed-bed is not what you want, but it needs to be moist, and for this we may have the required rainfall and we may not. However, the ground is wet now, and if you can keep that moisture there till the plant gets the good of it, there is enough, even without another rain before the first of June, to give alfalfa the best kind of a start. The ground to be put in alfalfa does not need to be plowed deep, but the surface three or four inches must be kept in the best of tilth. Disk or cultivate as soon as possible, and then harrow every week or so, or at least after every rain, to keep up a good earth mulch until it is time to seed. If at that time the surface three or four inches of soil is loose and moist, and there is a solid bed of moist soil underneath this loose surface, then it doesn't matter much, say many extensive alfalfa growers, how you proceed to get the seed under ground. We have had the best results on the Agricultural College farm by using a press drill, and mixing the seed with an equal weight of wheat bran. But the principal thing is to sow alfalfa, and sow it until you get a field."

HORSE BREEDERS' ASSOCIATION.

The following gentlemen have been elected officers of the National Horse Breeders', Dealers' and Exhibitors' Association: President, Colonel F. J. Berry, Chicago; treasurer, J. S. Cooper, Chicago; secretary, T. Butterworth, Chicago; executive committee—F. J. Berry, Chicago; Peter Hopley, Lewis, Iowa; H. E. Fletcher, Minneapolis, Minn.; W. P. Dickinson, Prairie View, Ill., and J. B. Jackson, Chicago. The association adopted a resolution asking the Illinois legislators to aid them in making a suitable show of American horses at the Paris exposition in 1900, and for that purpose \$30,000 is asked.

WYOMING WOOL GROWERS.

At a well-attended meeting, last week, the Central Wyoming Wool-Growers' Association elected the following officers for the ensuing year: Patrick Sullivan, president; W. A. Denecke, secretary; P. C. Nicolaysen, treasurer. L. A. Grant and James V. Cantlin were named for sheep inspectors, but both declined to serve at a salary of \$5 a day. The selection was left to the State board of sheep commissioners.

The following scale of wages was decided upon: Shearers, 8 cents per fleece, the men to board themselves; wranglers, alley men and sackers, \$2.50 per day. Flockmasters are to be assessed \$2.50 per 1,000 head of sheep shorn for expenses of keeping up pens.

At the steam shearing pens at Wolton 115,000 head have been registered. Shearing pens, with a capacity of 75,000 head of sheep, have been erected at Lost Cabin. Shearing will commence about April 10.

There were represented at the meeting 173,000 head of sheep, valued at \$861,000.

CANKER WORMS.

The entomologist of the Kansas Experiment Station, Prof. Percy J. Parrott, gives the following timely notice: "The canker-worm moths (male) have been seen flying about the electric lights in various parts of the State. If an examination is made of the orchard trees in these localities, doubtless many female moths may be seen ascending the trees for the purpose of depositing eggs. It will not be long before we shall witness the annual defoliation of our orchards by the familiar grayish measuring worms. The number of these worms might have been greatly diminished if the trees had been bandaged or traps set for catching the female moths. If this was not done we cannot do anything now till the young worms appear. Let not the caterpillars this year completely defoliate the trees as in past years. But commence spraying early. Watch the trees carefully, shaking

Publishers' Paragraphs.

The famous Numan spray and force-pump which is fully covered by patents and is just so good that it can't be better—"thousands of the best farmers and fruit-growers say so, why shouldn't we believe it," say the manufacturers, and as a force-pump is the only one which can be successfully used for whitewashing hen houses—the guarantee makes a long story short: The Numan people guarantee to give better (all 'round) satisfaction, claiming that it lasts longer than any other. And the price has been greatly reduced for this year.

The coming Sunny Slope sale of Hereford cattle promises to be an unusual event of special interest to the Hereford fraternity, inasmuch as the offering consists of 50 bulls and 50 females, very choice selections from the 500 Herefords from both the Sunrise and Sunny Slope herds, including the great herd bull, Kodax of Rockland 40731. In this issue is shown a sketch of the herd bull, Java 64045. The catalogue and advertisement tell the story of this wonderful offering of Herefords, to be held at Kansas City, Mo., on Tuesday, April 18, 1899.

Application has been made for insurance of \$50,000 on the famous young Jersey bull, Merry Maiden's Son, owned at Hood farm, Lowell, Mass. This is the highest amount of insurance ever asked for on a bull or cow. Merry Maiden's Son is believed to be the most famous Jersey bull living, as he is the son of Merry Maiden, the champion sweepstakes cow in all three tests combined at the World's Fair, and his sire is Brown Besie's Son, whose dam won the ninety days and thirty days tests at the World's Fair. Thus Merry Maiden's Son unites the blood of these two famous cows, and great results are expected from his progeny.

He was in a dreadful hurry, but then he knew a good incubator when he saw it, and especially when he had operated it for a long time. He wrote as follows: "Aztec, Ariz., January 24, 1899.—Collins Incubator Co., Kansas City, Mo.: Enclosed please find Fargo order for \$56. Please ship two more incubators, like one sent before, as soon as possible. The one I purchased from you last spring continues to give perfect satisfaction; in fact, I believe the machine has no equal, and certainly no superior. Please hurry the two machines forward. One is for a friend who, having looked my machine over, desires one like it.—H. W. Hewly."

A Valuable Seed Catalogue.—The 1899 catalogue of the seed firm of J. J. H. Gregory & Son, Marblehead, Mass., is one of the handsomest that has reached us this year. On the back cover is a beautiful example of three-color process printing, showing a new squash that has been brought to perfection by Gregory & Son. The squash is not named as yet, but is known as No. 7. The catalogue contains an offer of \$100 in gold for a suitable name for this new squash. The competition will be open until October 1, when the names suggested will be acted on by a board of three trustworthy men. The new catalogue is full of good things and should be in the hands of every farmer and gardener. It will be sent free on request.

That New England aided her country so efficiently during the War of the Rebellion was due in a great measure to the stalwart worth of the men who stood at the head of her State governments at that critical period in the nation's history. To the New England Magazine for April Mrs. Elizabeth Ballister Bates, a sister of the late Governor Russell, contributes a valuable account of "The New England Governors in the Civil War." Any estimate of the character of these war governors must necessarily begin with a eulogy of their leader, Governor Andrew, of Massachusetts. "To the war itself," says this author, "Governor Andrew was perhaps indebted more than the others for bringing out his greatness. He was not a man for all times, but for just those times." These loyal governors were often obliged to act upon their own responsibility, yet the people trusted their wise judgment, and in no case without reason. The article is a fitting tribute to their worth, and has an added value because of the excellent portraits which accompany it.

D. R. and D. A. R.—The question is often asked what is the difference between the Daughters of the Revolution and the Daughters of the American Revolution, the object and aims of the two societies being apparently the same. The main difference between the two societies is the question of membership on collateral claims. The D. R. insist that to be a "daughter" a member must have had a direct ancestor, such as grandfather or great-grandfather, in revolutionary service, in some degree; while the D. A. R., in the early days of organization, admitted members who were descended from "the mother of a patriot," thus recognizing collateral claims in right of great uncles of various degrees, who often were anything but patriots. D. R. applicants for membership are required to make affidavit as to their direct line of descent from revolutionary patriots, and must give documentary

proof of the services of such ancestors. Another point of difference is in form of government; the D. R. organization is modeled upon the plan of the United States government, comprising State societies and local chapters. The local chapters are under the supervision of the State societies, and the latter in their turn subject to the authority of the general board. The D. A. R. have no State organizations, and their chapters are governed directly by a national board at Washington, which concentrates in itself all authority.

The Manufacture of Sorghum Sirup.

The manufacture of sorghum sirup has changed but little in the past forty years. The processes now used are essentially the same as then. This lack of progress is in striking contrast with the improvements which have been made in nearly all other manufactures during that period.

In 1860 the production of sorghum sirup amounted to 6,749,123 gallons; in 1870, 16,050,089; and in 1880, 28,444,202. In 1890 the production had fallen to 24,235,218 gallons, and it is believed that there has been a still further decline since then.

Sorghum is grown to a greater extent in this country than any other sirup-producing plant, and its juice can be made to produce sirup of nearly as good quality as sugar cane sirup.

The manufacture of sorghum sirup has declined because the quality of the sirup is such that other sirups are preferred by the general public, since it ranks in the Northern markets with the middle grades of Louisiana centrifugal molasses.

By improving the value of sorghum sirup the demand may be increased, its value raised, and its manufacture extended.

For the purpose of calling attention to the condition of this industry and to the difficulties of sorghum sirup manufacture, and with the hope of inducing sirup makers to improve their processes, the United States Department of Agriculture has had prepared and will soon issue Farmers' Bulletin No. 90, entitled "The Manufacture of Sorghum Sirup."

This bulletin was prepared by A. A. Denton, Medicine Lodge, Kans., and discusses the entire subject of the manufacture of sorghum sirup, from the planting of the sorghum seed and the cultivation of the plant, through the various processes to the finished product.

Sorghum sirup and sugar cane sirup are compared, statistics of sorghum production are given, and the necessity of improving the methods of clarification, especially in the semi-arid region, is pointed out.

Other matters which receive attention are the preparation of the soil; planting and

cultivation of sorghum; grinding cane; clarifying the juice; settling tanks for hot and cold clarification; skimming, settling and filtering; claying, evaporating and clarifying by superheating the juice.

The bulletin is for free distribution and may be obtained, when issued, upon application to Members of Congress or the Secretary of Agriculture.

John Bull smacks his lips, passes up his plate, and demands another slice of China to appease his appetite and satiate his lion.

One of the best stock books that has ever come to this office is entitled "Holstein-Friesian Cattle—A History of the Breed and Its Development in America." It was written by Frederick L. Houghton, editor of the Holstein-Friesian Register.

A very useful and convenient poultry book has just been published by Mr. C. B. Tuttle, of Topeka. It is entitled "Excelsior Farm Guide to Poultry Culture, Standard-bred Poultry and Poultry Supplies." It contains an enumeration of the breeds of fowls, with illustrated descriptions of the most prominent, and price lists of such as are kept at Excelsior Farm. Much valuable information about poultry supplies is given. Directions for the poultry industry and suggestions in management derived from the experience of Mr. Tuttle constitute a large part of the booklet. Not the least valuable part of the book is that devoted to advertisements of poultry supplies and appliances. Many persons will find perplexing questions answered in these advertisements.

Henry Clews has issued a special circular assuring his patrons that conditions in the financial world favor continued advances in prices of stocks and bonds. He expects more reverse turns in 1899 than occurred in 1898, but that on the average prices will rule higher. The inference is clearly implied that the time is opportune for placing some money with a New York broker with instructions to buy some of these paper properties. That is one of the important sources of income from which New York millionaires' fortunes are made, and why should not the lambs from the country—in New York parlance "country" means any place in America outside of the metropolis—be encouraged to speculate? Most bank officers who have gone wrong have done so on account of having taken first a "flyer" in such speculation. Losses came in greater volume than gains, and the bank's money—that is other people's money—was stealthily borrowed to make another trial. A wrecked bank, a damaged community, a ruined family, its head a fugitive from justice, is the continuation of the history of most such cases. Thereon does speculation feed.

Best Seeds that Grow!

Thousands of Dollars in CASH PRIZES for 1899

and many other New Features, of particular interest, presented in

BURPEE'S Farm Annual

Leading American Seed Catalogue Mailed FREE to all.

A handsome new book of 176 pages,—tells the plain truth about Seeds, including rare Novelties which cannot be had elsewhere. Beautiful colored plates and hundreds of illustrations from nature. Gives practical information of real value to all who would raise the choicest Vegetables and most beautiful Flowers. Write a postal card TO-DAY!

W. ATLEE BURPEE & CO., Philadelphia

DROP

Me a postal card and I will drive around and leave a price list of.....

EVERGREEN TREES

for sale, thrice transplanted, from one to five feet in height, price 10 to 30 cents each. No fall-dug, root-dried stock. A. W. THEMANNSON, Wathena, Doniphan Co., Kans.

Forest Tree Seedlings for Sale.
Ash, Maple, Elm, Box Elder and Japan Catalpa, ranging in size from four to eighteen inches.
ROBERT W. FURNAS, Brownville, Neb.

Best Corn for Kansas.
One Kansas customer says: "Your C. Y. Dent Corn is two weeks earlier than, and will make ten bushels per acre more than our native corn alongside." Twenty-six best kinds. Catalogue, two samples and proof free.
J. C. SUFFERN, Seed Grower, Voorhies, Ill.

SAVE YOUR FRUIT
By spraying with the "Numan" Improved (pat.) Fruit Tree Sprayer. Has proven the best. Wears longer, works easier and has more uses. Twelve years a success. 240,000 in use. Regular price \$5. First purchaser in each district where we have no agency gets reduced price, \$3 (pump all complete with charges prepaid), if he will agree to advertise it amongst his neighbors. Full satisfaction guaranteed or money refunded. Order at once. Our "Valuable Spraying Receipts" and circulars are free. Act to-day.
Hurst & Numan Mfg. Co., Dept. B, Canton, Ohio.
(We are thoroughly reliable.)

PRICES THAT TALK.

Choice Re-cleaned Clover Seed, \$3.90 per bushel.
Choice Re-cleaned Timothy, \$1.20 per bushel.
German Millet, choice, 80c per bushel.
Choice Re-cleaned Cane Seed, \$1.20 per 100 pounds.
Bags, 15c each.
Dwarf Essex Rape, 15c per pound.
Artichokes, choice variety, 50c per bushel.
Potatoes, choice Red River Ohio, \$1.15 per bushel.
Seed Corn, Golden Cap, \$1 per bushel.
Other best varieties. Address

A. A. BERRY SEED CO.,
Drawer L. Clarinda, Iowa.

FOR 14 CENTS

We wish to gain this year 200,000 new customers, and hence offer

1 Pkg. 13 Day Radish,	10c
1 Pkg. Early Ripe Cabbage,	10c
1 Pkg. Earliest Red Beet,	10c
1 " Long Light's Cucumber	10c
1 " Salzer's Best Lettuce,	15c
1 " California Fig Tomato,	20c
1 " Early Dinner Onion,	10c
8 " Brilliant Flower Seeds,	15c

Worth \$1.00; for 14 cents, \$1.00

Above 10 pkgs. worth \$1.00, we will mail you free, together with our great Plant and Seed Catalogue upon receipt of this notice & 14c postage. We invite your trade and know when you once try Salzer's seeds you will never get along without them. Onion Seed 68c. and up a lb. Potatoes at \$1.20 a Bbl. Catalog alone 5c. No. 70.

JOHN A. SALZER SEED CO., LA CROSSE, WIS.

WARRANTED SEED

As the original introducers of the Cory Corn, Hubbard Squash, Eclipse Beet, Miller Melon, Burbank Potato, All Seasons Cabbage, Danvers Carrot, and over thirty other well-known vegetables, we solicit a share of the patronage of the public.

Prices low. Tested Novelties—some found in no other catalogue. \$100.00 to seed purchasers for a name for our new squash. All our seed are warranted, as per page 1 of our free catalogue.

J. J. H. GREGORY & SON,
Marblehead, Mass.

The Nichols-Shepard Separator

The essential points in a Separator are capacity, thoroughness of separation, and simplicity and durability of construction. On each of these points the Nichols-Shepard Separator has great advantage over all other threshing machines. Any one of the nine sizes will thresh more and save more grain than the corresponding size of any other separator. The Nichols-Shepard

Separator is as strongly, simply, yet perfectly made as a separator can be. The work of separation is done without the aid of pickers, raddles, forks, or other complicated parts that in other machines cause continual bother and expense by breaking or wearing out.

Write for large free catalogue that pictures and explains every part of the Nichols-Shepard Separator and the Nichols-Shepard TRACTION ENGINE.

NICHOLS & SHEPARD CO.,
Battle Creek, Mich.

Branch House at
KANSAS CITY, MISSOURI,
with full stock of machines and extras.



This shows the Nichols-Shepard Separator loaded and ready for the road.

Horticulture.

KANSAS EXPERIENCE IN ORCHARD-ING.

From "The Kansas Apple."

J. A. Hewitt, Hiawatha, Brown County: I have lived in Kansas thirty years, and have an orchard of 900 trees twenty-six years old. For commercial purposes I prefer the Ben Davis, Winesap, and Jonathan; and for family use would add Early Harvest, Maiden's Blush, and Grimes' Golden. Have tried and discarded some; very few varieties pay. I prefer high prairie. Have never grown any seedlings. I cultivate my orchard by planting to corn—raising no small grain—for a few years, then use the disk and harrow as long as the orchard lasts. I plant nothing in the bearing orchard, and cease cropping about eight years after setting. Wind-breaks are essential to a growing orchard. I prune my trees a little every year to keep them in shape, and to let the sun in; I think it beneficial, and that it pays. Do not thin the fruit while on the trees, but think it would save time and pay well. I can see no difference whether trees are in blocks [of one kind] or mixed plantings. I do not fertilize my orchard, but am sure it would be beneficial, judging by some that have fertilized; I would advise it on all soils. No! no! no! I do not pasture my orchard; do not think it advisable; it does not pay. My apples are troubled with codling moth. I do not spray. I sell my apples in the orchard at wholesale, yet sometimes retail them. I let my neighbors pick up the culls at 10 cents per bushel. My best market is at home. I store apples successfully in bushel crates. I find the Winesap, Rawle's Janet, Ben Davis and Little Romanite keep best. I have to repack stored apples before marketing, losing about 2 per cent.

James Dunlap, Detroit, Dickinson County: Has lived in Kansas since October, 1871. Has an orchard of 1,200 apple trees, 300 planted sixteen years, 700 planted eleven years, 200 planted six years. Considers Missouri Pippin, Winesap, Ben Davis and Jonathan best for market, and for family would add Red June, Early Harvest, Mammoth Black Twig, and Cooper's Early White. Have tried and discarded Yellow Transparent, Rambo, Fameuse, and others. Prefers bottom and eastern slope, sandy loam, with clay subsoil. Plants thrifty one-year-old trees in holes large enough to spread the roots out well, leaning the young trees slightly to the southwest. Cultivates both ways as close to the trees as possible, usually planting to corn until the orchard is about twelve years old; then pastures to calves in fore part of season, mowing off the grass and weeds later. Believes wind-breaks very essential on north, west and south sides; uses Osage orange hedge and two rows of forest trees, planting them seven feet apart and seven feet away from the apple trees, when orchard is started.

For protection from rabbits he uses a wash of lye and soft soap on the tree. In pruning he believes it pays to cut out sap sprouts, and balance up the tree. He fertilizes by placing stable litter around the trees in winter, and spreading it in the spring, and says it pays. Says it certainly pays and does no harm to pasture the old orchard with calves. He is troubled with canker worm flat-head borer, tarnish plant-bug, fall web worm, and leaf crumpler, also with codling moth. He sometimes sprays for codling moth and canker worm, and thinks he has reduced both of them materially. Cuts out borers and washes the tree with lye. Has tried kerosene oil on borers and says it did not seem to injure the trees. He picks in baskets, dumps in piles in the orchard, and covers with coarse hay. Sorts into two classes—sellers and cider apples. Uses barrels as a package. Makes cider vinegar and hog feed of culls, and sells his good apples in various ways; has sold in orchard. His best markets are the surrounding towns and the neighboring farmers. Never dries any, and only stores enough for winter use of family. Price in 1896 was 75 cents for best, 50 cents for seconds. Hires no help.

Robert Montgomery, Troy, Doniphan County: Came to Kansas in 1857; served three years in the United States army, and have been here ever since. I have 4,000 apple trees that have been set from twenty to thirty years. My market varieties are Ben Davis, Jonathan and Missouri Pippin. For family use I added Yellow Transparent, Red June, Chenango Strawberry, White Winter Pearmain, Rawle's Janet, and Nelson's Sweet. I have discarded the Baldwin, Spitzenberg, Northern Spy, Early Harvest and Early Pennock. Bottom land is not good; hills and hollows are best, with north or east slope; what we call mulatto soil is best. I prefer thrifty two- or three-year-old trees with low tops. Half of my trees

are planted thirty feet each way. I now plant in rows two rods apart north and south and one rod apart in the row. I raise corn and potatoes among my trees for five or seven years, cultivating with the plow and the hoe; afterward I seed to clover; a disk can be used to good advantage every year; I keep the orchard in clover. Wind-breaks are beneficial on high land, made of cottonwood, or better, of cedar or Norway spruce, planted on the south side when you plant the orchard. I protect from rabbits with wooden protectors, leaving them on the year round. I cut the borers out with a knife, also use a wire. I shape the head of young trees by cutting out all the watersprouts with pruning shears and saw; old trees must be pruned or the apples will be small.

Barn-yard litter is beneficial on thin land, not necessary on rich land; but ashes are good on any soil. I pasture my orchard in summer with young horses and hogs. I think it advisable, as the hogs eat the apples that drop and destroy the worms. I have never sprayed. I pick in half-bushel baskets, and sacks with an iron hoop in the mouth; pour them in barrels and haul them to the barn, except those we wish to ship at once, which we sort in the orchard. I make two classes—good, sound, merchantable apples, and seconds. I have a culler that holds one barrel. I sort into a barrel, throwing the culls into another barrel, and I afterward sort the culls, for seconds; I pack in 11-peck barrels, full and pressed solid, marked with the name of the variety written on the barrel. I sell the best at wholesale in barrels, the second grade by car-loads in bulk; the culls I give away, feed to hogs and cows, and make into cider. My best market is East and North. Have never shipped more than 500 or 600 miles away, and it paid. Have never dried any, and only store in barrels in my barn until I get a sale for them, never later than December. Price in the orchards in 1896 was 75 cents per barrel; in 1897, \$1.50. I use men for picking, at \$1 per day and their dinner.

F. W. Dixon, Holton, Jackson County: Has been in Kansas twenty-seven years; has an apple orchard of 6,000 trees, set from three to twenty-five years. Grows and recommends for commercial orchard: Ben Davis, Missouri Pippin, Jonathan, Winesap and Gano. For family orchard: Winesap, Ben Davis, Jonathan, Grimes' Golden Pippin, Maiden's Blush and Rawle's Janet. Has tried and discarded Yellow Transparent, Early Harvest, Red June, Wagener, Willow Twig, Dominie, Roman Stem, Seek-no-further, Porter, Pound Sweet, Nyack Pippin and Minkler, because they did not pay; some blighted and failed to bear. Prefer timber soil, or sandy loam with open clay subsoil; bottom land is good if it has not a hard-pan subsoil. Apples will not succeed well planted on ordinary sod, with impervious subsoil. Plant thrifty two-year-old trees, from four to six feet high, well branched. Cultivate as long as the tree lives; use turning plow in spring, and follow with harrow every week during summer until orchard comes into bearing; then get some tool that will stir the ground two to three inches deep, and cultivate often. Cultivation pays better than fertilizer or anything else. He grows small fruit among the trees, but believes corn the best crop up to eight or nine years; then grows nothing. Does not think wind-breaks essential, and would have none on the east or north; would not object to wind-break of Russian mulberry, or other hardy trees, on south and west. For rabbits, he wraps the trees, and keeps two good beagle hounds. Does not prune, except to keep water-sprouts off, and cuts out limbs that cross. Thinks the wind thins the fruit sufficiently. Believes the best apples are self-pollinizers, and need no other varieties near, and that it does not pay to grow others. Never use any fertilizer. If orchard "runs out," would have another ready to take its place. Allows no stock in orchard. Is not troubled with insects. Has sprayed a little for tent caterpillar. He digs out borers with a knife. His best market has been at home, selling by the bushel or wagon-load to farmers who do not grow any. Believes thorough cultivation better than irrigation. Prevailing prices, 35 to 75 cents per bushel. Uses male help, at \$1 per day without board.

S. H. Domoney, Aurora, Cloud County: Have been in Kansas ten years. Have an orchard of — trees, planted from twelve to fourteen years, of Ben Davis, Winesap and Missouri Pippin for market, and Red June, Duchess of Oldenburg, Cooper's Early White and Kansas Keeper for family use. I prefer limestone soil with gravelly subsoil in the bottom, with north slope, if possible. Prefer trees two years old with low heads. "I like a tree with a tap-root." Plow deeply and plant in loose soil, thirty feet apart each way. I grow potatoes and sweet corn for six or seven years, after which I sow orchard grass. The best tool

for cultivating is a disk harrow. Growing no crop in the orchard. I think wind-breaks are essential, and prefer Russian mulberry, three rows, planted six by eight feet apart. I like the mulberry best because they come into leaf early and hold their foliage late. I prune a little, to thin out and let the sun in. I believe it would pay to thin fruit on the trees. I use stable litter, and fertilizer from the hog pen, and think it pays if not put too close to the tree. I tried pasturing with hogs, but don't think it advisable, as they destroy the trees to get apples. I spray some with London purple after the bloom falls, to destroy canker worm and codling moth, and think I have reduced the latter by such spraying. I dig borers out. We pick by hand, and sort into very best, second best, and culls. I sell at retail and to the grocers in Concordia, Kans. I make some cider, and feed culls to the hogs; never dried any; winter some in barrels and boxes, and find Ben Davis and Missouri Pippin the best keepers. I do not irrigate. Use no hired help. Prices have ranged from 50 cents in summer to 80 cents in winter.

H. L. Ferris, Osage City, Osage County: A citizen of Kansas for twenty-one years. Have an orchard of 4,000 apple trees—200 twenty years, 1,800 seventeen years, 2,000 sixteen years planted. Prefer, for commercial purposes, Ben Davis, Winesap and Missouri Pippin; for family orchard: Winesap, Missouri Pippin, Jonathan, Romanite and Maiden's Blush; have discarded Rawle's Janet. Prefer good upland corn ground, with sand or gravel subsoil, north and east slope. I plow deep, and plant large two-year-old trees, shallow, and mound up; shorten roots and branches. Cultivate with plow and harrow from youth to old age. Grow corn in young orchard up to six years, afterward nothing. Prefer a wind-break on south, west and north, of box elders, Osage orange, or peach. Rub liver on trees to repel rabbits, and use a knife for borers. To prune with a little saw makes the trees grow faster, and the apples grow larger, and it pays. Use stable and barn-yard litter to fertilize with, and it pays. Would not allow live stock to run in an orchard. Am troubled with round-headed borers and codling moth. Spray in May and June for bitter rot and fungous diseases. Fight borers with a five-eighths chisel, a wire, and coal tar. Pick from step-ladders into tin pails hung to branch with wire hook; haul in boxes on spring wagon to packing places. Sort on tables into three grades—first, seconds, and cider apples; pack into eleven- or twelve-peck barrels. Sell in all ways; have sold in orchard. Ship the best; best market in Texas. Send six-inch apples to where they are scarce; culls I sell cheaply at home, evaporate some, and make vinegar. Use a Zimmerman evaporator and Eureka parers. Sell dried fruit at retail, have shipped some; do not think it pays, do not find a ready market. Store for winter use in boxes in cellar successfully; find Romanite and Winesap keep best; lose about one-fourth. Have irrigated some from a pond with an eight-inch hose and steam-power pump. Average price has been 50 cents per bushel for apples and 5 cents a pound for dried apples. Use male help gathering, and female help at drier, paying 8 to 10 cents per hour.

A. Oberndorf, Centralia, Nemaha County: Have lived in Kansas nineteen years. Have an apple orchard of 4,200 trees, from three to twenty years planted. I am told Ben Davis and Gano are the best apples for commercial purposes; for family use I would prefer Early Harvest, Red Astorian, Duchess of Oldenburg, Maiden's Blush, Ben Davis, Winesap, and Rawle's Janet. I prefer hill-top with northern slope. I prefer one-year-old, switch-like trees, set 16 by 30 feet. I plant young orchards to corn, using double-shovel and diamond plow, and harrow; plant the bearing orchard to clover and cease cropping at five years. For rabbits I use paint during summer and wrap during winter. I also use paint for borers. I prune with shears and knife to secure an open center; do not think it beneficial. Never thin apples. I fertilize with barn-yard litter; it seems to benefit the trees and prolong their fruitfulness. Do not pasture my orchard. My old trees are affected with flat-head borer and leaf roller. The codling moth trouble my apples. I sprayed three seasons; saw no benefit, so quit. I pick by hand, in a basket. I sort into three classes: First class, for market; second class, for immediate sale, and small ones, for cider. I usually sell at the nearest market. Best market is at home. Never dry any. I store for winter markets in cellar, in barrels, boxes, and in bulk, and am successful; find that the Winesap and Rawle's Janet keep best. We have to repack stored apples before marketing; sometimes lose more than at other times. Do not irrigate. Price has been 50 cents per bushel. I hire help at \$1 per day, or \$20 per month and board.

It's worth your while to send for a FREE sample of



Tuttle's Elixir.

It cures curbs, colic, sprains, lameness, etc., in a horse.

Tuttle's Family Elixir cures rheumatism, bruises, etc. Send three 2-cent stamps for postage only.

DR. S. A. TUTTLE, 27 Beverly St., Boston.

Potatoes On Upland.

Editor Kansas Farmer:—It has been said, "there is more than one way of killing a dog." We farmers know there are a great many ways of doing almost anything on the farm, and yet it is usually the case that but one way is the right way, and it is the wise farmer that finds the right way, and practices it. While it is a fact that the "beautiful," as well as the "poor," is still with us, it is none the less a fact that the time is here when the farmer should begin to look up his seed potatoes, and get ready to plant them at the earliest opportunity. It is a fact well known to all, that thousands of dollars are annually sent out of Kansas to other States to buy potatoes that could just as well be raised at home. This article is not intended for the professional grower that lives on the "Kaw" bottom, and has planters, and weedeers, and diggers—in short, all the up-to-date machinery for growing the tubers; but for us who live on the upland, where potatoes are supposed not to do well. It is the farmer that lives on these uplands that has to, or rather does, buy his potatoes. It is the opinion of the writer that no farmer need be buying potatoes, unless he would rather do so than raise them. By this time, everyone must know that potatoes will not grow on poor, or thin soil. Hence, in selecting the potato field, always take the richest and deepest soil on the farm—the deeper the better, and the heavier the coat of manure, the better. If it is a stubble field, it is not necessary to plow the ground before planting, but it is better to plow in the fall as deep as you can. When time to plant in the spring, which is as early as the ground is fit, take a lister plow and throw out as deep a furrow as for corn. Follow the lister and drop the seed in the usual way. I like my hills about 18 inches apart. Then take the same lister and run between the furrows. This covers the seed down deep in the ground, and leaves the field all in ridges. If you strike a wet spell after planting, the water settles in these open furrows, and is not so likely to injure the seed, besides it stirs all the ground at planting. When the field has been planted about ten days, or until the weed seeds have time to sprout, and are about ready to come up, take a plank drag and go over your field until you make it entirely level. This kills all the first crop of weeds, and then one or two good harrowings should be given just before the potatoes come through the ground. Then, if proper cultivation is given, potatoes can be grown and kept clean without ever using a hoe. This method was used last year, and I never raised nicer, larger, smoother and finer Early Ohios than I did by this simple process.

After a number of years of experience, I believe it to be important to get the plants up as soon as possible. By planting in deep lister furrows, and covering as this directs, you are in no danger of injury by freezing, should the ground freeze as hard as it is at this writing. Whether the deep planting was the cause or not, I am unable to say, but my tubers seemed to be so deep in the ground that the hot, scorching suns of July and August did not affect them, and at digging time came out of the ground as solid as Northern-grown.

X. Y. Z.

Health for 10 cents. Cascarets make the bowels and kidneys act naturally, destroy microbes, cure headache, biliousness and constipation. All druggists.

IF THE DAMP AND CHILL



PENETRATE, LOOK OUT FOR AN ATTACK OF

SCIATICA.

BUT DEEP AS THE SCIATICO NERVE IS

ST. JACOBS OIL

WILL PENETRATE AND QUIET ITS RACKING PAIN.

In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

CREAMERYMEN'S EXAMINATION

Kansas State Dairy Association, November 16, 1898.

Examiner—Prof. H. M. Cottrell.
Judge—D. W. Wilson.

(Continued from last week.)

VI.—How can patrons be satisfied that the Babcock test is all right?

J. E. Nissley—Let them compare the work of the Babcock machine from one month to another, or from one year's end to another. Taking into consideration the feed and condition of the cattle. I am not very much of a hand in trying to explain the minute detail work of a tester to the patrons. The average patron cannot understand it anyhow, and I believe the actual results from one month or one year's end to another would be the most satisfactory, and I think that way would illustrate to the patrons that we have confidence in it.

W. F. Jensen—By using hand testers or being present when the testing is done at the factory.

C. F. Armstrong—I would advise them to buy a Babcock test and would teach them how to use it, so as to test their own milk.

E. H. Forney—By testing and using it.

C. F. Pressey—Some of them never would, but the best way is to show them the whole process and allow them to read the test, and do it more than once, so that they may be convinced that it is correct.

A. Jensen—If the patron is honest, he has no right to doubt that it is right.

Question—Well, a good many of them do; what do you do with them?

Answer—Invite them to look at the testing machine; or you can go further; get them to see what was churned out of it first, and then test it.

VII.—How much difference should there be between the price paid for butter in Chicago and the price paid the Kansas patron for fat on the basis of 5,000 pounds of milk per day?

J. E. Nissley—Four cents a pound less than the Chicago price.

W. F. Jensen—The price should average about 2½ cents lower.

C. F. Armstrong—About 3 cents.

E. H. Forney—Two and three-fourths to 3 cents.

C. F. Pressey—Three cents.

A. Jensen—In summer time 3 cents difference would be about right and in winter time 4 cents.

VIII.—What is the average amount received per cow by your patrons, and what is the highest amount received, including milk and calves?

J. E. Nissley—I have a statement in my office that I got about a week ago, covering that point. A patron of mine sent me a statement giving me the results of a herd of four cows, from October 1, 1897, to October 1, 1898, and in figuring all the returns from the creamery, the value of his calves, the value of the milk used on the farm, and the value of the butter which he made from his Saturday evening and Sunday morning's milkings, makes his herd average him \$71.25 per head.

Mr. Priest—Do you remember at what he valued his calves?

A. I think \$14 or \$15.

Q. What is the average amount per cow?

A. My judgment is that the probable average per cow is not to exceed from \$25 to \$30.

W. F. Jensen—The average is probably \$30, the highest \$72.

C. F. Armstrong—Including the calves, I would estimate the average at about \$35 to \$40, and highest from \$55 to \$60.

E. H. Forney—I should think the average is \$28 to \$30, the highest \$63.

C. F. Pressey—I cannot tell the average.

Q. Well, the highest?

A. About \$52 or \$53.

Q. What would you estimate the average?

A. I do not think over \$32 or \$33.

A. Jensen—Fifteen dollars for butter fat, and a calf worth \$18 to \$20, and enough skim-milk to make \$8 worth of pork.

Q. What is the highest?

A. About \$40 cash for butter fat, calf \$18 or \$20; and \$10 worth of pork from skim-milk.

IX.—Do you want your patrons to use hand separators? Why?

J. E. Nissley—No, sir; because we have a system of skimming stations, and necessarily as a business proposition I want to build them up.

W. F. Jensen—I recommend its use to large patrons who make an object—a special object—of raising calves.

C. F. Armstrong—No; because in the first

place I have separators of my own, and, in the second place, my observation has been that most Kansas farmers after they get a hand separator do not use it any great length of time, and I prefer to have the milk delivered to the factory where it can be inspected rather than to have it separated away from the factory. By their having hand separators it brings the business back to the old gathered cream system.

E. H. Forney—I do not. I think it is a step backwards towards the old gathered cream system.

C. F. Pressey—I should say not. It can be handled at the creamery better than the average farmer can handle it.

A. Jensen—No, I am not in favor of it.

X.—How can dairying in Kansas be made more profitable and more farmers be induced to go into it?

J. E. Nissley—By a united, concerted effort to educate our patrons. (Applause.)

W. F. Jensen—By proper education among the farmers, especially on the feeding question. Teach them to feed properly.

C. F. Armstrong—The farmers must be educated how to get \$40 per cow where they are only getting \$12, \$15, or \$20. In my opinion, it is a matter of education among the farmers. I think it can be done more effectually through institutes and bulletins that are sent out from the Agricultural College frequently. I think that they are very valuable to the farmers.

E. H. Forney—I think the education of the farmer would be one good step, and, of course, education of the creamerymen would be another. The creameryman lacks in education, but I believe that the farmer is the man that is lacking the most at the present time. I think that the creamerymen are better educated as a class of people than our farmers are in the State of Kansas. I think their education could be brought about as Mr. Wilson said in his speech a while ago, by sending out papers and printed matter and bulletins from the Agricultural College, etc.

Q. That is the way you would educate them?

A. Yes, sir; that is one of the cheapest ways we can educate them.

C. F. Pressey—I think along the line of instruction so that they may be able to handle the cow in a better manner.

Q. How are you going to instruct them?

A. Through the Kansas Farmer and through good daily papers and institutes and the creamerymen keeping constantly at them.

A. Jensen—By teaching and getting the farmer to read up on dairy matters, attend a dairy school to show them what dairying will bring them if properly attended to. Have them read the bulletins from our Agricultural College, take dairy papers, etc.

How to Get the Most Money Out of the Skim-milk.

Paper read by A. H. McCrea, at Farmers' Institute, Boyle, Kans., December 1, 1898.

I am necessarily somewhat limited in the discussion of this subject, as ordinarily skim-milk is used either for feeding hogs or raising calves, and the next subject on the program is about raising calves on skim-milk, so that one subject somewhat includes both. Without transgressing more than seems necessary, I would say that my idea is something like this: When calves come later in the year than October 1, or earlier than March 1, when skim-milk can be kept sweet, it is well to feed it to the young calves, or as much of it as may be necessary. Of course, if a person owned enough cows to pay to have a hand separator on the farm, and could feed the skim-milk fresh to the calves, it would make good feed all the year, but I think the best use to put skim-milk to is to make slop of it and feed it to hogs by mixing with 100 pounds skim-milk, 100 pounds water, 10 pounds shorts, and 2 pounds oil meal. We invariably notice that the persons who patronize a creamery to any considerable extent always have better-growing, healthier hogs than the ones who do not. How frequently we hear the remark made: "My hogs didn't do well this year; I didn't have any slop for them." I call to mind one instance. I went down to Boyle one morning some time ago. Several persons were shipping a car of hogs; some had their hogs in and were herding them around the shady side of the corn cribs. It was hot weather. One man was watching a bunch of hogs, and they were beauties, weighing close to 300 pounds apiece; he felt justly proud of his hogs. I came up and said: "That is a fine bunch of hogs." That was all I needed to say. "Yes, that is what skim-milk will do. These hogs are only 6 months old." Then he went on bragging about his hogs, and what fine hogs skim-milk will make. I went on, thinking that was the finest bunch of hogs I had seen in many days, and that he had a right to be proud of them; but I was hardly prepared for what I next heard in

speaking, a few minutes afterwards, to another man about these fine hogs. This man said: "Yes, these are fine hogs, and I guess skim-milk did do it, for before he went into the creamery business he never raised anything but razor-back hogs." This is only one instance, but others might be cited.

I believe in patronizing the creameries. They have, in these times of "corned-to-death" land, become a necessity, almost an absolute necessity, and utilizing the skim-milk is one of the ways of making it pay. But don't let us, in our anxiety to send in a large quantity of milk, make the mistake of raising knotty skim-milk calves when we can raise such fine healthy skim-milk hogs.

Skim-milk Worth 40 Cents Per Hundred.

An experiment at the Kansas Station, completed February 24, with three lots of pigs of six each, shows excellent returns for feeding skim-milk, as compared with alfalfa and cottonseed meal.

They were fed all the ground Kaffir corn they would eat in addition to the other feeds. The skim-milk lot ate 40 per cent more grain and gained 2.43 pounds per day each, against 0.88 pound for the alfalfa lot, and 0.95 pound for cottonseed meal lot.

In twenty-two days lot 1 ate 629 pounds ground Kaffir corn and 250 pounds alfalfa; lot 2, 588 pounds Kaffir corn and 93 pounds cottonseed meal; lot 3, 860½ pounds Kaffir corn and 1,685 pounds skim-milk.

Placing the cost of alfalfa at \$6 per ton, this makes cottonseed meal worth \$27.80 per ton and skim-milk 40 cents per hundred.

At the ordinary price of alfalfa (\$3 per ton) skim-milk would be worth 20 cents per hundred. This experiment was in progress during the extreme cold weather of February. ED. H. WEBSTER.

Beware of Ointments for Catarrh That Contain Mercury.

as mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten-fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally and is made in Toledo, Ohio, by F. J. Cheney & Co. Testimonials free.

Sold by Druggists; price 75 cents per bottle.

We can save you money, if you want most any paper or magazine, in connection with Kansas Farmer. Write for special club list.

Gilt-Edge Butter

is the only money-making kind. But to make it, and the most of it, you must use the latest improved machinery. It is just this sort of product that has built up the demand for our



Empire Cream Separators.

They get all the cream from the milk and leave it in the best condition for churning. Lightest running and simplest in construction. Our catalogue will tell you why.

U. S. Butter Extractor Co., Newark, N. J.

"ALPHA-DE LAVAL" CREAM SEPARATORS.



De Laval Alpha "Baby" Cream Separators were first and have ever been kept best and cheapest. They are guaranteed superior to all imitations and infringements. Endorsed by all authorities. More than 150,000 in use. Sales ten to one of all others combined. All styles and sizes—\$50. to \$225.—Save \$5. to \$10. per cow per year over any setting system, and \$3. to \$5. per cow per year over any imitating separator. New and improved machines for 1899. Send for new Catalogue containing a fund of up-to-date dairy information.

THE DE LAVAL SEPARATOR CO.
RANDOLPH & CANAL STS., CHICAGO. 74 CORTLANDT STREET, NEW YORK.

DON'T SET HENS The Same Old Way. THE NAT'L HEN INCUBATOR beats the old plan 3 to 1. 100-Egg Hatcher \$2. Cheap in price but a mighty money maker. Send for cat. telling how to get one free. Agents wanted. Natural Hen Incubator Co., 153, Columbus Neb.

STARK have a 74-YR. Record. Fruit Book Free. STARK BROS. PAY FREIGHT. Stark, Mo. We

HIGH GRADE FRUIT TREES. THEY COST NO MORE than the other kinds. They yield better and more fruit. My trees were examined by our State Entomologist and are free from disease. One-year cherry, \$12 per 100; apple, 3 to 4 ft., \$8 per 100; Concord grapes, \$2 per 100. I pay the freight. Send for catalogue. CARL SONDEREGGER, Fairbury, Nebraska.

Hog's ARTICHOKES THEMSELVES No. 1 for all stock. Before buying send yours and neighbor's "address" for FREE ESSA on kinds, culture, yield (often 1,000 bu. p. a.) with prices and frt. rates to all points. Single bu. \$1. Melville Seed Farms, Box 5, Melville, Ill.

KANSAS RASPBERRIES.

\$3.50 Per Thousand. For other small fruits apply for prices. Rooted Houghton Seedling Gooseberries, \$4 per thousand. HOLSINGER BROS., Rosedale, Kans.

TREES! Apple, Peach, New Grapes, Cherry, and a full line of Fruit Trees, Grape Vines, Small Fruit Plants, Evergreens, Roses, at low prices. Address J. F. O'GILL, Nurseryman, North Topeka, Kans.

700,000 BERRY PLANTS 700,000 FOR SALE.

My stock of old and the cream of the new Strawberries for 1899 is first-class. Also Raspberries, Blackberries, Gooseberries and Pear Trees. Send for price list. E. F. SMITH, Box 6, Lawrence, Kans.

TRY EXCELSIOR

Strawberry. Immensely productive and earlier than Hoffman. A seedling of Wilson, pollenized by Hoffman, plant and fruit both showing larger and finer than Wilson. Seventy other varieties. Columbian Asparagus roots, Peach, Apple and Pear trees. Write for Catalogue, etc. Harrison's Nurseries, Berlin, Md.

FAIRBURY NURSERIES.

25 Cents FREE. We have a complete stock of choice Fruit, Shade and Ornamental trees, vines, shrubs, etc. All stock healthy, well rooted and sent to our customers true to name. Send your name on a postal card. Address C. M. HURLBURT, Mgr., Fairbury, Neb.

Our descriptive catalogue and due bill for 25 cents sent free to any address. WE PAY FREIGHT.

Strawberry Plants

In large or small lots, grown from new fields especially for the plants. I keep only the Best and True to Name.

FRUIT TREES.

Apple, Peach, Plum, Cherry and Apricot trees, Grape-vines, Gooseberry, Currant, Blackberry and Raspberry plants. Evergreens, Ornamental Shrubbery, Roses and Shade trees. Price List Free.

LITSON NURSERY, Nevada, Mo.

WHAT THE PRESIDENT SAYS ABOUT THE IMPROVED U. S. SEPARATOR.



BRATTLEBORO, VT., Feb. 27th, 1899. It gives me pleasure to say that the dairy machinery bought of your company two years ago, including a No. 5 Improved U. S. Separator and a Pony Power, is working well and giving entire satisfaction. The Improved U. S. Separator is doing all and even more than was claimed by your agent. The separation is perfect, it runs easily, without noise or friction, and it is easy to manage and care for. Of all the separators placed upon the market, there is none that excels the Improved U. S. in my opinion.

G. W. PIERCE, President Vt. Dairymen's Ass'n.

Write for our latest Illustrated Catalogues.

VERMONT FARM MACHINE COMPANY,

Bellevue Falls, Vt.

wood Falls '98, and Topeka '99; females 92½ to 94
Yard No. 2, headed by cock 94½ as a cockerel last
year; pullets 92½ to 94. No more stock for sale. Eggs
\$1.50 per sitting of fifteen.

Also Barred Plymouth Rock chickens and eggs for sale. Correspondence or inspection invited. Mention FARMER.

C. J. HUGGINS, Proprietor, Warsaw, Ky.

farms. Eggs in season, \$3 per dozen.

TEXAS. TEXAS. TEXAS.

The Cheapest Homes, the Lowest Taxes, the Best Free Schools, the Finest Farming Land, the Best Cattle, Sheep, Hog and Horse Country in the United States.

OKLAHOMA OUTDONE.

Twenty Million Acres of Public Free School Land on the Market.

NOW OR NEVER. NOW OR NEVER.

The Supreme Court of Texas recently decided that all the vacant land in the State belongs to the Public Free Fund, and school lands under the law can be bought for \$1 and \$1.50 per acre, according to the character of the land.

These lands will produce corn, cotton, wheat, oats, rye and barley, and all the forage plants, as well as fruits and berries of every kind. The prairie lands are already covered with nutritious native grasses and forage plants, which support horses, cattle, sheep and hogs, both summer and winter, without other feed, and stock of all kinds do well on the open range all the year round, and many of the coast lands will produce both rice and sugar.

One person under the present law can buy only four sections of this land, of 640 acres each, and most of it can be had at \$1 per acre, one-fortieth cash and the balance on forty years' time, at 3 per cent interest per annum, and the balance at \$1.50 per acre on the same terms. Nowhere else in the entire world can land be had at such a figure and on such terms. If you want a home in a delightful climate, where you can raise the greatest diversity of agricultural products and can engage in stock raising with the greatest profit, then send \$1 to the undersigned for a book giving the full text of the present State laws in regard to the purchase of these lands, rate of taxation, amount of Free School Fund and Public School facilities, with a list of all the counties in the State in which any of this land is located; also full instructions how to proceed to purchase such lands, and the legal formalities necessary to acquire absolutely perfect titles direct from the State.

Your \$1 will procure you information and give you instructions which will be worth \$1,000 to you, if you want a home.

The undersigned will, for a fee of \$5 per section, advise you where the best lands can now be had, and will prepare all the necessary legal papers, and attend to the securing of title here through the proper department of the government. Address

CHAS. P. SCHRIVENER, Late State Compiling Draughtsman, Austin, Texas.

References: Hon. Jos. D. Sayers, Governor; Hon. A. S. Burleson, Congressman; Jno. H. Reagan, Railroad Commissioner; Maj. Geo. W. Littlefield, President American National Bank, Austin, Tex.; Hon. R. H. Ward, Assistant Attorney General of Texas; Hon. Ashby S. James, attorney at law, Austin.

\$32.50. \$32.50.

The above greatly reduced rate has been made by the Union Pacific to California points. Through tourist sleepers, quicker time than any other line.

For tickets and full information call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent, Topeka.

Finest Honey in the World

Is gathered by bees from alfalfa bloom, so say best judges. Send direct to the Arkansas Valley Apiaries for prices of honey delivered at your station, in any quantity, at from 6 cents per pound up. I refer to the Kansas Farmer concerning the excellent quality of this honey, and for fair dealings of Oliver Foster, proprietor, Las Animas, Bent Co., Colo.

The Lowest Rates East

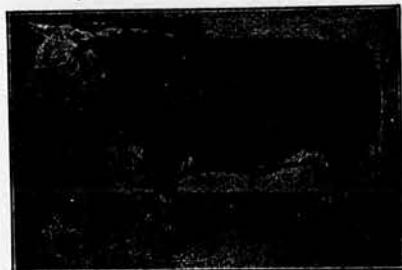
are offered via the Nickel Plate Road. With solid through trains to New York, and through sleeping cars to Boston, travelers via this deservedly popular low-rate line are offered all conveniences of an exacting traveling public. Then, too, the quality of the service is unsurpassed. Modern day coaches and luxurious sleeping cars contribute to the comfort of passengers, while unexcelled dining cars cater to the tastes of the most exacting. (2)

The service of the Nickel Plate Road to New York City and Boston is a demonstrated success. The demands of the traveling public are met by providing three peerless fast express trains in each direction daily. These trains are composed of modern first-class day coaches, elegant vestibuled sleeping cars between Chicago, New York and Boston, and unexcelled dining cars. Solid through trains between Chicago and New York have uniformed colored porters in charge of day coaches, whose services are placed at the disposal of passengers. If you want to travel comfortably, economically and safely, see that your ticket is routed via the Nickel Plate Road.

\$28.85. \$28.85.

The Union Pacific has made the greatly reduced rate of \$28.85 to Portland and other Puget Sound points; also to Helena and Montana points, Salt Lake City and Utah points.

For tickets and full information call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent, Topeka.



SPRING VALLEY HEREFORDS.

Lincoln 47065 by Beau Real, and Klondike 42001, at the head of the herd. Young stock of fine quality and extra breeding for sale. Personal inspection invited. ALBERT DILLON, HOPE, KANS.



CEDAR HILL FARM.

Golden Knight 108086 by Craven Knight, out of Norton's Gold Drop, and Baron Ury 2d by Godoy, out of Mysie 50th, head the herd, which is composed of the leading families. Young bulls of fine quality for sale; also offer a choice lot of grade bull and heifer Shorthorn spring calves. C. W. TAYLOR, PEARL, DICKINSON CO., KANS.



GLENDAL SHORTHORNS, Ottawa, Kans.

Leading Scotch and Scotch-topped American families compose the herd, headed by the Cruickshank bulls. Glendon 11870, by Ambassador, dam Galanthus, and Scotland's Charm 12734, by Imp. Lavender Lad, dam by Imp. Baron Cruickshank. Young bulls for sale. C. F. WOLF & SON, Proprietors.

ELDER LAWN HERD OF SHORTHORNS.



THE HARRIS-BRED BULL, GALLANT KNIGHT

124466, a son of Gallahad, out of 8th Linwood Golden Drop, heads herd. Females by the Cruickshank bulls, Imp. Thistle Top 83876, Earl of Gloster 74523, etc. Size, color, constitution and feeding qualities the standard. A few good cows for sale now bred to Gallant Knight. Address T. K. TOMSON & SONS, DOVER, KANS.



SHORTHORN CATTLE.

I have combined with my herd the Chambers Shorthorns and have the very best blood lines of the Bates and Cruickshank families. Herd headed by Baron Flower 114352 and Kirklevington Duke of Shannon Hill 126104. The Cruickshank Ambassador 110811 lately in service.

Best of shipping facilities on the A., T. & S. F. and two branches of the Missouri Pacific Railways. Parties met by appointment. B. W. GOWDY, GARNETT, KANS.

THE STRAY LIST.

FOR WEEK ENDING MARCH 23, 1899.

Cowley County—S. J. Neer, Clerk.

HORSE—Taken up by J. S. Newby (P. O. Seely), February 18, 1899, one gray horse, about 17 years old, weight 1,100 pounds, mane and foretop clipped, had kink in lid of left eye, was shod all around, had on halter with wire attached; valued at \$15.

FOR WEEK ENDING APRIL 6, 1899.

Reno County—W. S. Yeager, Clerk.

PONY—Taken up by A. I. Swen in Valley tp. (P. O. Burton), February 25, 1899, one bay pony mare, weight 750 pounds, diamond on left shoulder; valued at \$15.

Pottawatomie County—A. P. Scritchfield, Clerk. STEER—Taken up by F. Eisenbels in Clear Creek tp. (P. O. Blaine), March 2, 1899, one roan steer, four feet high, piece cut out under both ears, and "J" branded on left hip; valued at \$15.

HARNESS Write for illustrated catalogue. Largest Harness and Carriage house in the Northwest. NORTHWESTERN HARNESS & CARRIAGE CO., 172 6th St., St. Paul, Minn.

THE AMERICAN GALLOWAY BREEDERS' ASSOCIATION

Has just issued an interesting pamphlet containing some well-written articles, which will be of interest to every stockman. They are for free distribution and you can get a copy by writing to

FRANK B. HEARNE, Secretary, Independence, Mo.

R. S. COOK, WICHITA, KAS., Poland-China Swine

BREEDER OF

The Prize-winning Herd of the Great West. Seven prizes at the World's Fair; eleven firsts at the Kansas District fair, 1898; twelve firsts at Kansas State fair, 1894; ten first and seven second at Kansas State fair, 1895. The home of the greatest breeding and prize-winning swine in the West, such as Banner Boy 2841, Black Joe 28908, World Beater and King Hadley. For Sale, an extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra large, richly-bred sows. Inspection or correspondence invited

Higgins' Hope Herd Registered Poland-China Hogs.

I am now offering a Choice Lot of Gilts and Sows bred to my Herd Boar, Eberley's Model 20854. If you are looking for the right kind, drop me a line and get my list before buying.

J. W. Higgins, Jr., Hope, Kans.

VALLEY GROVE SHORT-HORNS

THE SCOTCH BRED BULLS

Lord Mayor 112727 and Laird of Linwood 127149

HEAD OF THE HERD.

LORD MAYOR was by the Baron Victor bull Baron Lavender 2d, out of Imp. Lady of the Meadow and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also breed Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.

Address T. P. BABST, PROP., DOVER, SHAWNEE CO., KAS.

DON'T BE A— MIGHT HAVE BEEN,



QUIMPER

But buy some Good Young Breeding Stock now —while prices are reasonable and opportunities great.

For 25 Years the Leading Western Breeder of Percheron and Coach Horses.

I have now the finest collection of young Home-Bred Stallions and Mares ever owned in the State. Correspondence solicited. Visitors welcome

HENRY AVERY, WAKEFIELD, KANSAS.

Nelson & Doyle

Room 220, Stock Yards Exchange Building, KANSAS CITY, MO.,

Have for sale at all times, singly or in car lots... Registered Herefords and Short-horns. Cross-bred Hereford Short-horns and grades of other breeds. Bulls and females of all ages

Stock on Sale at Stock Yards Sale Barn, Also at Farm Adjoining City.

N. B.—We have secured the services of John Gosling, well and favorably known as a practical and expert judge of beef cattle, who will in the future assist us in this branch of our business.

BLACK • LEG.

PASTEUR VACCINE. SUCCESSFUL REMEDY.

Write for Proofs Covering Four Years' Use in U. S. A. on 650,000 Head.

PASTEUR VACCINE CO., 52 Fifth Ave., CHICAGO.

THE KANSAS CITY STOCK YARDS

Are the Finest Equipped, Most Modern in Construction and afford the Best Facilities for the handling of Live Stock of any in the World. The Kansas City Market, owing to its Central Location, its Immense Railroad System and its Financial Resources, offers greater advantages than any other. It is the Largest Stocker and Feeder Market in the World, while buyers for the great packing houses and export trade make Kansas City a market second to no other for every class of live stock.

	Cattle and Calves.	Hogs.	Sheep.
Official Receipts for 1898	1,846,233	3,672,909	980,303
Sold in Kansas City 1898	1,757,163	3,596,828	815,580

C. F. MORSE, E. E. RICHARDSON, H. P. CHILD, EUGENE RUST
Vice Pres. and Gen. Mgr. Secy. and Treas. Asst. Gen. Mgr. Traffic Manager

THE SHAWNEE FIRE INSURANCE COMPANY,

TOPEKA, KANSAS.

Insures Against Fire, Lightning, Windstorms, Cyclones and Tornadoes.

The only company in Kansas with a paid-up capital of \$100,000. It writes more business in Kansas than any other company. It has paid losses amounting to \$498,266.63. Call on your home agent or write the company

The Poultry Yard

Conducted by C. B. TUTTLE, Excelsior Farm, Topeka, Kans., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the KANSAS FARMER. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

WHAT WOULD YOU DO?

Among our readers we number a woman who lost her husband in November, and, with two small children to support, the necessity of something to do that shall bring her in a competence confronts her, she writes me, and she wonders if poultry raising may not be just the work that would be best for her to turn her hand to.

Our friend thus thrown upon her own resources has a boy of 10 and a girl of 7 years, and to them she looks for some help in the poultry business if she undertakes it. For a year before her husband's death she did baking in their town, in Texas. This spring early she is going to Iowa to live, where she has relatives and old friends. It is a place she calls "home." She has a few hundred dollars, but she needs to care for the money and to turn to wage-earning in some way. She does not want to continue to do baking for a living, for she does not want her children brought up on the street. She wishes to know how to get started in poultry culture, location, amount of ground, and, as she says, "You couldn't go amiss in telling me what and how to do, for I know nothing at all about the business. And what is the best time to start in the poultry business?" she asks.

TIME TO BEGIN.

Early spring is the best time, and the time that the usual "start" is made. Many fowls for breeding purposes are purchased in the fall and winter, but they are for the purpose of early spring breeding. A great many do not purchase breeding stock until March and even April. The best breed of fowls, or the breed to invest in, must be decided individually, for "tastes" differ in these things as in others.

It seems to me that my plan would be to purchase a neat little home with an acre or so of ground, at the edge of town. The kind of home and amount of ground would depend upon the amount of money that I had to invest. And, I should not invest it all in that way. For I should want a good cow, a few pigs, and a "start" in poultry. With the home and the cow, etc., all paid for, a good living should readily be made from the acre of ground. A good garden and small fruits could be raised, and a large number of fowls could be raised every year. Fruit trees I should set out as fast as possible, if the place were not already supplied, and I should have comfortable houses, but not expensive ones, for the fowls, and large yards, as fast as I felt that I could spare money to invest in their building. For I should wish to keep my chickens at home that they should not trouble my neighbors; also that they should not be mixing and mating with the fowls of my neighbors.

HAVE PURE-BRED FOWLS.

For, in a very short time, if not from the first, I should have at least a few to start with, of as fine bred, pure-bred fowls as I could secure, of the breed that I had decided I should like best. Then I should turn my attention to poultry rearing in earnest. This piece of ground would accommodate a great number of chicks. For the culls would be continually going to market as fast as large enough. The choicest, best marked, nearest standard requirements among them would be kept for breeding purposes, while the less valuable pullets would be kept for supplying the market demand for "strictly fresh eggs." This flock of pullets would number no male birds among them, for I should be sure to plan that no one should secure pure-bred fowls at my expense. In a little time I should begin to advertise my stock "for sale, for breeding purposes." I should first be sure, however, that I had "started" right, with standard-bred fowls and with stock of the best of their kind. All in good time the inquiries would be coming in



answer to the advertisement, and eventually orders would follow after. From the garden, the fruit, the cow, and the poultry a good living should be made from the start.

A PARTNERSHIP BUSINESS.

As an incentive to the two children to be at home as soon as school had closed, and to be there mornings also, and Saturdays, without need of command and without coaxing, I should take them both as real "partners" into the poultry business. They should attend strictly and thoroughly to their part of the work, and they should have a certain per cent of the profits to call their own. Such partnerships between mothers and children we have known to work admirably. The street loses its charm to boys and girls who are regularly and pleasantly employed at home in something to which they may look confidently in expectation of the money income. And at the same time they are learning a business well in which there are profits the world over, and that may prove to be a goodly part of their undertakings of a financial character.

We see no reason in the world why this woman may not succeed. Although she knows nothing of poultry rearing, it may easily be learned to that extent that a small beginning may be made at once. Practice tends toward perfection here, as in any other line of business. One learns daily by observation, and through a study of and reading upon the subject. It is a work that is fascinating as well as profitable. It is work to be sure, to care well for a flock of grown fowls, and to attend to the needs of large broods of chicks. But where shall we turn for support that we shall not come face to face with labor? And who would sit in idleness if they could? But we could not even if we would, if we who belong to the laboring class of the world would prosper.

Yes; invest in the home at the edge of town, and begin to raise poultry. One year will convince you that it were worth while to extend operations, and that there is nothing you can so readily do that will give so good returns for the thought and labor of a woman who must be at home with her family.—Nellie Hawks, in Practical Farmer.

Wry Neck.

Please, in next issue of Farmer, give a remedy for poultry which are taken suddenly ill and die without apparent cause, some turning their necks around as if out of joint and others found dead under the roost; combs bright red; no lice. Have lost four in a day. Am giving carbolic acid in water, burning sulphur in hen house, etc.

JEAN THOMPSON.

Answer.—The symptoms given above indicate Torticollis, or wry neck, resulting from some morbid condition of the nerves or nerve cells. Permanent cures are rarely effected. The editor had one case in his flock this winter, and cured her—with the hatchet. A system of treatment is given by Farm Poultry, as follows: Keep patient by itself in good, clean, dry quarters. Bed on straw. Feed plenty of good, nourishing food (not too much) and green stuff. Allow some exercise in sunshine and fresh air. Give one two-hundredth grain tablet of strychnia sulph. three times a day for several weeks.

Raising Chickens

Hoping this department is read by the many farmers' wives, and that they have enjoyed it as much as I have, I wish to add a few words.

It seems to me that the farmer's wives or daughters pay entirely too little attention to this pleasant and profitable industry. While I have never owned an incubator, I have raised two hundred with so little trouble and expense that it seems to me others might try my plan.

First, I have a good-sized yard, fenced with a foot board and woven wire netting above, and for each hen and brood I have a cracker-box, or one similar, which I place on some boards, place a block under the front to keep it tipped up so the chicks can run in and out. The old hen is thus confined for the first week, and after that length of time I place a larger block under the box, so she, also, can go in and out. She will go to her own box at night, and give no more trouble. Then I have different dishes, which I fill with sour milk in the morning, and feed them Kaffir corn, whole, after they are a couple of weeks old, and as it is nothing that will spoil, I scatter enough in the morning to last that day.

Of course, in hot weather, I take them fresh water in the afternoon, but that is all the care my chicks have had for the last two years; and they have had less trouble with lice and mites than when kept in a house. I throw ashes in the yard, and frequently slacked lime. At first I thought the boxes must be covered with oilcloth or

Sick Headache from Bad Stomach.

From the Plain Dealer, Cleveland, Ohio.

One day in the summer of 1895, Charles I. Vogel was sitting on the front steps of his home at No. 1513 Lorain Street, on the West side, Cleveland, Ohio, the picture of misery. He had spent a sleepless night. For six months Charles Vogel had been a sufferer from headaches of the most severe and excruciating character.

While he was preoccupied in this disheartening meditation, some one with a pouch strapped to his shoulder placed a pamphlet in his hand. Mechanically Mr. Vogel began turning the pages of the booklet. Suddenly, however, his indifference was changed to interest, and soon he was reading a few of the testimonials of people who had found in Dr. Williams' Pink Pills a cure for ills of various kinds.

"Then I began to see if somebody had used them for the same trouble from which I was suffering," he went on to say "and I found what I was looking for. The stories seemed straightforward and full of sincerity. I had never heard of Dr. Williams' Pink Pills before but I determined to buy a box of them, and went to the drug store and made a purchase. It was the best investment I ever made."

"The first pill did not cure me, nor did the second; but I had not been taking them for a week before I began to feel better. I continued to have the headaches which broke my sleep and rest, but they were less violent and less frequent. At the end of two weeks I was so much improved that I could not but admit to myself that the little pills were wonderful. Gradually the pain in my head lessened, and at the end of a month it nearly disappeared."

"After taking the pills for a month I was cured. That was a year ago, and I have not suffered since."

"What was the cause of those headaches?" you ask. They came from my stomach. It was out of order, and so was my whole system. I was run down, but my stomach caused me the most trouble. I am glad to testify to the merit of Dr. Williams' Pink Pills because it is on account of the willingness of others to do the same that I am rid of a distressing malady, and it will give me pleasure to know that my testimonial may be the means of helping some one else."

Mr. Vogel is about twenty-three years old, and is the son of Charles Vogel, a mason contractor, with whom he makes his home.

This is only one of many wonderful cures that have been reported as following the use of Dr. Williams' Pink Pills for Pale People. Diseases that have baffled skilled physicians for years have, in many cases yielded, as if by magic, when Pink Pills have been tried by the sufferer. Their effect has been quick and permanent in such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, salivary gland, that tired feeling resulting from vitiated humors of the blood, such as scrofula, chronic erysipelas, etc. They are also a valuable specific for troubles peculiar to females, such as suppressions, irregularities and all forms of weakness. Following their use, roses bloom where cheeks were pallid, and in men they effect a radical cure in all cases arising from mental worry, overwork or excesses of whatever nature. The use of this medicine is followed by no ill effects and it may be given to children with perfect safety. These Pills are manufactured by the Dr. Williams' Medicine Company, Schenectady, N. Y., and are sold only in boxes bearing the firm's trade-mark and wrapper at 50 cents a box or six boxes for \$2.50, and are never sold in bulk. They may be had of all druggists, or direct by mail from the Dr. Williams' Medicine Company.

some water-proof material, but find that unnecessary, as the boards beneath keep them up high and dry.

One hen can thus easily care for twenty chicks, and when they are old enough to wean, they go to roost in the trees in the yard. So they never see the inside of my hen house, excepting the pullets I keep over. I try to have a hundred hens on hand at all times, which are a great help to the farmer's family. Those who have not tried Kaffir corn for feed should do so, and they will have no cause to regret it.

My reason for keeping the hens confined is to keep them away from the hog lots. Of course, where there are no hogs, this would not be best; and as our dog pays attention to the rats, I never shut them up at night. When the hen weans the chicks, she will readily make you understand she wants out; and when the gate is opened, out she goes, to return no more; but the chicks need her no longer; and as she has been well fed, you will soon hear her merry cackle.

MRS. DORA M. CLARK.

Linn, Kans.

TO CURE A COLD IN ONE DAY

Take Laxative Bromo Quinine Tablets. All druggists refund the money if it fails to cure. 25c. The genuine has L. B. Q. on each tablet.

HATCH YOUR CHICKENS

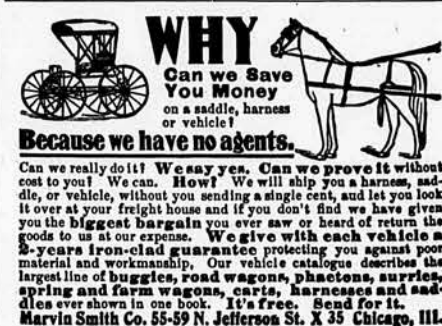
in an Incubator, \$7.50. Raise them in a Brooder, \$6.00. Stamp for Circular.

NONE-SUCH INCUBATOR CO., TERRE HAUTE, IND.



A BUSINESS INCUBATOR.

The Sure Hatch is Business. Over 500 in use. Low in price and guaranteed. Send 2-cent stamp for catalogue worth dollars if you run or want to run an incubator. It contains information not found in other catalogues or books. Address The Sure Hatch Incubator Co., Clay Center, Neb.



GET THE DOLLARS OUT OF GRAIN.
Stock digest ground feed much better than whole.
The Farmer's Friend
SWEEP FEED MILL
Is superior to any other made. Has adjustable force feed, steel ball bearings, burrs 30 in. in diameter. Burns self-sharpening. Write for price.
KELLY & TANEYHILL, Waterloo, Ia.

Do You Want Any More Proof?
of the merits of our
HAND Cultivator
Well we have hundreds of letters just as good as this:
Gentlemen: The Cultivator came to hand a few days ago and I am delighted with it. Rev. H. T. COWEN, Carrollton, Miss.
Send \$1.25 for sample delivered. Agents wanted.
ULRICH MFG. CO., 41 River St., Rock Falls, Ill.

We make Steel Windmills, Steel Towers and Feed Grinders and are selling them cheaper than the cheapest.
Our productions are standards; are first-class in every respect and are sold on trial. Send us a postal and we will tell you all about them.
CURRIE WINDMILL CO., Manhattan, Kas.
AGENTS WANTED.

WELL MACHINERY

Send for catalogue illustrating the old Reliable Peck Well Auger, Rock Drills, Hydraulic Machinery, etc. FREE. Have been in use over 18 years and are no experiment.
W. M. THOMPSON CO.,
Successors to Sioux City Engine & Iron Works
SIOUX CITY, IOWA.

LIGHTNING WELL MACHY
IS THE STANDARD
STEAM PUMPS, AIR LIFTS,
GASOLINE ENGINES
WRITE FOR CIRCULAR 49
THE AMERICAN WELL WORKS
AURORA, ILL. - CHICAGO - DALLAS, TEX.

\$26 REAL BARGAINS
Road Wagons at \$16.45
Top Road Wagons at \$22.70
Top Buggies at \$28.00
Surries \$45.50; Phaetons \$37;
Spring Wagons \$29; Single Harness \$3.75; Farm Harness \$12. Also Carts, Saddles and everything in the vehicle line at lowest wholesale prices. All correct in style, quality and workmanship. Buy direct from factory. Save dealer's profits. We sell one or more as low as others sell in car lots, and ship C. O. D. with privilege of examination. Guaranteed as represented or money refunded. Write for catalogue and testimonials FREE.
CASH BUYERS' UNION, 158 W. VanBuren St. B 64, Chicago

DANA'S WHITE METALLIC EAR LABELS. Stamped with any name or address and consecutive numbers. Adopted by more than forty recording associations and thousands of practical stockmen. Samples free. Agents wanted. Prices reduced.
C. H. DANA, 62 Main Street, WEST LEBANON, N. H.

HALL'S STEEL WIRE FARM FENCE



The strongest, most durable and best fence on the market, being constructed of the best heavy galvanized steel wire, with a heavy cable at top and a barbed wire at the bottom. The only fence on the market that a hog cannot root under.
Manufactured by J. W. D. HALL, St. Joseph, Mo.

MATERIAL & MERCHANDISE AT ONE HALF PRICE.

Write at once for our Free Illustrated Catalogues for anything required for the HOME, FARM or FACTORY.

CHICAGO HOUSE WRECKING CO.,
West 35th & Iron Sts., CHICAGO.
The largest mail order depot in the world for Merchandise bought at Sheriff's, Receivers', Assignees' and Manufacturers' Sales.

Can't get under. The barbed wire holds him back.
Pig-Tight
With our Duplex Automatic Machine you can make 100 styles of fence at the rate of 60 rods a day, that will turn everything except wind and water. Makes a good hog fence at 12c per rod. Rabbit-proof fence for nurseries, orchards, etc., at 16c per rod. A splendid farm fence at 18c per rod and poultry fence at 19c per rod. Every foot of it will possess the three leading features of this ad. Plain, coiled spring and barbed wire to farmers at wholesale prices. Get our free catalogue before buying. Address:
KITSELMAN BROS.,
Box 64, Ridgeville, Ind.
Bull-Strong

ACME PULVERIZING HARROW, GLOD CRUSHER AND LEVELER
For all soils, all work—crushes, cuts, lifts, pulverizes, turns and levels. Cast steel and wrought iron—therefore indestructible. Cheapest riding harrow and best pulverizer on earth. Sizes 3 to 13½ feet. Catalogue free.
SENT ON TRIAL to be returned at my expense if not Entirely Satisfactory.
I deliver free on board at New York, Chicago, Columbus, O., Louisville, Ky., Minneapolis, San Francisco and other points.
Address DUANE H. NASH, Sole Mfr., MILLINGTON, N. J., or CHICAGO, ILL.
PLEASE MENTION THIS PAPER.

Don't Pay Three Profits
If you are going to pay for a carriage why not pay the least you can for the best vehicle? Get all you can in material and workmanship—pay as little as you can for handling and "extras."
You save the jobber's commission and the retailer's profit when you buy direct from the factory. You pay the cost of making with one moderate profit added. We are not agents, but manufacturers of buggies, carriages, surreys, phaetons, wagons, harness and horse accessories. Everything guaranteed. With our illustrated catalogue you can order easily and safely. If what you order does not suit, send it back and we will pay the freight both ways. First, get the catalogue. You are welcome to a copy.
THE COLUMBUS CARRIAGE & HARNESS COMPANY, COLUMBUS, O.

FEED MILLS
We make over 85 sizes and styles of Buhr Stone Mills, 2 horse power and up. It has been our specialty for nearly fifty years. A buhr stone mill is the best and only mill suitable for all kinds of grinding on the farm. Easiest kept in order, lasts a lifetime, large capacity, less power.
Get our new book on Mills before you buy. It will pay you.
NORDYKE & MARION CO., Flour Mill Builders, 285 Day St., Indianapolis, Ind.

PAGE SURE THING!
If there's nothing in coiled springs, why not make mattresses of straight wire? But there is, you know, and the coil is ours.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.

LUMBER
WE PAY THE FREIGHT. GUARANTEE OUR GOODS. SHIP SUBJECT TO INSPECTION.
Send us a bill of what you need, we will gladly estimate exact cost, free on board cars at your station.
FREE, CATALOGUE AND PRICE LIST. Write us.
South Chicago and Calumet Lumber Co.,
Harbor Ave. & 95th St. CHICAGO.

ECONOMY IS THE KEY TO WEALTH.
You can save money by buying your woven wire fence from us.
WE SELL DIRECT TO THE FARMER At Wholesale Prices.
We use only the best quality of steel wire, all galvanized; no small wires used; it's all interwoven; the stay can't slip. Write to-day for circulars and prices.
ADVANCE FENCE CO., 4104 Old St., Peoria, Ill.

LUMP JAW NOW CURABLE.
Surely, quickly and for good. Fleming Bros., chemists, Union Stock Yards, Chicago, have a remedy that quickly cures the most obstinate cases. Supplied by mail under a positive guarantee. Price, \$4.00. Valuable information and full particulars FREE.

What's the Matter With Kansas?

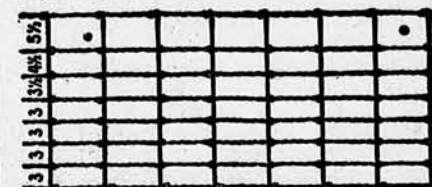
Kansas owns (in round numbers) 900,000 horses and mules, 550,000 milch cows, 1,600,000 other cattle, 2,400,000 swine and 225,000 sheep.

Its Farm Products this year include 150,000,000 bushels of corn, 60,000,000 bushels of wheat and millions upon millions of dollars in value of other grains, fruits, vegetables, etc.

In debts alone it has a shortage.

Send for free copy of "What's the Matter With Kansas?"—a new book of 96 pages of facts.

GENERAL PASSENGER OFFICE,
THE ATCHISON, TOPEKA & SANTA FE RAILWAY,
TOPEKA.



FIELD AND HOG FENCE.
with or without lower cable barbed. All horizontal lines are cables, not affected by heat and cold. Steel Picket Lawn and M.M.S. Poultry Fence, Steel Gates, Posts, etc.
UNION FENCE CO. DeKalb, Ill.

PERSONALLY CONDUCTED
TOURIST EXCURSIONS

WEEKLY TO

CALIFORNIA



WEEKLY TO

CHICAGO AND EASTERN POINTS

Accompany these Excursions and SAVE MONEY. For the lowest rate tickets are available in these

Popular Pullman Tourist Cars

For full description of this service and the benefits given its patrons, also dates of excursions and rates, see your local ticket agent or address
John Sebastian, G. P. A., E. W. Thompson, A. G. P. A.
CHICAGO, ILL. TOPEKA, KANS.

Inaugurated

.. BY THE ..



A Line of

PULLMAN TOURIST SLEEPERS

.. FROM ..

KANSAS CITY TO PORTLAND

WITHOUT CHANGE.

KANSAS CITY TO SAN FRANCISCO

WITHOUT CHANGE OF TRAIN.

72 Hours to Portland.

74 Hours to San Francisco.

These Tourist Cars leave Kansas City every Thursday 6:40 p. m.

For full information call on F. A. Lewis, City Ticket Agent, or J. C. Fulton, Depot Agent, Topeka.

CANCER CURED

WITH SOOTHING, BALMY OILS.
Cancer, Tumor, Catarrh, Piles, Fistula, Ulcers, Eczema and all Skin and Womb Diseases. Write for Illustrated Book. Sent free. Address

DR. BYE, Cor. 9th & Kansas City, Mo.

Our Monthly Regulator never fails. Box FREE. Dr. F. May, Bloomington, Ill.

BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington.

J. G. Peppard
1400-2 Union Avenue,
KANSAS CITY, MO.

**MILLET CANE
CLOVERS
TIMOTHY
GRASS SEEDS.**

SEEDS

SEEDS

Clover,
Timothy,
Blue Grass,
Rye, Barley,
Millet, Cane Seed
and Garden Seeds.

Bale Ties,
Garden Tools,
Seed Sowers.
Send for
Catalogue.

TRUMBULL & CO.,
1426 ST. LOUIS AVE.,
KANSAS CITY, MO.

Use

Kansas Lump Rock Salt

For Stock.

Purest, Healthiest, Best.

Address **WESTERN ROCK SALT CO., ST. LOUIS, MO.**
Sole Agents for Lyons Rock Salt Co., and Royal Salt Co.

**GROUND ROCK SALT
FOR STOCK.**

Use Rock Salt
for
Hides, Pickles,
Meats, Ice Cream,
Ice Making,
Fertilizing, &c., &c.

Mines and Works,
Lyons and Kanopolis, Kan.

**MILLET
AND
CANE**

SEEDS

LANDRETH'S GARDEN SEEDS.

T. LEE ADAMS,
CLOVER, TIMOTHY,
GARDEN TOOLS,
BLUE GRASS SEEDS.

417 Walnut St.,
KANSAS CITY, MO.
.....POULTRY SUPPLIES.

Great Combination Sale of Shorthorn Cattle

To Be Held at the Kansas City Stock Yards, in the Sale Pavilion of
W. S. Tough's Sons, at Kansas City, Mo., on

THURSDAY, APRIL 27, 1899, AT 1 P. M.

This offering consists of 69 head of finely-bred Shorthorn cattle, 44 females and 24 bulls ready for use.

The animals in the sale represent Shorthorns of the purest and best breeding, of fashionable families and of fine beef and milking quality.

Many fine show animals can be found among the females, while a number of the bulls are extra fine show animals and fit to head herds, as they are exceptionally fine animals and of the purest and most fashionable breeding.

The sale will be for cash but if time is desired it will be given if arrangements are made before sale commences.

Catalogues will be furnished by addressing either of the undersigned:

JOHN MCCOY, SABBETHA, KANS.

POWELL BROS., LEE'S SUMMIT, MO.

G. W. GLICK & SON, ATCHISON, KANS.

COL. F. M. WOODS, Lincoln, Neb., Auctioneer.

FIFTY-ONE SHORTHORN CATTLE

—THIRD ANNUAL SALE—

AT STOCK YARDS SALE STABLE, SOUTH OMAHA,

WEDNESDAY, APRIL 12, 1899.

There will be 24 BULLS of which 4 are 2-year-olds, 6 strong bull calves and 14 yearlings, including DEWEY 130630, winner of first in his class at the Trans-Mississippi Exposition last fall. Of the cows and heifers there will be 27 HEAD, all old enough, bred or with calves at side by

MARGRAVE 125162.

CAMBRIDGE LASS, the third prize winner at the Trans-Mississippi, will be in the sale with calf at side, besides others from my show herd and many more equally as good. There will be no culls or worn-out stuff and nothing over 5 years old. The cattle will be at South Omaha Sale Stables for inspection one week before the sale.

All bids by mail or telegraph to the auctioneer, James W. Sparks, in our care will be honestly treated. Send for catalogue. TERMS—Six months at 8 per cent on approved note, or 4 per cent off for cash.

THOMAS ANDREWS & SON,

Col. J. W. Sparks, Auctioneer.

CAMBRIDGE, NEB.

SUNNY SLOPE SALE!

...One Hundred Head of...

Registered Hereford Cattle at Auction

At the Kansas City Stock Yards Sale Pavilion,
Kansas City, Missouri,

TUESDAY, APRIL 18th, 1899.

Fifty bulls, choice out of 100 head, among them my great herd bull, Kodax of Rockland (40731), with several of his get. Forty head of 2-year-old heifers, bred to such sires as Wild Tom (51592), Imported Keepon (76015), Archibald V. (54433), Kodax of Rockland (40731), Java (64045) and Imported Sentinel (76063). Ten head of yearling heifers, five head of cows in calf or with calf at side. In the sale will be the get of Wild Tom, Climax, Kodax of Rockland, etc. These cattle were especially selected for this sale and are one hundred head of the best young cattle out of 500 head now on the Sunny Slope Farm, and there is not one in the one hundred head that is not good enough to go in any herd in the country.



WILD TOM 51592,
The great son of the great sire, Beau Real 11065, heads the herd.

...WRITE FOR CATALOGUE...

C. A. STANNARD, Emporia, Kans.

AUCTIONEERS:

Col. F. M. Woods, Col. S. A. Sawyer, Col. J. W. Sparks, Col. R. E. Edmonson and Col. J. N. Burton.

PROMPT.

POTATOES AND PRODUCE.

We offer subject to being unsold:

Fancy Red River Early Ohios, per bu. \$1.20
Fancy Minnesota Rose, per bu. 1.00
Fancy Minnesota Beauty Hebrons, per bu. 1.00
Fancy Minnesota Burbanks, per bu. .90
Fancy Minnesota Peerless, per bu. .90
Fancy Minnesota Bliss' Triumphs, per bu. .90

ESTABLISHED 1883.

Choice Native Early Ohios, per bu. .90

Choice Native Early Rose, per bu. .90

SEED SWEET POTATOES.

Yellow Jerseys, per bu. .85

Yellow Nansmonds, per bu. .85

Red Nansmonds, per bu. 1.00

Southern Queen, per bu. 1.00

Vineless, best of all, per bu. 1.25

ONION SETS.

Yellow Bottom Onion Sets, per bu. \$2.25

No charge for package or drayage. Ten cents extra on each order for less than one bushel.

We handle Butter, Eggs and Poultry. Our commission is 10 per cent on actual sales. Daily

RELIABLE.

remittances. Ship your Produce direct and receive full cash value.

COPE & CO.,

117 KANSAS AVENUE,

TOPEKA, KANSAS