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L. B. SILVER CO., CLEVELAND, OHIO.

(Breeder's Directory continued on page 18.)

## The Stock Interest.

### RECENT INVESTIGATIONS OF HOG CHOLERA AND SWINE PLAGUE —A SPECIAL REPORT.

EDITOR KANSAS FARMER:—The recent heavy losses from hog cholera and swine plague throughout the hog-raising sections of the West have caused considerable inquiry, through private correspondence, as to what, if any, progress I have made in my investigations relating to hog diseases during the last year. To reply to all of these inquiries, personally, would require much time and, from very briefness, would necessarily be somewhat misleading, so, if not encroaching too much on the space of the KANSAS FARMER, I will endeavor to give as briefly as the subject will permit, the results of my experiments, or rather conclusions, regarding cholera, hoping that my suggestions may be of service to our stockmen, who have certainly been having a hard time the last few years.

In the first place, by way of explanation, I might say, these experiments have been carried on with a view toward assisting my patrons, parties using the Sanitarium system of feeding, in resisting the encroachments of disease in their herds, and secondly, to enable me to control the disease in such a manner as to render it comparatively safe to purchase feeders at our large market yards, which are always infected. These experiments have extended back over a period of three or four years, and have been what might be properly called field experiments—that is, wrestling with the disease itself as it occurs among the farmers' herds. I have made no scientific experiments in the propagation of the disease germs, but have been kindly supplied with such information regarding the nature of such germs by Prof. Salmon, of the Bureau of Animal Industry, and his associates, as they have been able to give to the public from time to time.

During this time I have probably had several thousand head of diseased hogs under my care, in about one hundred and fifty herds. Of course, I would be rather stupid had I not learned something advantageous, or had it pounded into me while directly and indirectly handling so many diseased hogs; but, like others, I have been baffled by the variations of the disease and by the contradictory results, and I do not profess to know it all by any means, for while I can control hog cholera now with reasonable success, saving from 70 to 90 per cent. and often all, swine plague, as met with under ordinary farm conditions, refuses to yield to any treatment known to me, and is, in my judgment, a much more formidable disease to deal with than cholera, for, under all conditions under which I have met it in the field, it has been complicated with cholera. Cholera is found more often alone, however, and not associated with swine plague, and when this is the case it is susceptible of successful treatment. That is, with cholera alone, treatment must be commenced in time and the herd must be held up until they have reached a condition of immunity from the ravages of the disease, which will usually require from four to five weeks' treatment.

In the experiment conducted by me, at the stock yards, in Bellville, in April, 1894, and reported in the KANSAS FARMER, under which I purposely infected twenty-one healthy shoats, by feeding them shoats just dead from cholera and placing sick ones with them. I had no swine plague complicated with the cholera. If it had been, I would have lost nearly or quite all. As it was, the twenty-one head went in weighing 2,390 pounds. All took the cholera. Three died. At the end of thirty days the eighteen head remaining weighed 2,525 pounds, or 135 pounds more than the twenty-one head weighed to start on. Had not these shoats been treated vigorously, right from the start, and held up, they would have shrunk badly and the remnant left alive might not have been worth feeding; but these shoats were fed right out and sold in about ninety days, hav-

ing done excellently. Each individual hog gained moderately all the time during the incubation and run of the disease, except possibly a week or ten days when they were at the worst stage.

In swine plague complicated with cholera, there is a continued decline or emaciation. The disease is not so suddenly fatal as acute hog cholera. It is slower, but more sure to get the patient. You can control the cholera often while complicated with swine plague, but the swine plague rages right along. I think that this fact is owing to the swine plague being a lung disease, and out of reach of any treatment, the swine inhaling the germs from each other; whereas, the cholera is a disease principally confined to the intestines, and comparatively easy to reach.

When I first commenced these investigations and experiments, I started out with the impression that Dr. Billings, of the Nebraska Experiment Station, was right when he took issue with the Bureau of Animal Industry at Washington regarding the prevalence of two distinct and widespread diseases among swine in this country. I had visited the principal stock yards and had endeavored to locate a disease differing from the one I was familiar with (cholera), but the symptoms were similar in some respects, and the most noticeable were always those of hog cholera. But I am now thoroughly convinced of the prevalence of the disease, swine plague, though always associated with cholera in all cases where I have met with it. The swine plague microbes are said by Dr. Salmon, of the Bureau of Animal Industry, to be probably present in all herds of swine. They have also been found in the stomachs of other domestic animals. Their development in some herds into a virulent disease and non-development in others, is an unsolved mystery, but some particular condition of the system, caused by the food or surroundings, may be the cause of it. In all the herds I have encountered having cholera and swine plague in complication, the swine plague has invariably developed after cholera had made inroads on the system, particularly where the swine plague first developed into a virulent disease and becomes epidemic, going in full fellowship with cholera, and the most malignant attacks of swine plague I have encountered have been in herds that have been getting soft food, cooked or soaked, and of good variety and quality. I am led to suspect that some condition of the food—fermenting some perhaps—possibly may favor the development of the swine plague germ or diminish the natural powers of resisting it.

#### SWINE PLAGUE.

Positive knowledge of the nature of the disease attacking the herd is sometimes difficult to arrive at. At the incipency of the disease you may know that the hog cholera is there, but as the first ones to die usually die of cholera, you may make several post-mortem examinations before you strike a case where the swine plague has developed sufficiently to indicate the presence of this disease.

To guard against hog cholera and swine plague, it will be an advantage to the hog-raiser to be able to identify either disease, or both, at as early a date as is possible, for treatment of cholera to be successful must be begun promptly at the incipency of the disease, and even a few days before would be a great advantage, if you had reason to believe that they could not escape a siege of it. This may sound strange and not in conformity with the general belief, that hog cholera can be prevented. I will explain this, however, later on.

#### HOG CHOLERA.

Hog cholera may start up in a herd in two different ways, viz.: By a slow process of development, from an attenuated germ, or from a direct exposure to the virulent germ, and the earliest symptoms in one case do not show up in the other, necessarily. In the first place, the disease develops by a slow process, in a herd that has become debilitated from some cause—intestinal worms, possibly, or indigestion, caused by feeding of highly carbonaceous food.

This occurs usually in the fall, several weeks after new corn has been lavishly fed, and is the starting point in many outbreaks. The very first indications of cholera development, from the attenuated germ, will be found in the droppings, which first show constipation. The hair dry and rough. The hog eats in a half-hearted way, and may have an abnormal appetite, eating swine dung, fodder and other substances unusual for a hog on full feed. Often the whole herd will all go to rooting up the ground industriously, and if about this time you do any trimming the wounds on many refuse to heal promptly. The small balls of hard droppings from some individuals, when first dropped show a whitish substance surrounding them, as though they might have been rolled in cigar ashes; later, a few days, they have a shiny appearance, as though varnished, and with some bloody tinge, perhaps. The herd is not doing well, and the owner has noticed it. They may be four or five weeks gradually approaching a point where one will entirely go off its feed or scouring commences with the first one. They have now reached a point that is reached in one week or ten days when the herd is exposed to the virulent germ. The disease now becomes highly infectious in either case, and from this time on hogs in condition or out of condition contract the disease just the same, though their resisting powers will vary. When the first hog in the yard commences to scour, forty-eight hours time is sufficient to give the cholera to each hog in that yard, and from the time the germ enters the stomach, the battle of the system against the infection commences, and those of the strongest disease-repelling powers may be two or three weeks becoming prostrated. The individuals come down rapidly in a large herd when the disease is of a virulent type, and the hogs exposed to direct infection first going off their feed, partly or wholly crawling into any litter that may be in the yard, laying on their stomachs. When driven up they give out a weak, dispirited grunt (or whine) and walk off stiffly, with their noses pointing down, as if in a contemplative mood, and later, with a staggering or swinging motion of the hind parts. The eyes dull, with mucous secretions in the corners, often gumming them up so the hog cannot see. Urine high-colored, often nearly red when there is much fever. Scouring, the evacuations being very offensive and of a dark green or yellowish color. Ears and tail droop, nose and feet sometimes swollen, ears and face swollen and sometimes show canker, holes being eaten out. Gaunting of the flanks and arching of the back. When constipation exists, a tallowy-like substance is sometimes evacuated with the balls of hard droppings. Bleeding at the nose and bloody stools. Often much coughing when first driven up. Scaly eruptions on ears sometimes.

Post-mortem examinations show the large intestine to be ulcerated; the spleen enlarged often, and engorged with blood; bloody spots in the tissues; bloody extravasations along the intestines, on the lungs and kidneys, also on the mucous surface of the stomach.

The disease runs with most herds from three to six weeks, lasting with an individual hog from one week to four, though often fatal in a day or two to some of the earliest cases. Great emaciation follows, usually, when the disease runs its course unobstructed, and the skin under jowls and between fore legs and on belly becomes purple or red in blotches.

All these symptoms will not show up in each herd attacked, even from the same source of infection. For instance, in one herd a large part will scour; in the next, possibly only a few will scour. One herd will develop the swollen limbs, canker sores on nose; the next perhaps none. One herd will cough badly, the next very little. But, in a dozen herds these symptoms will usually all show up.

#### SWINE PLAGUE.

When hogs attacked with cholera shiver much, look out for swine plague. If it sets in, the temperature rises, often reaching 106° or 107°. The ears

## A Sufferer Cured

"Every season, from the time I was two years old, I suffered dreadfully from erysipelas, which kept growing worse until my hands were almost useless. The bones softened so that they would bend, and several of my fingers are now crooked from this cause. On my hand I carry large scars, which, but for



### AYER'S

Sarsaparilla, would be sores, provided I was alive and able to carry anything.

Eight bottles of Ayer's Sarsaparilla cured me, so that I have had no return of the disease for more than twenty years. The first bottle seemed to reach the spot and a persistent use of it has perfected the cure."—O. C. DAVIS, Wautoma, Wis.

# AYER'S

THE ONLY WORLD'S FAIR  
Sarsaparilla

AYER'S PILLS Promote Good Digestion.

hang like rags; tail droops; base of ear and root of tail very hot to the hand. The hogs become limber-jacks and fairly cave in all over. Breathing very labored. Post-mortem examinations show lungs inflamed and more or less covered with small spots or points where the tissue is dead, and in severe attacks the air passages in the lungs are completely clogged up with a substance the color of bees wax. Sometimes one-fourth of the substance of the lung tissue will be composed of this yellow substance. Mucous membrane of the intestines congested, and inflammation of the serous membranes. Very little coughing accompanies swine plague, and it is usually hoarse in sound, and seems to cause great distress, while cholera cough is much more frequent and of an explosive character. Many of the hogs that go through swine plague peel off afterwards along the back and top of neck.

There seems to be no perceptible difference in the virulence of hog cholera during winter or summer. It is more prevalent in the fall and early winter, for the reason that swine are taken usually from the pasture and in a week's time put onto full feed of corn. The digestive organs are overworked, especially when a straight corn diet is forced on them, for in every 100 pounds of corn, which contains about sixty-eight pounds of carbohydrates and fat, they can assimilate about forty pounds, and must throw off the balance for lack of albuminoids. This is a waste, and certainly must be hard on the hog machine.

During the first month of feeding the hog has a ravenous appetite and can hardly get enough. Here is where the average farmer makes haste slowly, and it is one place where the lazy man often excels. Finally, the farmer has his hogs filled up, as he expresses it, after stuffing for a month or six weeks, and the hogs only eat a moderate amount of corn thereafter. Now the mischief is done. By this crowding process at first, you have partially destroyed the hog's power of resisting disease. If every farmer would take at least three or four weeks to put his hogs onto full feed, instead of one week, as is usually the case, you would hear and see much less of hog cholera, because if you reduce their disease-repelling power by producing indigestion, cholera, the germs of which may be present or come floating in the air, has a better chance to make a start among them. I have seen the bad effects of overcrowding swine by putting them on full feed too suddenly, demonstrated so forcibly and so many times during my experiments, that I want to impress on hogmen generally the great

danger attending it. Full feeding, and no exercise, of course, at best, is not a natural condition, but if you give the digestive organs time to become adapted to the new conditions, they will not become impaired to any great extent, and the animal retains his disease-repelling power more fully.

#### IMMUNITY FROM CHOLERA.

When hogs pass through the cholera, even in the mildest form, they are protected from any further attack as a rule. In cases where cholera has started up in a herd, and, from any cause been stopped after full development in a few cases, all exposed swine in such herd have had it sufficiently to protect them. But this immunity does not take place until they have all had time to complete the run of it, which would necessarily be at least three or four weeks, and although they may be getting through it easily, without shrink, they will infect a healthy herd, and may give it to them in a malignant form for some weeks yet. Under all circumstances, hogs that have not had a run of the disease are subject to it. No preventive taken by the hog prior to the time the germ enters the stomach will protect him in the least.

You cannot place a hog sick with cholera in a pen containing swine subject to cholera, and by the use of any preventive keep the well hogs from taking the disease; although they may not become prostrated, they have the disease just the same. From the insidious nature of the disease this is an impossibility, as the germs are entering the system continuously in an infected yard, and to prevent them from getting lodgment in the blood, you would have to be giving a germ-killer constantly, which is impracticable.

Hogs that have been subjected to heavy corn feeding (especially when crowded too hard at the start), have their disease-repelling powers greatly reduced.

Can hog cholera be prevented? Can it be cured? To each proposition I answer both yes and no. To make myself plain, I will try to explain what can be done and what cannot be done, for unless the feeder thoroughly understands this and appreciates it, it is not worth while for him to waste much time and money trying to doctor hogs, for, as a rule, the average feeder becomes disgusted after a week or ten days trying to do what is impossible, and he concludes to let them die if they are bound to. The fact is, that in each infected herd the number that outlive the disease depends on the inherent power of each individual hog to repel disease, the virulence of the attack and the time at which treatment begins. Sometimes hogs have their disease-repelling powers so unimpaired that they repel the cholera germ without any treatment when its virulence is partially lost; but this is unusual. The rule is, that the attenuated germ gets in its work all right, only it is longer about it. Here is where a preventive will likely be effective in preventing a run of the disease, that is, where the germ is weakened by floating some distance in the air, or lying over in the ground under some old litter from an outbreak of cholera the year previous. Now this is about as far as you can depend on a preventive to prevent, for when hogs subject to cholera are exposed directly to the virulent germ in a yard swarming with them, they gradually contract the disease and have a run of it. Even when you are using a remedy that will carry them through, nothing protects them absolutely but a run of the disease itself, mild or acute.

I am not recommending or disparaging any particular remedy, but I think that often hogs are injured by being fed some of the mixtures that are fired into them, and the cholera microbe is uninjured. Most feeders have a vague idea that they can prevent cholera, and having used some kind of a compound which they fully credit with having saved their hogs, they use this when the real test comes, at last, and it fails, of course. The disease runs on until the digestive organs are practically destroyed, and the whole herd off their feed. No, hog cholera cannot be cured if your hogs arrive at this stage before you make the turn on them.

To do so you would have to put entirely new "innards" in them.

It is of the utmost importance to commence treatment at the very incipency of the disease. You must have an even start with it, when you absolutely know that you have a remedy that will carry them through. When cholera is in the neighborhood, always be on the look-out. Any runt or suspicious hog should be removed from your main herd. I think much the largest number of herds attacked get it by the germ floating through the air, and the development is slow at first, but rapid after the germ gets a foothold in the blood. When cholera-stricken swine arrive at a point when they go off their feed, are scouring and some of them are prostrated completely, they have usually been battling with cholera for weeks—from one to four, at least and—whether it can be arrested or not depends, as I stated above, on the vitality of the swine, virulence of the disease, and whether the swine plague is developing or not among them. Sometimes hog cholera straight can be arrested at a very late stage of the game, unless the digestive organs are badly affected, but not when swine plague is associated with it. The only way to head off swine plague is not to let cholera fully develop, as cholera makes the first start. Usually the whole herd goes off their feed in two or three days when swine plague develops. Prompt treatment of cholera, at the very start, prevents practically the great shrinkage which invariably occurs where they have a heavy run of cholera, and treatment even a few days before would be helpful, if it could be known just when the disease would start, as it would prepare the system a little better for the fight.

When cholera starts up in a herd and gets under much headway, nothing can stop it. It will make its run, just as typhoid fever does in the human family, which disease it seems to be very similar to, and, in fact, is often called typhoid fever of swine. When a railroad engineer starts on a heavy down grade with a heavily-loaded train, he does not wait until his train is beyond his control before he puts on the brakes, but he holds her back gradually, keeps control of his train. It is just so in treating hog cholera. To be successful you must put on the brakes before you come to the jumping-off place, which point has been reached when your hogs go off their feed and become prostrated. The average hogman is careless about watching his hogs when disease is in his neighborhood and usually dislikes to admit that his hogs are ailing, until the disease becomes self-evident to the neighbors and beyond control by him. And this is one of the greatest obstacles to successful treatment. I think from this fact, and from the carelessness in observing sanitary rules, that cholera will be prevalent in the years to come in the great corn States. Much could be done to suppress it if some attention was paid to the enforcement of laws already enacted in most of the States to prevent its spread. To the habit farmers have of loading shoats or feeders into cars without disinfecting them, shipping feeders from any of our great market yards, taking swine out of our country shipping yards to feed, shipping dead hogs to soap factories, etc., much of the spread of hog cholera is due.

But, as I have already written too long a letter, I will not refer to necessary sanitary rules, which have been written on so often, and which are of the utmost importance in the management of swine.

As to future protection to hogmen from the ravages of disease among their swine, I am of the opinion that when cholera is prevalent and feeders want to keep many together, that the only safe method will be to give them the cholera while perfectly healthy; take them through it, which can be done at a loss of less than 10 per cent. in weight in the herd, and without seriously affecting their assimilative or generative powers; taking them through in small bunches of fifty or a hundred in a place, and collecting them together in larger bunches if desirable after they become immune from further attacks. But no one

should undertake to do this until he is familiar, by experience, with every phase of the disease, and he must absolutely know that his remedy is reliable. I do not care what remedy may be used, to be successful it must be used in conformity with the above suggestions. No remedy is going to work instantaneously, but must be used continuously from the start to the finish of the run of the disease, which usually embraces a period of four or five weeks.

All my experiments so far have been made on herds that have been infected in the usual way among farm herds. I have thought of trying inoculation as a means of giving them the disease evenly and quickly, but am fearful of injecting the germ directly into the blood.

Now, to prevent any useless correspondence, I wish to repeat that I do not expect to supply my treatment to the general public, but to my patrons, parties using the Sanitarium system of feeding swine, whom I, of course, wish to excel in the management of hogs. It will cost about 5 cents per week for the treatment, or about 20 cents per head for the thirty days treatment necessary. It is a liquid, and must be transported by freight, and partly compounded at the actual time of using, under my instructions. I therefore require parties who are entitled to it to supply themselves before the disease gets under headway in their particular herds. I furnish it only on special order, from my headquarters at Belleville, Kas., and will not supply it unless you order an amount sufficient to run your hogs through on the above basis, and if they show a start of the disease before you are supplied with the treatment, remove the apparently well ones to a separate yard and promptly remove from them each one becoming affected until you receive the treatment. The healthy ones should have three or four days' treatment before they reach a point where they would go off their feed, then re-exposed enough to start the disease slightly. The point is to hurry them through it when it has got started and sure to make its run among them. I have imposed this lengthy letter on your readers because there is so much to hog cholera and about it that hogmen should know in order to successfully cope with it, even with the best means of treatment.

E. M. CRUMMER.

Belleville, Kas.

#### Live Stock and Meat Inspection.

Meat inspection during the fiscal year increased and improved, says the annual report of the United States Bureau of Animal Industry. The public demanded more extended and critical inspection in all the great cities where the larger abattoirs are located. Earnest efforts were made by the department to inspect all animals slaughtered for inter-State and foreign trade. These efforts, however, have been made only in the cities where United States inspection has been permanently instituted. At such killing places calves and sheep have been included in the inspection.

The number of animals inspected at slaughter-houses during the year was 18,575,969. During the preceding year only 12,944,056 were inspected. This shows 5,631,913 more this year than last. The work, therefore, of inspection at the abattoirs during the fiscal year ended June 30, 1895, was augmented by about 43 per cent. During the same year, in the stock yards, ante-mortem inspection was also made of 5,102,721 animals.

By order of the President of the United States, inspectors were placed in the classified service on July 1, 1894. Since that time the number of those officers has been largely re-enforced from the list of eligibles recorded in the office of the United States Civil Service Commission. All inspectors thus appointed are graduates of reputable veterinary colleges and have passed satisfactory examinations in veterinary science before the Civil Service Commission. Therefore the educational acquirements of the corps of inspectors are of so high a grade that meat and animal inspection must become of great sanitary value to consum-

## Strange

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ers at home and to inter-State and foreign commerce, provided State and municipal authorities intelligently and diligently co-operate with those of the national government. If such co-operation fails, then the people of the great killing centers become the consumers of all rejected animals and meats. The protection of domestic health will be much improved when each purchaser of meats demands and insists upon that which has been governmentally inspected and certificated.

Had not the whole matter of animal and meat inspection better be relegated to State and municipal authority? When and where will the duties of the Bureau of Animal Industry otherwise be defined and restricted? And what will be ultimately the annual appropriation of money required to compensate its constantly increasing force of inspectors, assistant inspectors, stock examiners and taggers?

But whether inspected by national or State authorities, the owners of the animals and carcasses inspected should pay for the service which confers an added selling value to their commodities.

During the year this inspection cost 1.1 cents per animal inspected. The aggregate sum paid out for that service was \$262,731.34.

In 1893 inspection cost 4½ cents per animal. In 1894 it cost 1½ cents per animal.

This service has been maintained during the year at fifty-five abattoirs, situated in eighteen cities. During the previous year inspection was conducted at only forty-six abattoirs and in seventeen cities.

During the fiscal year 1895, 45,094,598 pounds of pork were examined microscopically and exported, while during the year 1894 only 35,437,937 pounds went abroad, and in 1893 only 20,677,410 pounds of microscopically examined pork were exported.

And notwithstanding the agrarian protectionists of Germany, who have instituted by unjust discriminations every possible impediment to the consumption of pork and beef from the United States in that Empire, 29,670,410 pounds of microscopically inspected hams, bacon and other cured swine flesh were exported directly to that country; while France, which is intermittently discriminating against us, took 9,203,995 pounds of the same product; Denmark, 472,443; Spain, 4,752; Italy, 3,630. Indirectly Germany and France probably received much more American bacon and hams than can be estimated from data at hand; but the amounts set down for those two countries were sent directly to German and French ports, and can be verified by the records of the Department of Agriculture.

Reciprocal certification of the chemical purity of wines exported from those countries to the United States may some time be demanded from the German and French governments as a sanitary shield to American consumers, for certainly American meats are as wholesome as foreign wines.

In the fiscal year 1895, 905,050 hog carcasses and 1,005,365 pieces of swine flesh were microscopically examined. This shows a total of 1,910,415 specimens placed under the microscope. The cost of this was \$93,451.10. The



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cost of each examination was therefore 4.9 cents. In 1893 the same examination cost 84 cents per specimen, and in 1894, 65-9 cents.

The foregoing statement shows a reduction of 25 per cent. in the cost of inspection in 1894, compared with the inspection of 1893; it shows likewise a reduction of 25 per cent. in 1895, compared with 1894. This inspection cost for each pound of meat in 1894, 2.48 mills, and in 1895 it cost 2 mills per pound.

During the year 657,756 cattle were inspected for the export trade and in 1894, 725,243.

The United States actually exported during the fiscal year 1895 324,299 head, but in 1894 they sent out 363,535. This shows a falling off of exported cattle during the fiscal year 1895 of 39,236 head, compared with the year 1894.

Out of all the cattle inspected, 1,060 were rejected during 1895, while only 184 were rejected during the year 1894.

The number of sheep inspected for exportation in 1895 was 704,044. The number really exported was 350,808. In 1894 only 85,809 were sent abroad. Therefore there was in the year 1895 an increase of 264,999 exported sheep. This increase is over 300 per cent.

The foregoing statement shows that, taking cattle and sheep together, 1,361,800 animals were inspected in the year for foreign markets. It also shows that out of that number a total of 675,107 animals were shipped abroad.

Every bovine animal was tagged and numbered. Each number was registered so that individual animals could be identified. All the cattle were certified to be free from disease.

## Irrigation.

### UNDERFLOW AS RELATED TO IRRIGATION.

Excerpt from a paper by H. V. Hinckley, C. E., in *The Engineering Magazine*.

Having been employed as expert in a lawsuit involving the question of possible permanent supply by wells in a certain valley; having also been employed to design a gravity system to utilize the entire underflow of one of the large plains rivers; and having devoted two years entirely to the study of water supply for irrigation development, the writer has made several hundred tests of well-infiltration and flow of water in sands and gravels (coarse and fine, and various combinations of them), with slopes ranging from three feet to 350 feet per mile. To give the details of these tests, with resultant curve diagrams, formulae and explanations, would require a long paper; moreover, the writer desires to complete at least 1,000 tests before publishing the results. It is not the purpose of this article to anticipate and answer all the questions that might be asked regarding underground water supplies, or to suggest the writer's ability to do so, but simply to present the following general conclusions resulting from his study.

The only source of the underflow is the rainfall, though geological conditions may be such that rainfall in one drainage basin furnishes underflow in another, and helps to supply another stream. The bed of a mountain stream, like the Arkansas or the Rio Grande, may have a continuous underflow from mountains to ocean; but the water that starts in the underflow at the mountains seldom, if ever, traverses the entire distance to the ocean, or any considerable part of it, generally reaching the surface of the stream by gravity, and then being evaporated. Underflow of the same level as the stream water, or nearly so, is limited to the width of the valley proper generally, but not always—depending upon geological features. In general, the surface of the underflow tends to follow the ground surface, being higher, but at greater depths, under the divides and sloping toward the rivers. If the water-bearing material in the valley bottom is not much coarser than that back from the river, the slope of the underflow may extend to the river; slopes in sand of thirty feet per mile, and possibly much more, exist to the river banks, while in valleys underlaid

with coarse gravels the transverse sections of the valley proper usually show a level, or nearly level, water surface. All underground waters in sands and gravels, unless caged in some geological seam or pocket, are in constant motion under the influence of gravity, generally from the divides to the valleys and down the valleys, but, in rare cases, where the divides are sand to depths below the river levels, the water movement is in a direction away from the nearest river; in short, the water seeks lower levels by the most practicable route. The amount of water in saturated sands and gravels ranges from less than 20 to more than 40 per cent., the theoretical maximum per cent. held between spherical grains being 48. The percentage volume of water depends mostly upon the uniformity of coarseness of material. Fine sand, if free from silt, contains the same percentage of water as coarse sand, or even coarse gravel, the general shape of the grains being the same. Very fine and silted sands and clays hold high percentages of water, but do not readily give it up or pass it along. A coarse gravel holding 40 per cent. of water may be so mixed with finer gravel and sands as to contain only 20 per cent. of water. The percentages of water that may be drawn off by gravity or by pumping from the sands or gravel are not proportional to the percentages held in them. The coarser the material, the greater the percentage drainable, because fewer grains give less area of capillary surface; but a portion is invariably held back from the flow by capillarity. The greater the uniformity of sizes of grains or pebbles the greater the percentage drainable, and the coarser and more uniform the material the greater the drainage speed. In a given material the speeds of flow are nearly in proportion to the slopes in feet per mile. The flow in coarse gravel with a slope of fifty feet per mile (for example) is several hundred times the flow in a medium fine sand with a slope of five feet per mile.

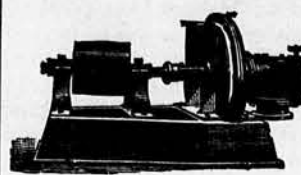
Any statement to the effect that the underflow has no flow, or that its flow in general is about at a certain rate, without stating the conditions governing that rate, is worse than a waste of time, for its flow varies under well-defined laws and between the limits of quiescence and a lively current.

Some streams, dry most of the year in the upper part of their course, become perennial further down from the constant underflow from the highlands; one stream, for example, in western Kansas, flowing in sand and falling thirteen feet per mile, was receiving last winter from the underflow, after a very dry year, twenty-six cubic feet per second in a distance of six miles. Sands and soils above the saturated water level are wet by capillarity, and when a well-borer brings up wet sand he has not necessarily reached the water surface by several feet. The height of the capillary wetting depends upon the fineness and uniformity of the sand, but has no effect upon the flow of the water in the saturated sands and gravels below.

The supply that will percolate into a given well depends upon its depth, its diameter, and the coarseness of material delivering the water to the bottom of the well. In an unstratified and uniform material constant pumping from a well produces an inverted conical water surface around the well, which surface, after stopping the pumps, returns to practically the original water level in from one hour to twenty-four hours—not instantly, as many reports indicate.

The supply that a given well or other gathering chamber, in a given valley, will furnish permanently depends, first, upon the rate of infiltration; second, upon the cross section of valley, the slope thereof, the character of the sands, and the consequent speed of flow; third, upon the extent and character of the drainage area.

Determinable currents do exist through material at bottom of wells, and, when well walls are laid loosely without cement, may, in favorable material, exist at or near the surface of the water. In general, the lower strata currents are many times stronger



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than the upper. The conclusions and findings of Mr. Follett, whom I may seem to have been attempting to "call down," as well as the conclusions and findings of the other government experts, are, in general, corroborated by my experiments. The trouble between their conclusions and the people is that the people, and in general the engineers, are not sufficiently posted on the laws of underground waterflow to talk advisedly thereon. While residents say that the underflow is inexhaustible, the expert says it is not; and upon these grounds they stand, fighting a French duel, with a common cause at heart and both of them right. The underflow is exhaustible or not exhaustible, according to the means employed and the intelligence exercised in connection therewith.

The underflow of some streams or valleys is but a fraction of 1 per cent. of the surface flood flow. The average annual underflow passing a given point is seldom, if ever (owing to evaporation), equal to the average annual surface flow. The dry weather underflow often exceeds the rainy season underflow, and often exceeds the dry weather surface flow very materially, for in the West the latter often becomes nothing. The underflow of any stream or valley is far more reliable and constant than the surface flow, and the writer's study has made him an optimist regarding the underflow for irrigation.

Gravity plants can be put in, good for eighty or 100 years, with no annual expense for maintenance or operation, that will deliver at the surface a steady flow the year round at a first cost of from \$5 to \$25 for one acre foot every year. Thousands of (generally small) pumping plants can be put in at from \$5 to \$10 an acre, with an additional annual expense for repairs, fuel, etc. The former is the corporate or community plant, the latter the individual plant. Either plan must be carried out with a thorough understanding of all the conditions. Too many canals are being built where the reliable supply is not a canal supply. Too many pumps are being put in that are not best adapted to the work to which they are assigned. Gravity systems properly designed furnish from the immense reservoirs provided by nature the most reliable water supply obtainable, and in this manner may be utilized at least a good share of the large and immediate run-off that is lost to view before reaching the stream gauges of the government.

Throughout arid America, in which it is proposed that two hundred million people shall be prosperous on irrigated farms, the wealth of this coming empire is in the water, while sun and wind and the resulting evaporation are the robbers who would stimulate maximum plant growth, and at the same time take from the face of the country the plant blood necessary for such growth. The great problem of the West then is to conserve water supplies against evaporation, which averages from four to ten feet per annum, depending upon locality, and which reaches a frequent maximum of at least one inch a day and a rare maximum, in hot winds, of at least one foot a day. These figures represent the amount of evaporation where the water is in sight. If the robber fails to find so much, he takes only what he finds. The failure to find any flow over the rock-bed of the Rio Grande at El Paso, Tex., is certainly no basis for the opinion that there is no underflow at Albuquerque, N. M.

The mean surface flow of the Rio Grande at Del Norte, Col., is 0.80 second feet per square mile drained. At Embudo, N. M., it is 0.20, and at El Paso, Tex., 0.06; or, in another light, the annual flow above ground at Del Norte (drainage area, 1,000,000 acres), at Embudo (5,000,000 acres), and at El Paso (20,000,000 acres) is practically the same, being generally from a half

million to a million acre feet, equivalent at the latter place to a run-off of only (say) one-half inch annual rainfall. Excepting the mountain floods of April, May and June, practically no water reaches El Paso, the light rains being evaporated from the face of the country, and the heavier local rains, along with the great share of the snow waters, going into the underflow to be gradually evaporated.

There are at least three possible methods of conserving waters in such cases. An international dam may be built at El Paso costing \$1,000,000 [Tenth Annual Report United States Geological Survey, page 145], and em-pounding early each summer 500,000 acre feet, having an average depth of twenty-three feet, thus utilizing, possibly, 5 per cent. of the rainfall of the Rio Grande basin; smaller dams may be built in the mountains to supply local canals; and thirdly (upon which I wish to lay stress) nature may continue to store in the sands and gravels of the valleys as she has done for centuries, and the individual farmer may pump from under his valley farm, and the corporation may develop underflow gravity supplies, nature replenishing the supply, in either case, once a year.

At least 2,000 individual pumps, operated by wind, steam, and gasoline power, in western Kansas alone, are successfully and profitably watering farms (many of which had been abandoned by previous owners) from the underflow found at depths of from ten to 150 feet below the surface. The pump system of water supply must become more popular as its good points become more appreciated. There are canals in the Arkansas and other valleys that are dry during the critical part of the summer season, because the streams are then dry. Intelligent gravity development will give them a summer flow or an all-the-year flow, as desired, within reasonable limits of expense, but such plants must be designed with a thorough understanding of the underlying material and the water supply and its movements. Some of the gravity developments, as well as pumps, now in use, while considered successful, are faulty in design, and therefore more costly than they should be. To make a long story short, nature has provided immense storage reservoirs to which, at least on the great plains, no artificial storage can approach either as to capacity or freedom from evaporation. The beds of the streams are the safety-valves through which the surplus escapes to be evaporated or to flow to the sea. The more these features become understood, and the more individual pumps are put in to keep the water level of the valleys down below the level of the river beds and away from evaporative influences, the greater will be the available water supply. In other words, nature will help them who help themselves upon her plans.

A thousand city water supply pumps and many thousand pumps for irrigation and other purposes, and a number of gravity conduits, are realizing, from the underflow, steady, reliable supplies of from 1,000,000 to 30,000,000 gallons per day, and developments along this line, in the writer's opinion, have scarcely begun.

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## IRRIGATION.

## Agricultural Matters.

### HOW IMPROVE THIS FARM?

EDITOR KANSAS FARMER:—Mr. J. A. Shelhammer, of Osawatimie, writes me the following inquiring letter, and as his inquiries are such as many others would probably make, I answer through the "Old Reliable."

MR. CLARENCE J. NORTON:—Dear Sir: I read KANSAS FARMER, and have noticed your articles on subsoiling, for a good while. Hope you will answer a few questions. My farm is upland prairie. A part is old and never grassed to amount to much; a part is red soil, and a part is white, which bakes or runs together after heavy rains. Which subsoil plow do you like best—John Deere all steel or Perine's? Which Perine would you buy, lightest or heaviest? Would you use a stirring plow or only the subsoiler? In corn stubble, how often would you go in each row of three feet eight inches? Would you use common plow in tramped-out pasture? If not, how far apart would you go with subsoiler, and how deep would four horses (medium size) handle it? I am in debt, and am very anxious to get my farm paid for. I want to grow grass, clover and corn (cow feed). I have a silo.

J. A. SHELHAMMER.  
Osawatimie, Kas.

The regular agricultural writer would advise sowing clover on the old, worn-out ground to loosen it up and add fertility to it. Now, let us study a little. How does clover loosen up the soil? By simply protecting the soil from the beating rains that pound our plowed land down so hard, and also by the action of its roots. It adds some kinds of fertility to the soil, but it takes out a large amount also. We all know that land can be too poor to grow clover, and also that we can grow better clover where manure has been applied. Now, then, why wait for clover to do what the Perine plow will do at once? Every single thing that clover will do for land, can be done at once with the subsoil plow, except to add humus. Some have written about the "silent subsoiler," and in flowery language tell us how clover in three or four years will do all the subsoil plow will in three weeks. Another party has an idea that water cannot be raised by capillary attraction over eight inches, and laughs at subsoiling. He is probably correct, but does not stop to think that we do not want the water to be raised by attraction, for if it did, it would readily evaporate away from the surface. What we want is to secure the water and lock it up away from any capillary attraction and allow the roots to go down and draw their supply whenever they wish to do so. A close observer will be amazed at the extraordinary change that takes place in subsoiled land. My potato field is much finer than ever before and the bottom of the furrow shows the under soil to be literally all full of holes—probably made by worms—about the size of a slate or lead-pencil. What an enormous amount of water these holes will take in and what a chance for the roots to penetrate next season. He should subsoil his white land as soon as possible. If it is clean, I would run the plow independent; but if foul, behind another plow.

Take a field that has had the corn cut off for the silo and allow the three horses to straddle the rows, and out out the space between the rows, and later on plow out the corn butts, and the field will be in splendid condition for clover, if sowed with a nurse crop of flax. Flax makes the best of all nurse crops for clover in Kansas, and will be found to be profitable.

In old, tramped-out pasture, I would use the common plow, followed by the sub-breaker, as it can be done when the ground is too wet for other plowing. There would be big money in melons on such land.

The depth four horses would draw a subsoil plow can only be told on trial. The more the land actually needs deep breaking, the harder it is, or the harder the plow pulls, therefore, if it pulls hard, persevere and go as deep as possible. Four horses are not so handy a team as three horses, but if possible to use them, by all means do so, as it is a hard pull. The No. 2 Perine plow is plenty large enough for any common work. There might be danger of rocks in the red land, but they will never hurt the Perine plow, as the plow will always stand more than the double-

trees will. In using three horses the plow must always follow the middle horse, and the one that walks on the plowed surface must be a very tough animal to stand it, and should be changed every half day. When two horses are used, or four strung out (not abreast), the plow can be made to follow the furrow horse. It will take the combined talent of such remarkable men as Hon. F. D. Coburn and Prof. Hilton several years to fully explain to us the benefits of sub-breaking where there is a hard-pan subsoil.

CLARENCE J. NORTON.  
Morantown, Kas.

### Moldy Corn.

EDITOR KANSAS FARMER:—You mention, some time ago, the complaint in certain localities of moldy corn. There is an unusual amount of moldy corn in this, the northeast portion of Wilson county. If it is as bad all over the State, and the crop estimated at 300,000,000 bushels, there will be 30,000,000 bushels of moldy corn, fit for nothing but fuel. I talked with some of the farmers on election day, and they say the yield of their corn was falling short of their estimate. Corn that they had estimated at forty bushels per acre only yielding from twenty-five to thirty bushels.

ROBERT ALLISON.  
Vilas, Wilson Co., November 27, 1895.

The production by A. W. Straub & Co., of Philadelphia, Pa., and Chicago, Ill., of a new light power feed grinding mill for shelled grain and corn and cobs will fill a

pits properly protected, all in readiness for winter.

A low-truck, wide-tired wagon will be found quite a convenience for doing the hauling on the farm in winter.

When the year is out, make out an invoice of everything on the farm, and ascertain how you stand financially.

Plan not so much to increase the acreage as to increase the product of an acre and at the same time lessen the cost of production.

With the horses, especially, a warm bran mash will be relished once a week and will help materially to keep the digestive organs in good condition.

If the condition of the ground will permit, it is not too late yet to do fall plowing. Sod ground, especially, can be plowed to good advantage late in the fall or early winter.

Cure and store away a sufficient amount of beef and pork to make the season's supply of meats. On general principles it is poor economy to sell fat stock in the fall and buy meat next summer.

Nearly or quite all stock intended for market now should be finished off and sold. It is an exceptional case where it can be considered advisable to fatten stock during the last two months of winter.

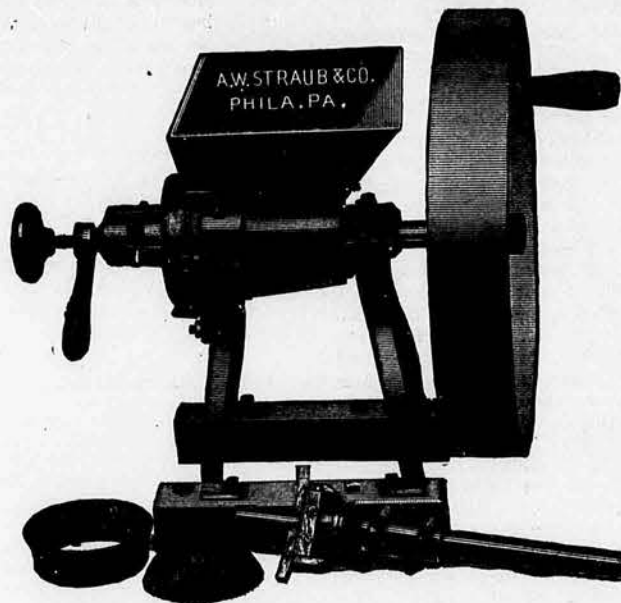
This is a good month to breed the sows for spring litters. Have both sows and boars in good condition, and reasonably well matured. The sows should be a year old when they farrow their first litter. It is a weakening of vitality to breed from young, immature stock.

ELDON, MO. N. J. SHEPHERD.

### Monthly Weather Report for November, 1895.

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

The past November is remarkable chiefly



FEED GRINDING MILL.

Manufactured by A. W. Straub & Co., Philadelphia and Chicago.

long-felt want among farmers who use one and two-horse tread powers, also twelve and thirteen-foot geared windmills. This mill is provided with their double reduction grinding disc surface dress which made their Quaker City mills famous at the Columbian exposition and elsewhere for the past twenty odd years. They have also supplied the back end of the spindle with their valuable ball box bearing, reducing friction and heat to a minimum. Send for their catalogue. (See illustration of mill in this issue.)

### December Notes.

Are you well prepared for winter? Make it a point to feed and water regularly.

As the weather gets colder increase the ration.

Oil meal can be used to an advantage in making up a variety.

The principal advantage in warming the water is that it saves feed.

The more comfortable the stock can be made the less it costs to feed.

Grinding the grain affords a better opportunity for making up rations.

Even of roughness it is of no advantage to feed more than is eaten up clean.

Even for exercise it is not a good plan to expose the stock to cold and storms.

With both sheep and pigs a good, thrifty condition is essential to a good profit.

By sheltering the calves well they can be kept thrifty by feeding very little grain.

Growing colts will make a better growth if they can have a little wheat bran and oats with their roughness.

Take time some stormy day and carefully look over the past season's work, so as to avoid mistakes in the future.

By this time the mulching should all be done, the trees properly protected from rabbits and mice, the vegetable and fruit

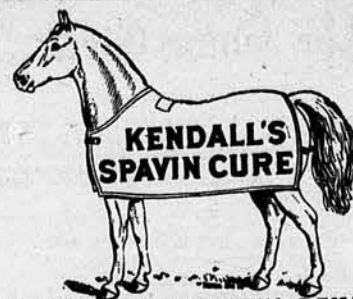
for the wide range in temperature. The maximum was above the average, the minimum was below. The temperature ranged all the way from 8° to 74°. There were seven days on which the mean temperature for the day was at the freezing point or below, while the minimum reached the freezing point on nineteen days. From the 22d to the 26th inclusive, the highest temperature for the day was below freezing. The humidity was high; only three Novembers on our record have had a higher per cent. The total run of wind was considerably above the average. Rainfall, cloudiness and barometer slightly above the average. Snow in quantity too small to be measured on the ground fell on the 25th, but melted almost immediately after falling.

Mean temperature was 41.27°, which is 1.26° above the November average. The highest temperature was 74.0°, on the 4th; the lowest was 8° on the 26th, giving a range of 66.0°. Mean temperature at 7 a. m., 34.20°; at 2 p. m., 48.18°; at 9 p. m., 41.36°.

Rainfall was 1.90 inches, which is 0.04 inches above the November average. Rain or snow in measurable quantities fell on seven days. There were no thunder storms. The entire rainfall for the eleven months of the year now completed is 43.78 inches, which is 9.80 inches above the average for the same period in the twenty-seven preceding years.

Mean cloudiness was 49.16 per cent. of the sky, the month being 5.14 per cent. cloudier than usual. Number of clear days (less than one-third cloudy), fourteen; half clear (from one to two-thirds cloudy), five; cloudy (more than two-thirds), eleven. There were two entirely clear days, and eight entirely cloudy.

Wind was southwest twenty-five times; northwest, fourteen times; north, eighteen times; south, sixteen times; northeast, ten times; east, three times; southeast, two times; west, two times. The total run of



### THE MOST SUCCESSFUL REMEDY

FOR MAN OR BEAST.  
Certain in its effects and never bilsters.  
Read proofs below.

### KENDALL'S SPAVIN CURE

BLUEPOINT, L. I., N. Y., Jan. 15, 1894.  
DR. B. J. KENDALL CO.—I bought a splendid bay horse some time ago with a spavin. I got him for \$30. I used Kendall's Spavin Cure. The spavin is gone now and I have been offered \$150 for the same horse. I only had him nine weeks, so I got \$120 for using \$2 worth of Kendall's Spavin Cure.  
W. B. MARSDEN.

### KENDALL'S SPAVIN CURE

SHELBY, Mich., Dec. 16, 1893.  
DR. B. J. KENDALL CO.—I have used your Kendall's Spavin Cure with good success for Clark on two horses and it is the best liniment I have ever used.  
AUGUST FREDERICK.

Price \$1 per Bottle.  
For sale by all Druggists, or address  
DR. B. J. KENDALL COMPANY,  
ENOSBURGH FALLS, VT.

the wind was 12,608 miles, which is 1.128 miles above the November average. This gives a mean daily velocity of 420 miles, and a mean hourly velocity of 17.5 miles. The highest velocity was 60 miles an hour, between 2 and 3 a. m. on the 19th.

Barometer.—Mean for the month, 29.158 inches; at 7 a. m., 29.176 inches; at 2 p. m., 29.138 inches; at 9 p. m., 29.162 inches; maximum, 29.404 inches, on the 29th; minimum, 28.632 inches, on the 21st; monthly range, 0.862 inches.

Relative humidity.—Mean for the month, 74.04 per cent.; at 7 a. m., 84.60; at 2 p. m., 60.36; at 9 p. m., 77.16; greatest, 100, seven times during the month; least, 32, at 2 p. m., on the 2d. There was no fog during the month.

### Answers to Correspondents.

FAMILY DOCTOR:—I am bothered a great deal with sick headache, usually coming on at night, but sometimes the smell of cigar smoke will start it. My head aches through my temples and down the back of my neck, and I vomit up everything that I can throw up, and I do not think any one could be sicker. I am 37 years old. Will you please give me a recipe through KANSAS FARMER, and oblige  
A SUBSCRIBER.

Goodland, Kas.

Take belladonna 3x, every twenty minutes until better, then less frequently.

### Do Not Neglect

the opportunity to visit dear friends during the holidays. The NICKEL PLATE ROAD, always catering to the wants of the traveling public, the popular low rate line along the South shore of Lake Erie, will sell tickets at greatly reduced rates on December 24, 25, 31 and January 1, good returning until January 2. For further particulars apply to J. Y. Calahan, General Agent, 111 Adams St., Chicago, Ill. 115

### DIRECTIONS for using CREAM BALM:

Apply a particle of the Balm well up into the nostrils. After a moment draw strong breath through the nose. Use three times a day, after meals preferred, and before retiring.



### CATARRH

ELY'S CREAM BALM opens and cleanses the Nasal Passages, Allays Pain and Inflammation. Heals the Sores, Protects the Membrane from colds, Restores the Senses of Taste and Smell. The Balm is quickly absorbed and gives relief at once.

A particle is applied into each nostril and is agreeable. Price 50 cents at Druggists or by mail. ELY BROTHERS, 56 Warren Street, New York.

### A NEW BOOK FREE

It has 128 pages, is printed on fine book paper, it has hundreds of illustrations—wood cuts, zinc etchings. Its reading matter is interesting, as much so for a man as a woman, and the children also are not neglected.

The mere sitting down and writing for it will secure it for you FREE. Do you want it? If so, send your name and address to

EMERY, BIRD, THAYER & CO.

Successors to

Bullene, Moore, Emery & Co.

KANSAS CITY, MO.

## The Home Circle.

### To Correspondents.

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

### WHEN THE CORN CROP'S BIG!

The corn crop is enormous,  
But the price is rather small;  
Yet 'tis better for the farmer  
Than to have no crop at all.  
It feeds his horse and cattle,  
And feds the little pig;  
It's nice to live in Kansas  
When the corn crop's big.

The farmer cannot husk it—  
It covers too much land!  
To help him with his labor  
He has a hired hand.  
It matters not what color—  
A white man or a nig,  
They all have work in Kansas  
When the corn crop's big!

The farmers of this nation,  
The East as well as West,  
Are men of truth and honor,  
And well deserve the best.  
They work to feed all classes,  
And for wealth they have to dig;  
But not in sunny Kansas  
When the corn crop's big.

They educate their daughters,  
Their sons to college send;  
They buy both food and raiment  
And comforts without end.  
The average prairie farmer  
Will never be a prig  
If he lives in sunny Kansas  
When the corn crop's big!

His purse had long been empty  
Because the times were hard;  
With visions of foreclosures  
His sleep was sadly marred;  
But now for money-lenders  
He doesn't care a fig,  
Because he lives in Kansas,  
Where the corn crop's big!

He pays for schools and teachers,  
The doctor gets his due,  
He settles with his creditors  
Before they have to sue;  
He pays for merry music  
To dance a lively jig,  
Because he lives in Kansas,  
Where the corn crop's big!

With wife and happy children  
At church he's often seen,  
His team is sleek and shiny  
And never poor and lean,  
His harness is a new one,  
He drives a nobby rig,  
While riding round in Kansas  
When the corn crop's big!

—M. G. Powell, Burrton, Kas.

Written for KANSAS FARMER.

### FARMER DUNLAP'S MISTAKE.

BY JONAS COOK, HARPER, KAS.

Farmer Dunlap was a man who was considered one of the most successful farmers of the community in which he lived. With an industrious and economical nature as capital for a start, he had accumulated a fortune that was the envy of all his neighbors. He had added quarter section after quarter section to his farm until he counted his acres by the thousand. He believed that hard bone labor was the only road to success, and his wife and children had to conform, in practice, to the same belief, for Farmer Dunlap was an absolute monarch over all his broad domain. He rose at 4 o'clock in the morning and his wife and children rose in concert with him, and hard work continued until darkness forced them from the field. The chores were then done after night. Before retiring, he would hold family worship and thank God for health and strength to perform the burdens that were placed upon him, then throw his tired body upon the bed for much-needed rest.

Every quarter section he added to his farm meant more work and care for the whole Dunlap family. He did not seem to consider conveniences about the house a necessity, so Mrs. Dunlap was obliged to do her work under very trying circumstances. He was one of those men who thought that woman's work was not hard, and when he got able he would "fix up" around the house.

On account of the rush of work on the farm, Mrs. Dunlap and the smaller children gathered wood for cooking from the grove, near by, using brush and bark and such other rubbish as was lying around loose. Mrs. Dunlap thought no one ever knew, for she never uttered a complaining word. Drudge, drudge, drudge, day in and day out, until days became weeks, weeks became months, and months became years, and still her work was not finished.

As the farm grew, hired hands were added to the force which made more work for her, yet Farmer Dunlap never once thought it necessary to hire help for her, as that would cost money, and as he had to meet a payment on that last quarter section he bought, he could not afford it. He would occasionally try to cheer her up by saying: "When we get old we will have enough laid up to enjoy ourselves."

"A day off" was unknown on the program of the Dunlap family. "What is the use," he would say, "in spending time at fairs, picnic and pleasure trips, when there is so much work needed to be done on the farm!" And as his word was law and his

opinions the supreme court of the family, there was no appeal except by rebellion.

He never counseled with any of his family; his boys were mere machines to do his will. If he caught them engaging in youthful sport, he promptly reminded them that there was a great deal of work yet undone. If the boys wished to take a horseback ride, a blind-bridle and old sheepskin supplied the place of riding-bridle and saddle. Their clothes were of the cheapest kind and they were informed that they were better dressed than their father was when he was a boy. There was too much work to be done to allow them to attend school, so they grew up scarcely able to read and write. "I never had any schoolin' to speak of, but I have succeeded better than many who have," was an oft-repeated saying of Farmer Dunlap.

There were no girls in the Dunlap family, which can only be accounted for by an act of divine mercy.

As the boys grew up to that period in life when the heart yearns for something in a home more than a mere place to eat, sleep and work, one by one they left the paternal roof with a heart full of hate and a firm resolve never to return, and drifted away to the city and were lost. Their mother toiled on and grieved in silence. She had seen nine of her sons leave home and knew well the force that had driven them away. The youngest boy, Sammy, a lad of fourteen years, was all that remained. Her whole life and love centered in him, and if he should go, then she would have nothing worth living for. He confided all his thoughts to her, and in the absence of the husband and father, they many times eased their aching hearts by mingling their tears together.

Farmer Dunlap, as has been said, was a religious man, or, at least, thought he was. Every Sabbath, at class meeting, he would rise and portray to the congregation the beauties of his "home over there"—but he did not seem to realize what a miserable place he had made of his "home over here."

It had been the custom of Farmer Dunlap to give the runt pig of the litter to one of his boys, but when that pig became a hog, then it reverted to the original owner. The motherless lamb and the scrub calf were promptly made a present of to one of the boys, only to become the property of him who gave it when sales-day came.

One day, Sammy was made sole owner of a colt. His father never would have given it to him had he not expected that the colt would die. For it was very poor and weak. The boy's happiness and delight knew no bounds. It was the first live thing he ever called his own, and only a boy can feel and know how he felt. He nurtured it and cared for it, and soon it began to grow. He counseled his mother concerning a name for the little animal, and, after a long conference, they decided to call it "Delight." The filly grew more beautiful every day, and Sammy took great pleasure in combing her mane and tail and keeping her coat sleek and glossy. His father grumbled a great deal about the boy spending so much time with the colt when he ought to be at work, and he threatened to sell her if he did not stop it. Sammy loved Delight, so time passed swiftly when he was in her company. When she was two years old, by hard pleading, Sammy was permitted to take her to the county fair, where she carried off first premium. With the money received for the premium Sammy bought himself a saddle and bridle, much to the disgust of his father, who wanted the money, so he resolved to himself to sell the colt at the first opportunity. Joe Dobson, the horse buyer at the county seat, had seen her at the fair and wanted her, and spoke to Farmer Dunlap about it. One day, while Sammy was at town marketing a load of wheat, Dobson drove to the Dunlap farm, and after looking the colt over, counted out \$100 and gave it to Farmer Dunlap, who rolled it up and pushed it down deep into his pocket. Mrs. Dunlap saw Delight following behind Dobson's buggy, and she knew what had happened. When her husband came into the house he found his wife weeping, for the first time in his life—though she had often wept in his absence. He asked her what was the matter, when she brushed away her tears and said, "O, nothing." He left the house and went to the field to work, as it was not yet noon. As Sammy was returning from town he met Dobson, and when Delight saw him, she neighed, and jerking the halter strap from Dobson, ran over to Sammy and put her head up to his hand. Sammy demanded an explanation as to what he was doing with his filly, when Dobson coolly informed him that he had bought her of his father and that she now belonged to him, then taking the strap in hand, he drove off, leading Delight, and with her went Sammy's happiness.

The storms that raged in the bosom of the boy as he drove homeward, cannot be described. His dear mother knew what was soon to happen, for Sammy had often told her that if his father sold Delight, he would follow his brothers out into the world, he knew not where.

Shortly before noon, he drove into the

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

# Royal Baking Powder

## ABSOLUTELY PURE

barnyard, and hitching his team to a post, went to the house and told his mother that the time had come and now he was going to leave and forever. Tears were too weak to be the messengers of their sorrow, so they both grieved in silence. She told Sammy that she did not blame him for leaving home, yet his going, she knew, would be the last nail in her coffin. She gave him all the money she had, which was a small amount saved from odd change which had come into her hands unknown to her husband, for he never allowed her to have money if he knew it.

It is vain to attempt to describe with words the parting of Sammy and his mother. That is left to the imagination. She watched him through the open door as she sat at the dinner table, as he went down the road, and when he turned the corner and was lost from sight, her head dropped forward on the table, and, with a deep moan, her spirit fled from its prison-house. Farmer Dunlap came in from his work and found the lifeless body of his wife at the table. The village physician was summoned, and after an examination, he said: "The cause of her death was heart failure," when, in fact, the true cause was murder, long drawn out.

The funeral took place the following day. The neighbor women gathered in knots and discussed, in whispers, the true cause of her death. Farmer Dunlap spoke of his wife's death rather from a business standpoint, and said he did not know how he would get along without a housekeeper. Her remains were conveyed to the little cemetery near by, gently lowered into the cold grave and covered from sight. Farmer Dunlap returned to his wifeless and childless home, and if he ever realized why his children left him, or why his wife died so suddenly, no one ever knew it.

He considered himself a great success, and in this he was mistaken.

### DOLLY'S SPONGE CAKES.

Come, Mabel, put your apron on,  
And tuck your sleeves up—so,  
Now wash your hands all white and clean,  
And then we'll mix the dough.

First, two eggs open carefully—  
The gold and white apart—  
Then with a fork or wire spoon  
Beat yolks with all your heart.

A half cupful of sugar next—  
The granulated kind—  
When well stirred in the golden froth  
A creamy mass you'll find.

The same of flour—half a cup—  
Through which you mix so well  
A pinch of baking powder pure,  
And a bit of salt:—'twill tell.

Now beat the whites until they stand  
A glistening heap of snow—  
And lightly stir with dainty touch  
That froths into the dough.

Now bake in several shallow pans  
Well buttered they must be.  
Then jelly spread between the layers,  
And serve at dolly's tea.  
—Martha B. Tausig, in Good Housekeeping.

### How to Keep Bread Fresh.

In Swiss and German farmhouses, where the baking takes place once a fortnight, or certainly at fairly long intervals, such a thing as unpleasantly stale bread is almost unknown. It is put away in a peculiar manner, which tends to preserve its freshness. Sprinkle flour freely into an empty flour sack and into this pack the loaves, being careful to have the top crusts of two loaves touching. Where they have to lie bottom to bottom sprinkle flour between them. Tie up the sack and hang it up in an airy place, not against a wall, but so that it can swing. The day before the loaf is wanted take it out, brush off the flour and stand it in the cellar over night. In this way bread remains edible for three or four weeks.

The Rural New-Yorker helps reduce the mortgage and increase the profits of the farm. Let us send it this week. Send your address; no money.

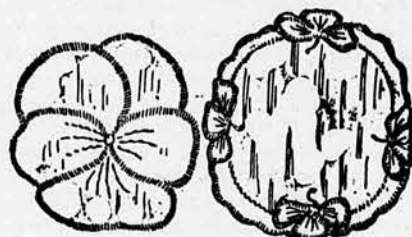
The Rural New-Yorker,  
409 Pearl Street, New York.

### TWO DAINTY DOILIES.

One Is Intended for the Toilet, the Other for the Dining Room.

The smaller of the two doilies shown in the cut is some four inches across, and is made of fine butchers' linen, outlined in white wash silk, buttonhole stitch. It is designed for a perfumery bottle, and nothing could be much more delicate for a toilet table. The design in black and white can give no idea of the daintiness of the white silk or fine linen in such a pansy design.

The other design is about six inches in diameter, and is worked in yellow silk on linen of medium thickness, buttonhole stitch, as in the case of the



TWO DAINTY DOILIES.

other doily. It is intended for individual water glasses, and may match the "tea cloth" that is in use upon the table, both in material and in color of silk used. The effect of the delicate yellow upon the pure white linen is much daintier than any black and white sketch can represent.—Rural New Yorker.

### FREE TO INVALID LADIES.

A lady who suffered for years with uterine troubles, displacements, leucorrhoea and other irregularities, finally found a safe and simple home treatment that completely cured her without the aid of medical attendance. She will send it free with full instructions how to use it, to any suffering woman sending name and address to  
MRS. L. HUDNUT, South Bend, Ind.

### THEY'RE THE FASHION.

Iron Beds, varying styles, each a type of graceful strength \$4.35 up. Odd Dressers, in handsome woods or white enamel finish, harmonize happily, or contrive clever contrasts. Descriptive and illustrated catalogue will go to you, post haste, upon request.  
Montgomery Ward & Co., Chicago.

**\$3 A DAY SURE.** Send us your address, and we will show you how to make \$3 a day; absolutely sure; we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully; remember we guarantee a clear profit of \$3 for every day's work; absolutely sure; write at once.  
ROYAL MANUFACTURING CO.,  
BOX A B, DETROIT, MICH.

# FARM-POULTRY PAYS

The constant demand for first-class poultry and strictly fresh eggs at good prices, make poultry-raising one of the most profitable occupations you can engage in. The Armour Packing Co. have dressed and packed 15 tons of poultry in a day. They pay several cents a pound extra for A1 stock. Farm-Poultry will teach you how to raise A1 poultry and how to prepare it for market. Every issue is brimful of valuable information gained through the actual experience of its editors upon poultry farms. From a careful study of its pages, you will learn the best up-to-date methods of caring for and managing fowls: the certain means of—  
Preventing and curing all poultry diseases—Bringing pullets to early laying maturity—making hens lay when prices are highest—Building the best houses and yards—Keeping poultry free from vermin—Hatching strong chickens in incubators—Caponizing and dressing poultry for market.  
If you are in any way interested in poultry, it will pay you to subscribe to Farm-Poultry. Subscriptions may begin at any time. Published semi-monthly. Price \$1.00 a year; 60c. for six months. Send 5c. for sample copy.  
L. S. JOHNSON & CO., 88 Custom House St., Boston, Mass.

## The Young Folks.

### A LITTLE GIRL'S WISH.

"Mayn't I be a boy?" said our Mary,  
The tears in her great eyes of blue,  
"I'm only a wee little lassie,  
There's nothing a woman can do."

"Tis so, I heard Cousin John say so,  
He's home from a great college, too;  
He said so just now, in the parlor,  
There's nothing a woman can do."

"My wee little lassie, my darling,"  
Said I, putting back her soft hair,  
"I want you, my dear little maiden,  
To smooth away all mother's care."

"Is there nothing you can do, my darling?  
What was that 'pa' said last night?  
My own little sunbeam has been here,  
I know, for the room is so bright."

"And there is a secret, my Mary,  
Perhaps you may learn it some day—  
The hand that is willing and loving  
Will do the most work on the way."

"And the work that is sweetest and dearest,  
The work that so many ne'er do,  
The great work of making folks happy  
Can be done by a lassie like you!"  
—Ladies' Home Journal.

### HOW MARBLES ARE MADE.

Pretty Near as Much Skill Required as  
in Playing Them.

Marbles were at first made of marble, hence the name. In time alabaster, as being more easily worked, and offering prettier contrasts and harmonies of color, came into use for the "finger bullet." Then came the beginning of putents and Dutch marbles—from Coburg stone—French marbles and Chinese marbles came in, the Frenchmen being the blue "alleys"—from allez (good ones to go)—the Chinamen being the white porcelain with blue pink stripes.

Common marbles are now made of clay, rolled up into balls and baked in a kiln, each on a tripod stand. On every marble so made you will find three little marks where the soft clay has rested on a wire. Clear glass marbles are made by dipping an iron rod into melted glass, and either dropping the bunch taken up on its point into a bullet mold, or else whirling it into spherical shape in the hand. In cases where there is a figure in the sphere, the figure is stuck on the end of the rod and the glass worked around it. Colored glass marbles are made by holding together a bunch of different colored glass fibers, melting them in the blowpipe and twisting them up into shape. Look at the first glass marble you pick up. On it you will notice a more or less perceptible scar. The scar is on the spot where the marble was chipped off the rod after it was made. Agates are shaped on a grindstone. Common marbles are made by placing bits of rough stone in a mill between two millstones. Another plan is to place a strong barrel in a stream so that it will revolve like a water wheel and fill it with odds and ends of stone. The constant grinding of the pieces against each other soon reduces them to roundness just as the sea makes pebbles.—Boys' Own Paper.

### Beauty in Many Lands.

Beauty is very good thing to have in civilized portions of the world, but it may be doubted if any of us would care to be considered beautiful by certain dwellers in savage countries. For instance, the Sandwich islanders judge the beauty of a woman by her weight. The ex-Queen Liliuokalani is considered by many to be a very beautiful creature, though we might consider her very plain. This is because she is a very heavy person. The Chinese require beautiful ladies to have deformed feet and black teeth. A girl must be tattooed sky-blue and wear a nose-ring to satisfy a South Sea islander. African princes require their brides to have their teeth filed like those of a saw.—Harper's Young People.

### Pussy's Peculiar Mishap.

No cat in Maine probably had more need of her nine lives than did one in a Monmouth store. The large oat bin in the rear of the feed store, holding an even car load, had just been filled, when the cat, chasing a mouse, went down head first between the partitions of the bin, eight feet, to the floor beneath. There she remained on her head for 13 days, or until the oats having been removed, she was discovered. Tabby is now alive and well, and just as eager for mice as ever.

### AMONG QUEER PEOPLE.

The Hairy Ainu Are the Most Peculiar Nation in the World.

Hokkaido is the name given by the Japanese to the island of Yezo, with all the smaller islands near its coast, together with the Kurile group. Thus the Hokkaido extends, roughly speaking, from 41 to 51 degrees latitude north, and between 139 and 157 degrees longitude east of Greenwich. It is in Yezo particularly that the large number of Ainu are found, while a few live in the islands of Kunashiri, Etorofu and Shikotan.

The Ainu are a race of people whose strange peculiarity is that they are covered with hair all over the body, almost as monkeys are. Their faces are not quite so hirsute, though the hair on the scalp begins to grow low on the forehead, and the beard of the men begins from right under the eyes. Their eyebrows are thick and shaggy, and occasionally they even have a few coarse hairs growing on the nose. The women, who are not supplied with such a luxuriant growth of hair on their faces, make up for the lack of it by tattooing on their lips a long mustache, which, when completed, reaches from one ear to the other.

This, they think, gives them a manly appearance, and as manliness and hairiness are the only two things the Ainu are proud of, the women sometimes also tattoo lines on the forehead and rough geometrical patterns on their arms, all of which are supposed to add to the coveted air of virility.

The Ainu have no literature, no books, no writing, and hardly one individual out of a hundred can count up to five, even with the help of his fingers. Their language is extremely poor in words, and as for rules or grammar, the Ainu never even dreamed of having one.

Like all barbarians, the Ainu are extremely superstitious, and it was with the greatest difficulty that I was able to obtain sketches of them, or induce them to sit for their likenesses. Indeed, once I had a very unpleasant experience as I was taking a sketch of a group of them cutting up a large fish.

They assaulted me and destroyed my picture, paint box and brushes, which they threw into the sea. In the struggle I was stabbed in my arm with a



THE HAIRY AINU.

large knife, and they called me all sorts of names; for, according to Ainu ideas, certain sickness, if not immediate death, comes of having one's picture painted.

"Besides," they yelled, brandishing their hairy arms at me, "do you know, bad man, that once you make an image of an Ainu, all the fish will disappear from the sea?"

An Ainu hut possesses a small storehouse, raised above ground on four, six or eight piles. Upon each pile is placed a square piece of wood turned downward at the sides, so as not to be accessible to mice and rats. Rafters are then placed over these pieces of wood, and the storehouse built on them.

It is generally so small that an adult cannot stand erect in it. The ladder by which these storehouses are accessible is a mere round log, with a few cuts in it to serve as steps. One end of the ladder is pointed so as to be stuck in the ground when in use, but the whole arrangement is anything but a model of stability.

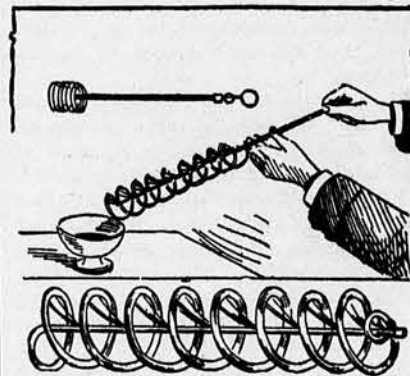
The Ainu go up and down these ladders with great facility without holding on with their hands, but to anyone that is not born an acrobat or a mon-

key the feat is somewhat more difficult. As I proceeded to inspect one of the storehouses one day, and was mounting the ladder Ainu fashion, it turned, and I came near breaking my neck, besides skinning both my knees on my precipitate way down.—A. H. Savage-Landor, in Youth's Companion.

### AMUSING SCIENCE.

How to Produce a Curious Effect with a Few Commonplace Things.

Take a tube of pasteboard, such as is used for sending illustrated papers through the mails, or any other tube at hand, and pass through it a piece of flexible iron wire. Ask some one to hold the wire when it protrudes from the further end of the tube, and meanwhile double your end of the wire over on itself and proceed to wind it round the tube as you would wind thread on a bobbin, keeping each twist of the spiral close to the preceding one. When you have done this eight or ten times, remove the wire from the tube. The end which was within the tube is the axis



FUN WITH A SPIRAL.

of the spiral and serves as a handle of the apparatus, being finished with a loop or ring for that purpose. Wind the wire near the last spiral once round the handle and then carry it down the handle, binding the two together close to the ring by means of a very fine bit of wire, taking care not to make the ligature too tight, as the second wire should be movable. This latter should also be finished with a small ring or loop for convenience of handling. Now holding the ring of the axis in the left hand, and that of the second wire in the right, push the latter forward, and you will see the spiral open and lengthen itself, as in the second position illustrated. But if before doing this you plunge the spiral into a bowl containing soapy water, and then gently push on the small ring, you will see each spiral decked in a frail soap bubble reproducing exactly the surface of a perfect spiral and reflecting the most beautiful colors. The spiral may be worked back and forth without injury to the soapy membrane. The effect is both curious and pretty.—Once a Week.

### Better Than the Grand Stand.

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Address all orders—

KANSAS FARMER CO., Topeka, Kas.

The Kansas State Grange is in session at G. A. R. hall, in Topeka. A full report will be given next week.

The Secretary of the Kansas Improved Stock Breeders' Association, H. A. Heath, of Topeka, desires the name and address of every one interested in pure-bred stock, also the class of stock handled. Our readers are requested to see that their locality is heard from previous to the annual convention.

Senator Rodger Q. Mills, of Texas, has introduced a bill in Congress, directing the Secretary of the Treasury to pay out silver when the gold reserve falls below \$100,000,000. He thinks such course would not increase the price of products and would not cause a departure from the gold basis, but would enable the Treasury to escape the "necessity" of buying gold with bonds. A still more startling proposition of the Texas Senator is for the issuance of Treasury notes in case of a deficiency of revenues "because bonds bear interest and the notes do not."

The Union Stock Yards & Transit Co., of Chicago, makes a comparative showing of receipts and shipments of live stock for the eleven months ending November 30, 1894, and November 30, 1895. The receipts for the last eleven months were, cattle, 2,363,186, a decrease from the corresponding period last year of 395,352; calves, 161,782, an increase of 8,397; hogs, 7,104,317, an increase of 356,171; sheep, 3,153,721, an increase of 333,967; horses, 108,081, an increase of 17,511. Thus all classes of live stock, except cattle, show considerable increase over last year. The aggregate number of cars of stock received shows a decrease of 17,891.

The President's message has, of course, reached Wall street, and has been duly considered as to effects upon the interests of the money changers. The message is there approved for what it says and for much that it does not say, and the wish is expressed that it had gone further in its recommendations as to the currency. What Wall street now desires is the retirement of the greenbacks and the silver certificates, indeed, of every form of non-interest-bearing Treasury obligation, and the substituting therefor of interest-bearing bonds of suitable denominations, these measures to be accompanied with a great enlargement of the money-issuing power of the banks, with certain measures to make it more profitable to the banks to maintain their currency in circulation. These demands are so utterly without reference to the interests of those engaged in industrial pursuits; they contemplate such enormous additions to the interest-bearing bonded debt of the country, and such augmentation of the burdens which must ultimately be borne by the people, as to constitute an amazing piece of audacity on the part of those making the demands.

## MORTGAGE REDEMPTION LAW UPHOLD.

The Legislature of 1893 enacted a law giving a mortgage debtor eighteen months in which to redeem real estate sold under foreclosure proceedings. The question was immediately raised as to whether this law could be made applicable to pre-existing mortgages without violating the provision of the United States constitution, that no State shall pass any law impairing the obligation of contracts. A case soon got into court and was promptly taken to the Supreme court and was the subject of an opinion by Chief Justice Horton, in April, 1895, who held that if the Legislature intended it to apply to contracts made prior to the passage of the act it violates the constitution of the United States. Justice Johnston concurred and Justice Allen dissented. After Chief Justice Horton was succeeded by the present Chief Justice, Martin, a re-hearing of the case was obtained and last Saturday the court reversed the April decision, the opinion being written by Chief Justice Martin and concurred in by Justice Allen, and dissented from by Justice Johnston.

This is one of the most important decisions of the Kansas Supreme court in recent years. The opinion of the Chief Justice is a very long one, and brings out many phases of the law not generally understood. In it Judge Martin holds, of course, that if this law does impair the obligation of contracts it is unconstitutional. He then proceeds to show that, according to his view, it does not impair this obligation. In brief, he holds that the contract is that the debtor shall pay to the creditor the specified amount of money, according to the tenor of the contract. The mortgage on its face appears to be a conveyance of property to the creditor, with the condition that on fulfillment of the contract to pay the money as specified in the contract, it shall revert to the mortgagor. But the Chief Justice shows that whatever may be the terms of the mortgage, however many cut-throat phrases may be employed, the mortgagor, under Kansas law and the laws of many other States, has a reserved right and equity in the property which he cannot convey in the mortgage, and of which he can only be divested by deed or by due process of law in court. The mortgage is, then, not a part of the contract, but is in the nature of a remedy for the non-performance of the contract. Legislation revising the methods of the courts in the application of the remedy does not affect the obligation of the contract to pay the money. This distinction between the contract and the remedy for its non-performance is often lost sight of, but it is the essence of this case. The distinction between the obligation of a contract and the remedy is well illustrated in a case quoted by the Chief Justice, from Chief Justice Marshall of the United States Supreme court, in which the question of constitutionality of a New York law was brought in question, wherein, among other reliefs to debtors, was a release from imprisonment for debt.

The main point of this case is clearly stated in a reference from the "American and English Encyclopedia of Law," quoted by Chief Justice Martin, in which the distinction between the obligation and the remedy is clearly pointed out.

This decision holding the law good as to all mortgages in this State, without reference to whether made before or since the enactment of the law of 1893, has created a profound sensation among loan agents and loan companies, and the matter will doubtless be carried immediately to the Supreme court of the United States. On the other hand, the Topeka Daily Capital, of Sunday morning, editorially expressed a tacit approval of the decision. Judge Guthrie, formerly of the District court at the capital of Kansas, publishes an approving letter. Indications are that Republican politicians will claim it as good Republican doctrine and good campaign material for the next election. Populists are well pleased with it, and assert that it is in accordance with their teachings.

As a matter of fact, the law is as

nearly non-partisan legislation as it is possible to have. The act was passed by a Republican House (the Douglass House), a Populist Senate and was signed by a Populist Governor. The decision is by a Republican Chief Justice, concurred in by a Populist Associate Justice, and dissented from by a Republican Associate Justice. It is now the declared law in Kansas and will control, until, if ever, reversed by the United States Supreme court or changed by the Legislature.

## GERM DISEASES.

The recent devastations of herds of swine by hog cholera and swine plague, which have bankrupted many previously wealthy farmers, and have seriously crippled the fortunes of many more, have called renewed attention to the nature of these diseases. There are doubtless diseases of animals and men which result from other causes than living organisms, but recent investigations of biologists have added largely to the list of recognized germ diseases, or diseases which result from the presence in the animal system of harmful living organisms of microscopic size but of prodigious multiplying power. Such diseases are truly contagious through the transfer to the new subject of some of the germs. These may create no disturbance in the new subject until, through multiplication, they become so numerous as to interfere with the proper functions of some of the vital organs. The period between the reception of the initial germs, or contagion, until the numbers or the effects of the parasites become so marked as to manifestly derange the regular functions of the animal, is called the period of incubation.

The question of how these diseases proceed, though interesting, is less important in a practical way than the probability of finding a way to cure, or better, still, exterminate them. Speaking generally, the prospect for effective remedies ought to be hopeful.

In the vegetable world, the microscopic fungi which are so destructive to fruits, when unchecked, are nearly all susceptible to destruction by the application of remedies which, in proper dilution, are entirely harmless to the fruits, trees, vines or shrubs to be protected. So, also, in case of some of the well-known germ diseases of animals and men, the bacterial germs may be "devitalized," as the scientists say—in plain English, killed—by administering remedies which cause little or no inconvenience to the patient.

In a recent paper discussing lumpy-jaw in cattle, Prof. James Law, of Cornell University, disapproves of fattening lumpy-jawed cows for human food, on the ground that the lump on the jaw is caused by a vegetable parasitic growth which may not be confined to the lump on the jaw, but may be also in the apparently unaffected meat, and may cause trouble by the lodgment of cells of the fungus in a sore or natural cavity in the person consuming it. But, Prof. Law, than whom there is no better authority on such subjects, points out that a majority of cases of lumpy-jaw can be successfully treated by a course of iodide of potassium (two drachms daily), the living fungus being killed, though the distortion of the bone and soft textures may in large part remain. "In all such cases," says Prof. Law, "when the vegetable growth has been killed, the flesh may be held to be wholesome."

Medical men recognize iodide of potassium as an important one of several medicines which may be called germicides. Properly administered, they become incorporated into the fluids and tissues, doing them no harm but killing the disease germs present, for which the particular medicine is a poison. The destructive action of the germs is thus brought to an end, the dead spores or bacteria, or whatever they were, are expelled as other refuse, and the question of recovery is one of the amount of damage done and of vitality to repair it.

Several of these so-called germicides have been recognized. Among these sulphur holds a leading place. Arsenic is also an effective destroyer of some germs, and in proper doses is harmless to the animal. The study of germ-

destroyers is but at the beginning, and there is room for hope that in the near future the mastery of science over this class of diseases will be greatly extended.

It is told of Edison, the great inventor, that in developing one of his inventions he found himself in need of a substance of peculiar properties. He had been unable to produce it by any combination he could think of. A friend anxiously inquired whether there was any hope of securing the necessary ingredients to produce the required properties. The two were then in Edison's laboratory, which is said to be a veritable store-house of everything. "O, yes," was the sage's cheerful reply, "they are around here somewhere, and all I have to do is to find them."

Scientists, experimenters, have found substances which, while harmless to animals, are deadly poisons to many of the bacterial organisms which produce disease. There are doubtless substances or possible combinations of substances capable of killing the bacillus of hog cholera and swine plague without hurting the hog and all that somebody has to do is to find such substance or combination. Let us hope that the proper person will get about the search speedily.

## SITUATION SUBSTANTIALLY UNCHANGED.

The reports of the commercial agencies show that the opening of Congress had no perceptible effect on either productive industry or distribution, and that average prices continued almost unchanged. Manufacturers find stocks increasing and that the reaction from the advance in prices a few weeks ago continues without interruption. Market quotations for manufactured products scarcely indicate a tendency to cease their decline, and it is noted that in some lines sales are made at figures below the quotations. This is especially true of iron and its products.

Wheat made slight advances during the latter half of the last week, but receipts continued very heavy—7,014,911 bushels, against 3,727,788 bushels for the corresponding week last year. Exports of wheat and flour exceeded those of last year, being the equivalent of 2,326,096 bushels, against 1,887,737 for the corresponding week last year.

Corn is a subject of some surprise in commercial circles, because it is coming into the markets from the farms less freely than last year. The low price of corn has induced an increase of exports, being for the week 1,293,744 bushels, against 178,813 last year.

Wool has improved slightly, on account of the London sales. About 60 per cent. of the wool sales are of foreign stuff.

Iron producers may well remember that there is a limit above which they dare not by combination or otherwise push prices. They have already made heavy reductions from the inflated prices of a few weeks ago, Bessemer pig having fallen \$5 per ton, and is now quoted at \$12, while the average reduction from the September prices is 8½ per cent., with large sales at less than quotations. No doubt the course of the iron market has been affected by the fact that, notwithstanding the protective tariff on iron, some importations of English iron have been made.

The fact that the meeting of Congress has been without effect on the financial, commercial and industrial situation, emphasizes the prediction that the present Congress is not to be expected to do anything.

## A WEEK OF BIG MEETINGS.

The week of January 5-11, 1896, is an important one for the farmers of Kansas, as there will be held at Topeka several State meetings, consisting of the State Board of Agriculture, the Kansas Improved Stock Breeders' Association, the Kansas Swine Breeders' Association and the State Poultry Show. Every farmer and breeder should now plan to visit the State capital, if it is possible so to do. The time and money expended will be profitably invested. Reduced rates will be given on all railroads.

## Kansas Farm Products of 1895.

Secretary Coburn, of the State department of Agriculture, has, from the returns in detail, prepared an advance summary showing the acreages, quantities and values of Kansas' agricultural products, also numbers and values of live stock, for the year 1895. Compared with those of 1894 the figures show an increase this year of 1,910,421 acres, or 9.7 per cent., in field crops, and in their value \$16,509,525, or 27 per cent. The farm and live stock products combined show an increase in value over the preceding year of \$15,128,668, or 13.3 per cent. A complete summary is as follows:

## TOTAL ACREAGE, QUANTITY AND VALUE OF CROPS.

| Value.                                | Acres.     | Quantities.     |
|---------------------------------------|------------|-----------------|
| Wheat, bu. 7,255,571.21               | 4,056,514  | 15,512,241      |
| Spring wheat, bu. 2,075,547.26        | 1,115,477  | 4,588,519       |
| Winter wheat, bu. 5,179,772.72        | 2,940,937  | 10,923,722      |
| Corn, bu. 46,120,772.72               | 8,394,364  | 201,457,394     |
| Oats, bu. 5,620,585.06                | 3,164,713  | 21,654,713      |
| Rye, bu. 623,025.13                   | 179,871    | 2,653,713       |
| Barley, bu. 441,431.06                | 118,573    | 1,600,545       |
| Buckwheat, bu. 3,111.06               | 873        | 6,598           |
| Irish potatoes, bu. 2,506,316.00      | 96,288     | 7,635,868       |
| Sweet potatoes, bu. 137,714.41        | 32,720     | 372,420         |
| Sorghum, bu. 2,533,952.86             | 332,780    | 22,357          |
| Cashew beans, bu. 22,357.00           | 354        | 400             |
| Cotton, pounds. 17,184.00             | 283,903    | 1,630,530       |
| Flax, bu. 2,280,471.11                | 208        | 1,630,530       |
| Hemp, pounds. 7,280.00                | 414        | 1,630,530       |
| Tobacco, pounds. 2,280.00             | 414        | 1,630,530       |
| Broom corn, pounds. 134,457           | 301,672    | 1,630,530       |
| Millet and Hungarian, tons. 12,450.84 | 611,160    | 1,630,530       |
| Mill and miller, tons. 184,198        | 630,963    | 1,630,530       |
| Jerusalem corn, tons. 262,278.48      | 31,923     | 1,630,530       |
| Famine grasses, tons. 1,972,994.59    | 464,234    | 1,630,530       |
| Prairie grass, tons. 3,461,271.00     | 1,153,757  | 1,630,530       |
| Total                                 | 21,576,704 | \$77,663,664.23 |

| Animals slaughtered or sold for slaughter.      | Value.          |
|-------------------------------------------------|-----------------|
| Poultry and eggs, lb. 3,315,087.00              | 40,691,074.00   |
| Cheese, lb. 74,590.09                           | 74,590.09       |
| Butter, lb. 78,596.35                           | 78,596.35       |
| Milk sold, lb. 4,050,018.80                     | 4,050,018.80    |
| Garden products marketed, lb. 939,642.00        | 939,642.00      |
| Horticultural products marketed, lb. 930,084.00 | 930,084.00      |
| Wine manufactured, 205,435 gals. 154,421.25     | 154,421.25      |
| Honey and beeswax, 288,778 lbs. 40,520.45       | 40,520.45       |
| Wood marketed, lb. 184,097.00                   | 184,097.00      |
| Total                                           | \$50,840,127.67 |
| Grand total                                     | 128,508,791.95  |

Numbers of live stock as returned by assessors March 1, and values for the year 1895:

|                 | Number.   | Value.          |
|-----------------|-----------|-----------------|
| Horses          | 352,789   | \$23,378,92.00  |
| Mules and asses | 95,169    | 3,235,746.00    |
| Milk cows       | 517,254   | 12,414,096.00   |
| Other cattle    | 1,258,919 | 23,919,461.00   |
| Sheep           | 136,520   | 327,648.00      |
| Swine           | 1,668,221 | 9,164,215.50    |
| Total           |           | \$72,339,253.50 |

## Kansas Census Showings.

Some deductions and summaries from the Kansas State census returns made to the State Board of Agriculture by township assessors:

|                                                                                                                                      |           |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Total population                                                                                                                     | 1,334,734 |
| Number of families                                                                                                                   | 279,816   |
| Average number of persons in each family                                                                                             | 4.77      |
| Male population, 51.99 per cent., or                                                                                                 | 693,923   |
| Female population, 48.01 per cent., or                                                                                               | 640,806   |
| Native population, 90.33 per cent., or                                                                                               | 1,206,332 |
| Native male population, 46.54 per cent., or                                                                                          | 621,185   |
| Native female population, 43.84 per cent., or                                                                                        | 585,147   |
| Foreign population, 9.66 per cent., or                                                                                               | 128,402   |
| Foreign male population, 5.45 per cent., or                                                                                          | 72,744    |
| Foreign female population, 4.17 per cent., or                                                                                        | 55,658    |
| White population, 96.33 per cent., or                                                                                                | 1,285,749 |
| White male population, 50.15 per cent., or                                                                                           | 644,804   |
| White female population, 49.85 per cent., or                                                                                         | 640,945   |
| Colored population, including Chinese and Indians, 3.67 per cent., or                                                                | 48,985    |
| Colored males, 1.81 per cent., or                                                                                                    | 24,539    |
| Colored females, 1.83 per cent., or                                                                                                  | 24,425    |
| Persons of school age, 37.41 per cent., or                                                                                           | 499,523   |
| Males of school age, 18.90 per cent., or                                                                                             | 252,264   |
| Females of school age, 18.51 per cent., or                                                                                           | 247,059   |
| Persons under and over school age                                                                                                    | 835,411   |
| Males of military age (18 to 44 years, inclusive), 40.45 per cent. of the male population, or                                        | 280,693   |
| Males of voting age (21 years or over), 51.83 per cent. of the male population, or                                                   | 359,663   |
| Persons 21 years and over, 50.09 per cent., or                                                                                       | 668,568   |
| Persons engaged in occupations, 25.67 per cent., or                                                                                  | 342,626   |
| Per cent. of persons 21 years of age engaged in occupations, 51.25                                                                   |           |
| Persons engaged in agriculture (males, 21 years or over), 13.89 per cent. of total population, or                                    | 185,394   |
| Proportion of persons engaged in agriculture compared with those in all classes of occupations, 54.10 per cent.                      |           |
| Proportion of persons engaged in professional or personal services compared with those in all occupations, 18.59 per cent., or       | 63,694    |
| Proportion of persons engaged in trade and transportation compared with those in all occupations, 12.45 per cent., or                | 42,574    |
| Proportion of persons engaged in mechanical and manufacturing industries compared with those in all occupations, 12.76 per cent., or | 43,719    |
| Proportion of persons engaged in mining compared with those in all occupations, 2.10 per cent., or                                   | 7,195     |

The following table, compiled from

the enumerators' (assessors') returns to the State Board of Agriculture, shows by States and countries, according to their rank, the nativity of the inhabitants of Kansas. From these returns it appears that more than 90 per cent. of Kansas' population are American-born:

| Where born.    | Number. | Where born.      | Number. |
|----------------|---------|------------------|---------|
| Kansas         | 529,895 | Alabama          | 1,829   |
| Illinois       | 111,945 | Connecticut      | 1,672   |
| Ohio           | 90,354  | New Hampshire    | 1,266   |
| Missouri       | 78,748  | Georgia          | 1,249   |
| Indiana        | 76,825  | Louisiana        | 1,102   |
| Iowa           | 54,199  | Indian Territory | 1,092   |
| Pennsylvania   | 48,357  | California       | 1,053   |
| Kentucky       | 30,423  | South Carolina   | 685     |
| New York       | 29,610  | Washington       | 494     |
| Nebraska       | 14,641  | South Dakota     | 425     |
| Tennessee      | 14,129  | Delaware         | 411     |
| Wisconsin      | 11,280  | Rhode Island     | 409     |
| Virginia       | 11,033  | Oregon           | 401     |
| Michigan       | 10,327  | North Dakota     | 401     |
| West Virginia  | 6,040   | Oklahoma         | 397     |
| North Carolina | 4,243   | New Mexico       | 383     |
| Maryland       | 3,620   | D. C. Columbia   | 301     |
| Massachusetts  | 3,516   | Wyoming          | 259     |
| New Jersey     | 3,389   | Montana          | 242     |
| Texas          | 3,254   | Utah             | 194     |
| Arkansas       | 3,234   | Florida          | 150     |
| Vermont        | 3,216   | Idaho            | 129     |
| Mississippi    | 2,607   | Nevada           | 97      |
| Minnesota      | 2,549   | Arizona          | 40      |
| Colorado       | 2,520   | Alaska           | 3       |
| Maine          | 2,170   | Not stated       | 5,033   |

| Where from.            | Number. | Where from.           | Number. |
|------------------------|---------|-----------------------|---------|
| Germany                | 39,527  | Scotland              | 4,555   |
| Sweden                 | 18,285  | Other north of Europe | 8,432   |
| England and Wls        | 15,348  | France                | 2,185   |
| Ireland                | 11,800  | Italy                 | 877     |
| Russia                 | 10,740  | Spain                 | 79      |
| British America        | 9,283   | Not stated            | 1,259   |
| Others south of Europe | 7,725   |                       |         |

The table below shows the States and countries, according to their rank in numbers, from which the present population of Kansas came to the State:

| Where from.    | Number. | Where from.      | Number. |
|----------------|---------|------------------|---------|
| Kansas         | 529,895 | Alabama          | 1,829   |
| Illinois       | 111,945 | Connecticut      | 1,672   |
| Ohio           | 90,354  | New Hampshire    | 1,266   |
| Missouri       | 78,748  | Georgia          | 1,249   |
| Indiana        | 76,825  | Louisiana        | 1,102   |
| Iowa           | 54,199  | Indian Territory | 1,092   |
| Pennsylvania   | 48,357  | California       | 1,053   |
| Kentucky       | 30,423  | South Carolina   | 685     |
| New York       | 29,610  | Washington       | 494     |
| Nebraska       | 14,641  | South Dakota     | 425     |
| Tennessee      | 14,129  | Delaware         | 411     |
| Wisconsin      | 11,280  | Rhode Island     | 409     |
| Virginia       | 11,033  | Oregon           | 401     |
| Michigan       | 10,327  | North Dakota     | 401     |
| West Virginia  | 6,040   | Oklahoma         | 397     |
| North Carolina | 4,243   | New Mexico       | 383     |
| Maryland       | 3,620   | D. C. Columbia   | 301     |
| Massachusetts  | 3,516   | Wyoming          | 259     |
| New Jersey     | 3,389   | Montana          | 242     |
| Texas          | 3,254   | Utah             | 194     |
| Arkansas       | 3,234   | Florida          | 150     |
| Vermont        | 3,216   | Idaho            | 129     |
| Mississippi    | 2,607   | Nevada           | 97      |
| Minnesota      | 2,549   | Arizona          | 40      |
| Colorado       | 2,520   | Alaska           | 3       |
| Maine          | 2,170   | Not stated       | 5,033   |

A great international exposition is to be held at the City of Mexico in 1896. If sufficiently low railroad rates shall be made, a visit to this exposition will be very popular and an exceedingly interesting one to make.

## Sitting Bull's Death.

EDITOR KANSAS FARMER:—In order to settle a controversy, please answer the following questions through the KANSAS FARMER: Is old Sitting Bull dead? If so, did he die a natural death? If not, where did he die and what was the cause of his death?

J. M. HOWELL.

During the year of 1890, the Indians encamped at Pine Ridge agency were in a state of great excitement. Sitting Bull was sending his agents to excite revolt among them, and on the 15th day of December the Indian police in North Dakota killed this turbulent chief in a fierce fight.

## Farmers' Institute.

The following is the program of the farmers' institute to be held in Oak Grange hall, Mission township, Shawnee county, Wednesday and Thursday, December 18 and 19:

Wednesday Evening, 7:30.—"The Man Who Gets There," Reuben Towns; "Alfalfa-Growing in Shawnee County," J. R. Zinn; "Progressive Dairying," Peter Hell; "The Most Profitable Forage Crop Grown This Year," experience of all present desired.

Thursday Morning, 9.—"Variety of Apples to Plant for Commercial Orchards," Philip Lux; "Swine Breeding—How Conducted to be Made Profitable," George Berry, Jr.; "Shredded Corn Fodder vs. Ensilage," James Warner; "From Country to City," John Macdonald.

Lunch 12 m.  
Thursday Afternoon.—"Teaching Domestic Economy," Mrs. Nellie S. Kedzie, Professor of Domestic Economy, State

Agricultural college; "The Humming Bird," H. W. Cheney; "What Fruits Shall We Plant?" J. F. Cecil; "How Plants Obtain Their Food," Prof. A. S. Hitchcock, State Agricultural college; "Moisture and Crops," E. B. Cowgill; "Dehorning," F. D. Coburn; "Soil Cultivation" (illustrated), H. R. Hilton.

Thursday Evening.—"Physical Culture," Miss Ida Russell; "The Relation of School Training to Citizenship," J. W. Stout; "Farmers' Boys," E. M. Cochrell.

A delegation from the Kansas State Agricultural college will be present at all the sessions of the institute.

A cordial invitation is hereby extended to everybody interested in farming to attend this institute, and take part in the discussion. The ladies are especially invited to be present.

## Beer or Valuation.

EDITOR KANSAS FARMER:—I wish to present to the public, through the columns of your paper, a few facts and figures, taken mostly from the *American Carbonator and Bottler*, of November 15, 1895. "The total consumption of beer in the United States for the present fiscal year, figured up to July 1, was 33,469,661 barrels. \* \* \* A barrel of beer in brewers' measure, is about thirty-one and one-fourth gallons. The consumption of lager beer in the United States this year is, therefore, in excess of 1,000,000,000 gallons. \* \* \* The consumption of beer throughout the United States varies greatly. It is largest in New York, Pennsylvania, Illinois and Wisconsin, and least in the Southern and prohibition States. In Kansas, a prohibition State, the sale of beer last year footed up less than 6,000 barrels, whereas the total sales in the city of Milwaukee were 2,000,000 barrels. \* \* \* The production of American beer, of genuine and admitted domestic manufacture, has increased 50 per cent. since 1888. In New York city the sales of beer have been affected somewhat adversely by the Roosevelt Sunday controversy. This year, however, there is a falling off in the sales of beer. \* \* \* In 1894, 4,900,000, and 1895, 4,600,000 barrels."

From the foregoing it appears that the beer traffic alone in this country exceeds \$500,000,000, and in the city of Milwaukee 333 times as much as in the whole State of Kansas. If Kansas had her full share in proportion to population, it would give her 743,770 barrels, or 124 times as much as we are now getting. It also appears that the "Roosevelt Sunday controversy" has reduced the sales in New York city 300,000 barrels, or about 6,000 barrels each Sunday.

In the State of Nebraska, with about two-thirds the population of Kansas, under her high license system the returns show about twenty-eight times as many barrels of beer consumed, and yet there are people, in the face of all these facts, that will assert that there is more liquor consumed in Kansas under prohibition than there would be under high license. The prohibitory law is doing more for our moral and material prosperity than any other law on our statute books.

The three "wet" or whisky counties of Atchison, Sedgwick and Wyandotte, with an aggregate population of 121,000, return personal property to the amount of \$2,698,000, being \$22.29 per capita. The three "dry" counties of Brown, Lyon and Shawnee, with a population of 87,000, return personal property amounting to \$4,622,000, being \$53.12 per capita. The rate of taxation in the county seats of the "wet" counties for city purposes 27.4 mills, in the county seats of the "dry" counties 19.03 mills, making 2.38 times as much personal property in the "dry" counties and 42 per cent. less taxation in the county seats for city purposes. These figures clearly show the waste and want of comforts caused by the liquor traffic. It is not an assessment against reality but against personal property, in which class are found the comforts and luxuries which make home life comfortable and enjoyable. The saloon produces no wealth, but is always the destroyer of it. "It is a double back-action infernal machine and the only thing to do with it is to pulverize it." O, for a Roosevelt in Kansas.

Topeka, Kas. J. B. MCAFEE.

## WHAT DOCTORS SAY

About Pe-ru-na as a Remedy in All Diseases of Winter—Coughs, Colds and Catarrh.

Pe-ru-na cures catarrh, coughs, colds, is well known to both the medical profession and the people generally; it is undoubtedly the most popular remedy for this class of diseases in existence. La grippe, with all its dire consequences, is also curable by this remedy. Dr. D. P. Niehart, Nebraska City, Neb., writes as follows:

"I am so well pleased with the works of Pe-ru-na in the numerous cases I have been using it during the past two years that I cannot refrain from informing you of the good results obtained. I deem it useless to detail every case (for they are many) in which I have used and prescribed this remedy, but I will say that I have never been disappointed in results. I have used not dozens but hundreds of bottles. I am a physician of fifty-eight years' constant practice, and am always willing to recommend anything of service to suffering humanity. Pe-ru-na stands first and foremost in my estimation of all proprietary medicines." Later he writes: "Since writing you I have used three cases of Pe-ru-na. I find daily use for it in my practice."

Dr. Hartman has used Pe-ru-na as a remedy for chronic catarrh for nearly forty years. He has cured hundreds of thousands of cases. Any one wishing to write the doctor will receive a prompt reply free. A sixty-four-page book on chronic catarrh, instructively illustrated, will be sent for a short time free. Address the Pe-ru-na Drug Manufacturing Company, Columbus, Ohio.

## Santa Claus

has induced the Nickel Plate Road to sell excursion tickets at very low rates to all points on its line between Chicago and Buffalo during the holidays. Tickets at one and one-third fare for the round trip. Special excursion dates December 24, 25, 31 and January 1, good returning until January 2. For further information, address J. Y. Calahan, General Agent, 111 Adams St., Chicago, Ill. 118

## Feed-Outting Necessary to Successful Farming.

This year, on account of the long drought and the consequent short crops of hay and other feed, a fodder-cutter is more of a necessity than ever. Progressive farmers know that hay, straw, corn stalks and other fodder is more healthful when cut, and that it will go twice as far as will uncut feed. We do not know of any better machines for cutting feed than the famous Belle City fodder-cutters, and we do not hesitate to recommend them to our readers. They are manufactured by the Belle City Manufacturing Co., Racine, Wis., a thoroughly reliable firm, who will mail descriptive price lists of the fodder-cutters to any one on application.

## Advertising Pays.

"Advertising pays," says Pettingill & Co., the old-time advertising agents of Boston. "Newspaper advertising pays best of all. Our most successful and prosperous merchants and tradesmen, whose bright record has added imperishable lustre to the history of American commerce, can all testify to this truth from personal experience."

"The newspaper is the commercial traveler in city and country home, who tells at the fireside, to its evening circle, the merits of your wares and merchandise, if you are wise enough to employ it to speak for you. It never is neglected, never goes unheeded, never speaks to inattentive or unwilling ears. It never bores. It never tires. It is always a welcome visitor and meets a cordial reception. It speaks when the day is done, when cares vanish, when the mind at peace and at rest is in its most receptive mood. Then it is that its story is told and all who read treasure what it says, and are influenced to go where it directs for the thing of which it speaks."

"What other influences can be so potent to help trade as this quiet but powerful advocate?"

"Let it become a salesman in every home for your wares. Let it make its mighty plea for your benefit. And we assure you it will do more than all other influences to promote your business and put money in your purse."

"In our long experience we know whereof we speak. Try it."

## "Among the Ozarks,"

the Land of Big Red Apples, is an attractive and interesting book, handsomely illustrated with views of south Missouri scenery, including the famous Olden fruit farm of 8,000 acres in Howell county. It pertains to fruit-raising in that great fruit belt of America, the southern slope of the Ozarks, and will prove of great value, not only to fruit-growers, but to every farmer and home-seeker looking for a farm and a home. Mailed free. Address,

J. E. LOCKWOOD, Kansas City, Mo

## Horticulture.

### GETTING OUT OF THE RUT.

By Ed. Scorial, read before Riley County Horticultural Society.

MR. PRESIDENT:—The topic which you have done me the honor to select for me, and which I am to enlarge upon, is of such ample scope, such a fruitful field to glean in, and withal always so timely and opportune, that I seriously question my ability to do the subject justice, and half regret that not a younger man was chosen, one with more enthusiasm, better judgment, brighter imagination and longer experience along the lines of the world-wide, time-honored vocation, which your society here represents.

I take it for granted, Mr. President, ladies and gentlemen, that in my awkward endeavor to handle the subject under consideration you will kindly allow me ample latitude and longitude; give me "plenty of rope" to cavort in. In short, that you will not confine me too strictly within the picketed garden and orchard. For, though charming in their bud and bloom, sweet perfume, their flowers and their fruit a very antitype of Eden, please bear in mind that I am a trans-Missourian, a son of the prairies, a lover of elbow-room and the "wild and woolly" West. So please use sparingly of your red tape, your cast-iron rules and your conventionalities; for, like a New Mexico sheep, I need about a section of hill and dale to nibble over; or, like a bee, I must insert my proboscis into hundreds of different flowers, until, perchance, I may collect and formulate, at the expense of your patience and good nature, a few thoughts into the shape of a wee drop of honey for the home hive.

Ever since the dawn of civilization; ever since the pencil of the historian has given us authentic records, we find noble, independent-minded men and women, towering head and shoulders above the surging "common herd" around them, as one in the wilderness: "Get out of the rut!" In fact, the very name "civilization," and all that the word implies, is the direct result of that persistent, stereotyped battle-cry of the few brave spirits, generally misunderstood, most always ill-rewarded, frequently hated, persecuted, martyred: "Get out of the rut!"

But to come down to modern days, to the now and here, let us "view the landscape o'er" from a secular standpoint, and ask ourselves, with reference to horticulture as we carry it on, either for pleasure or profit, or both: "Are we getting out of the rut?" Now, Mr. President, I want to try and answer this pertinent question from a farmer and stock-raiser's standpoint. I take it that a large majority of our rural population treat horticulture mainly as an aid or auxiliary to farming. Primarily, as a means of supplying the farmer's table with a longer bill of fare, mainly a matter of dollars and cents, but also adding comfort and luxury. Secondly, as an educational factor, in its tendency toward a higher plane of culture and refinement, bringing in its wake the needs of adorning and beautifying of rural homes and home life. Over forty years of residence, observation and experience prompts me to say that our people, though greatly improved in this respect the last twenty-five years, as a whole and as a rule pay too little attention to a bountiful, varied and continued supply of fruit and vegetables for the family table. It is true that the hog and hominy diet of a generation ago has disappeared, yet the fact remains that in this year 1895 there are hundreds and thousands of farmers' families in this State of Kansas, the owners of broad acres of rich land, surrounded by flocks and herds, with bank accounts, some of them, whose tables groan daily with the inevitable hot biscuits, bacon floating in grease, strong coffee or tea, pies, cakes and doughnuts, with imported navy beans, Colorado potatoes, gruel from Wisconsin oatmeal, cakes from Pennsylvania buckwheat flour, dried fruits from California, and perhaps onions imported from Spain. Now, I claim that no man has a right to consider himself a wide-awake, intelligent

American farmer, who, when laying out or buying a farm for a home will not at once set apart a generous plot near the house for a kitchen garden; and if he has no time exclusively, at least assist his wife and other members of the family in planting and cultivating the same. It is ridiculous—yes, I almost feel like saying criminal, to send to Colorado for potatoes, when they might just as well be raised at home.

Land that will produce corn will produce potatoes; much more certain, because we now have varieties that will make a crop by the middle or 20th of June, thus escaping our death-dealing midsummer droughts. It is ridiculous to import onions. I have actually seen exposed for sale on the sidewalk of our little village of Randolph, crates of onions from Spain, said to have been in the original package. We farmers—and I speak from thirty-five years of experience—may have that wholesome though tearful bulb on our table, home-raised, year in and year out. Though, strictly speaking, out of my line, it is ridiculous to beat 4 cents per pound Wisconsin or Pennsylvania buckwheat flour into breakfast cakes, with a \$500 or a \$1,000 mortgage tied to your neck, when you can raise the Kansas product for less than 2 cents per pound. Again digressing, it is ridiculous to sell our fat hogs and buy back Kansas City breakfast bacon and ham and lard at treble figures. It is ridiculous to import California fruit, when, by planting apple, peach and cherry trees, a small vineyard and a berry patch, we may have at almost any season the home-grown, home-made, native product at our door, either fresh, canned or preserved. The Concord grape will grow and flourish where corn or oats or wheat will. It is true, small fruit is rather uncertain here; yet the strawberry (bless its little soul) will grow where your best corn will. Let us stop enriching soulless transportation companies and middlemen. Let us export, not import. "Get out of the rut," and the wolf and the Sheriff will flee from your threshold.

What was said of the vegetable garden, may be truly and emphatically said of the fruit garden. No man has the right to the honored title of a progressive, enlightened farmer, who neglects to plant at once and takes care of at least a small family orchard. When those trees fresh from the nursery were planted, when your first-born was a baby—what a source of satisfaction and pure enjoyment those trees will prove, with their wide-spreading branches now a wilderness of snowy and fragrant bloom and anon with bended limbs loaded with crimson beauties, and that babe in the cradle now a sun-browned, lusty lad, romping and rollicking with a half dozen others under the trees. And when that little flock has grown up to young men and women, virtuous, clean, self-confident, broad-gauged, educated, cultured and refined, and have, perhaps, most of them left the old homestead, and gone to distant lands, and write back to the old folks, do you know what they will say? "This part of the country is beautiful, the climate is charming, we are doing well, but, O, we can never forget our Kansas home! It shall ever have the warmest, coziest corner in our hearts!" My ideal of a Kansas farm home is, the farm-house, no matter how humble, embowered in fruit and shade trees, with an ample, well-protected kitchen and flower garden, with climbing vines clinging to the lowly porch, a bit of lawn, and house plants greeting you through the window as you approach. When I pass such a place, I mentally doff my hat and almost wish for an excuse for asking hospitality over night under that roof-tree.

In speaking of vegetable and fruit-raising, I am not unmindful of the difficulties and obstacles and the bitter disappointments to the horticulturists that follow in their wake, incident to this changeable climate, and situated as we are, so near the semi-arid region. Of late, especially, we have passed through a period of droughty years which, added to the widespread business depression, has left its impress upon us all. It is, however, the part of manhood and wisdom to endeavor to overcome, or at least mitigate, some of

these drawbacks. If nature, in her varied moods, treats her children once in a while "stepmotherly," we must bring in science and art and inventive genius. This is what the grand institution here, under the shadow of which we are sitting, is for. "Light! more light," the dying Goethe cried out. "Water! more water," is what we Kansans are dying for. We've got light enough, heaven knows, but moister feet is what our plants need. We must, therefore, "get out of the rut" and make the most of the mechanical appliances at our command.

While it may be true, that once in a great while during the very critical period when vegetable life needs the vivifying fluid the most, artificial watering in many localities is impracticable, on account of low water in wells and springs, yet we may safely assert, taking an average of the forty seasons of Kansas soil-tilling, in connection with the light that has been shed the last two or three years on the question of irrigation, that it is entirely practicable, with few exceptions, for the professional horticulturist, as well as the farmer, the urban and suburban resident on his lot, to keep his garden, lawn and truck-patch fresh and vigorous with his pump and windmill while the windows of heaven remain closed. We see this verified in many sections of western Kansas, but especially in the California fruit belts, where in country and town and suburbs hundreds of windmills, with elevated tank in tower, irrigate garden and lawn, orchard and small fruit. Many of our people who live at the foot of the bluffs that line our creek and river valleys might easily and at small money outlay dam the draws and ravines above and back of their gardens, and reserve the surplus rainfall for times of need. Many others similarly located have springs at a high elevation, sending the gurgling, sparkling element right down to their feet, all the while coaxingly saying: "Get out of the rut, dear brother mine. Take me and use me as nature and nature's God designed it. Buy without money and without price. Lead me down to your strawberry patch and your celery bed, my brother, for both are born thirsty and are always crying for water. And if you won't, I know that your children will call me blessed."

Now, Mr. President, while on the subject of water and moisture and their distribution and application to plants and trees, may I be allowed, even at the risk of being called a bore, to put in a short but earnest plea for your influence and good office toward a better preservation of our natural groves and timber belts. As I drive over the country I notice very frequently of late, men and horses, stump-pullers and grubbing-machines at work, busily destroying the beautiful native groves of black walnut, oak and red elm trees that have grown up tall and slender and graceful, mostly since the broken prairie sod formed a barrier and said to the annual prairie fire fiend: "So far shalt thou come and no farther." These small trees, poles or saplings, from five to ten inches in diameter, are sold either as fence posts or fire-wood, sometimes for a mere song. Now, we know that for years the cabinet-makers and wood-workers of England, France, Sweden and other foreign lands have had their agents in the black walnut belts of the United States, eagerly gobbling up every stick obtainable, at handsome prices, even scouring our narrow, scant Kansas timber belts along the streams for the rich wood which Europeans look upon with admiration, and which Americans seem to prize so little. We know, also, that this valuable tree in favorable situations and soil will make a rapid growth. I have in mind black walnuts planted thirty years ago, by old settlers, that are now large enough for small sawlogs, furnishing lumber suitable for finishing the interior of residences in a style and shade that princes would envy.

But nature had another and a grander object in view when she planted the groves and timber belts and mountain forests, than to simply turn them over for slaughter to the greed, rapacity and vandalism of man, the burden of whose song seems to be:



Disease is an effect, not a cause. Its origin is within; its manifestations without. Hence, to cure the disease the cause must be removed, and in no other way can a cure ever be effected. Warner's SAFE Cure is established on just this principle. It realizes that

95 PER CENT.

of all diseases arise from deranged Kidneys and Liver, and it strikes at once at the root of the difficulty. The elements of which it is composed act directly upon these great organs, both as a food and restorer, and, by placing them in a healthy condition, drive disease and pain from the system.

For the innumerable troubles caused by unhealthy Kidneys, Liver and Urinary Organs; for the distressing Disorders of Women; for all Nervous Affections, and physical derangements generally, this great remedy has no equal. Its past record is a guarantee of continued performance.

WARNER'S SAFE CURE CO.,

London, Rochester, Melbourne, Frankfurt, Toronto, Paris.

"More hogs, more corn, more land! more land, more corn, more hogs!" and who, unless government speedily interferes, will eventually wipe most of the fauna and flora of America from off the earth. Nature gave us the sylvan shades, not only for comfort and protection, but designed them as reservoirs, as sponges, as regulators, to retain, check and distribute, and prevent rapid evaporation of the rainfall, and cause a comparatively even flow of our water-courses. The thoughtless destruction of the once extensive forests, especially the mountain forests, where some of the most important rivers have their sources, has brought the inevitable revenge or punishment to man when nature's laws are violated. The phenomenal extremes in the volume of water during only a few months time of some European rivers, the sudden and disastrous floods, followed by extreme low stage, hampering manufacturing and commercial interests, have opened the eyes of foreign governments, notably France, which is making systematic and costly efforts to counteract the mischief caused by the greed and short-sightedness of man, in checking the abrasion and washing away of soil on the steep mountain sides, by means of masonry and the replanting of timber under the supervision of scientifically trained engineers and foresters. Even Russia, semi-barbarian Russia, is following suit. We have and are still committing the same offense, only on a grander scale, than did our European fellow sinners. For proof, I cite you, for instance, to the change in the status of the Ohio and Hudson rivers the last fifty years. Hundreds of other evidences can be picked on every hand, were it necessary. It behooves you as an organized body; it behooves every horticultural and agricultural society, since arboriculture and forestry are closely related to the noble callings they represent; it behooves every thoughtful American citizen, to stir up our government to action by petition, and especially through discussion and agitation strive to create a public sentiment along the lines mentioned, which our rulers will heed and respect.

To sum up, briefly, some of the conclusions I have arrived at, and which I would carry out in full, if I should live my active farm life over again, or to which I would call the attention of a young farmer were he to ask my advice in laying out a farm:

1. Place your dwelling and your well high enough, if possible, to give you a gentle slope toward your garden, lawn and orchard, for drainage and irrigation purposes.

2. Have your garden, small fruit and vineyard as near by as convenient; lay

them out in an oblong shape, and enclose with a horse-high, bull-strong, pig-tight and hen-proof fence.

3. Use horse-power wherever and whenever you can in tilling your garden, and use the modern improved hand cultivators, seed drills and wheel hoes. They save time and backache.

4. Put your orchard on the northern slope, and plan far enough ahead to leave room for the second orchard, which you may be sure you'll have to plant, if 30 years old now, before you are 50. Fruit trees in this country are short-lived and die early.

5. Don't run after every new-fangled thing in the shape of trees, fruit or grain. Leave these to the amateur, the millionaire horticulturist and Uncle Sam's experiment stations.

6. Plant trees! You son of the prairie, you denizen of the plains, plant trees. Plant them for shade; plant them for shelter; plant them for your stock; plant them for your children; plant them for beauty; plant them for pleasure; plant them for posterity; plant them for yourself, for they will be a living monument to your memory long after your Vermont marble slab with its inscription shall have been corroded and crumbled into dust by the tooth of time.

7. Settle within sight of a school house, but if possible, one hundred miles away from a loan agent. Invite the school marm to your home and table and treat her at least as reverently as you would your preacher.

8. In your laudable ambition to accumulate of this world's wares, be sure to mix in a large percentage of solid comfort and domestic happiness. And I think you will succeed in this particular if you fully enter into the spirit as expressed in the sweet lines of our Quaker poet:

"Give fools their gold, and knaves their power,  
Let fortune's bubbles rise and fall;  
Who sows a field, or trains a flower,  
Or plants a tree, is more than all.  
For he who blesses most is blessed;  
And God and man shall own his worth  
Who toils to leave as his bequest  
An added beauty to the earth.  
And soon or late, to all that sow,  
The time of harvest shall be given;  
The flower shall bloom, the fruit shall grow,  
If not on earth, at last in heaven."

It is often a mystery how a cold has been "caught." The fact is, however, that when the blood is poor and the system depressed, one becomes peculiarly liable to diseases. When the appetite or the strength fails, Ayer's Sarsaparilla should be taken without delay.

#### Union Pacific Route.

What you want is the through car service offered between Denver and Chicago via the Union Pacific and Chicago & Alton railroads, which is unexcelled by any other line. Magnificent Pullman sleepers, dining cars and chair cars, run through daily without change, Denver to Chicago via Kansas City.

#### Texas Coast Country.

The Texas coast country vies with California as a place to profitably raise pears, grapes and strawberries. Six thousand dollars' worth of pears from thirteen acres has been produced there in one season, and can perhaps be duplicated by you. G. T. Nicholson, G. P. A. Santa Fe route, Monadnock building, Chicago, will be glad to furnish without charge an illustrated pamphlet telling about Texas. Send to nearest agent for ticket rates. There is usually a low fare in effect to all important Texas points.

#### Notice to Farmers.

The farmers of Kansas, by sending their application, plainly written, name and post-office address, to G. V. Bartlett, Commissioner of Forestry, Dodge City, Kas., will receive by return mail a blank to be filled out by the applicant for a share of seedling forest trees, which will be shipped free of charge, except for freight, which must be guaranteed by the applicant. Delivery will be made in the spring of 1896.

G. V. BARTLETT,  
Commissioner of Forestry, Dodge City,  
Ford Co., Kas.

#### Seekers for Homes,

Who wish to start over again in some locality where good land is plentiful and climate is favorable, should post themselves relative to the irrigated districts of Kansas, New Mexico and Arizona, the dirt-cheap farms of Oklahoma, and the fruit tracts in southern Texas.

To find out the facts address G. T. Nicholson, G. P. A., Monadnock building, Chicago, or J. E. Frost, Land Commissioner, Topeka, Kas.

And the Santa Fe is the best line to almost every part of the Great Southwest.

## In the Dairy.

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

### Echoes From the Dairy Meeting.

The meeting was a great success. The people of Newton are deserving of more than thanks.

The association has forty members more than last year.

There were eighty-eight entries of butter and cheese.

More ladies were in attendance than in any former year.

Mr. Julius Lombard, of Omaha, although whitening with years, sang "Larboard Watch Ahoy" with his usual vigor.

Sudendorf gathered another laurel for "the kind that has no mud."

Shortman Huxtable told of the virtues of the "Alpha."

Mr. Smith, of Bellows Falls, Vt., looked after the interests of the United States separators.

The Sharples Company, of Council Bluffs, were represented by Mr. E. W. Curtis.

Mr. W. W. Marsh made a great hit in getting "B. 41" before the house.

Yards of red, yellow and blue ribbons, furnished by the men that had something to sell, adorned the front of every man and woman that attended the convention. It was said that the ribbon fad started at the Iowa meeting.

The Clark House furnished real cow butter for their guests.

Doc. Eythe's Brie cheese gets a little stronger each year. It will soon be able to walk up stairs alone.

The butter that scored 97, would score about 40 after the crowd got through with it, judging from outward appearances.

The prize butter-maker got about \$165 in awards.

Some of the members are in favor of holding the next meeting at Kansas City, Kas., in order that all may go in and see Armour make oleo for the last time.

Nissley is about the smallest man in the convention, but when he gets up to speak he has about 200 pounds of enthusiasm to the square inch.

Monrad represented the *Chicago Produce*, and if all his notes find way into that journal, the next issue will be a hummer.

The supply, transportation, commission and separator men are always on hand with their time, money and push. A dairy convention without salt men would be a very insipid affair.

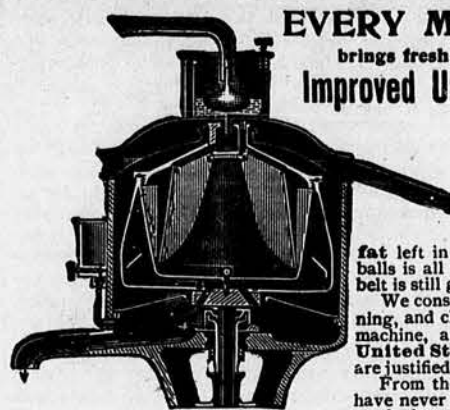
The newspaper fraternity was represented by Jones, of the *KANSAS FARMER*, Monrad, of the *Chicago Produce*, and Burridge, of the *American Creamery*.

The town that catches the convention next year will be obliged to decorate its buildings with yellow ribbons, in honor of the growing demand for pure butter.

Several of the speakers turned their backs on the stenographer when taking part in the discussions. They need not be surprised if what they said is not recognized when it appears in print.

The absence of dairymen at the State meetings is quite noticeable, and the number seems to grow less each year. There is no reason why the two interests should conflict. Both creamerymen and dairymen fill a position that does not clash one with the other. It would be refreshing next year to see both patrons of creameries, dairymen and milkmen turn out in force and give the meeting such an impetus as would advance the interests of every one, no matter in what field he might be engaged. If the dairymen think their interests are not properly guarded, they should be all the more anxious to attend these conventions.

The Kansas State Dairy Association was ushered into existence through the efforts of Hon. J. G. Otis, of Topeka, and R. T. Stokes, of Garnett. Probably the former made the first mention of the needs of such an organization. Both, however, were private dairymen, as creameries at that time were few and far between. Some appropriate action should be taken next year in recognition of their efforts in



### EVERY MAIL

brings fresh testimony of the superiority of the

### Improved United States

### Cream Separator.

#### NOTE THE FOLLOWING:

We have now been running a U. S. No. 1 Separator since June 10th. We skim 2,000 to 2,500 per hour, with only a bare trace of fat left in the skimmed milk. 75 cents for steps and balls is all the repairs we have used so far. The original belt is still good and sound.

We consider the flat belt, the ball bearing, the light running, and close skimming are especially strong points in the machine, and we think, without doubt, the Improved United States Separator is the coming machine, and you are justified in pushing it; it ought to take the lead over all.

From the first day we run, up to the present time, we have never made a break, never had a single hot bearing, nor had to stop the Separator while running.

POYNETTE, WIS., Nov. 7, 1895. WARD & BUSSARD, Poynette Creamery.

Send for illustrated circulars of Creamery and Dairy Separators. Our new Dairy U. S. Separator, with high frame and enclosed gears, is a beauty and does elegant work. Agents Wanted in every Town and County where we have none.

VERMONT FARM MACHINE CO., Bellows Falls, Vermont.

starting so valuable an industry in this State.

Every man that is a candidate for the Legislature next year must pledge himself to stand by the dairymen of his State, as their interests are advancing faster than any other calling or occupation, and should be fostered by appropriate laws.

Mr. Hoffman, of the Hesston creamery, stated privately that the output of his home plant is 2,000 pounds of butter daily. It is nearly all put in prints and sent to Philadelphia. A good share of the cream is brought in from skimming stations.

Among the new members this year was Mr. Fuller, of Atchison. He worked in like an old hand, and his willingness to assist in advancing the needs of Kansas dairymen was rewarded by his appointment on two important committees.

Every one that sends butter or cheese next year, in competition for a premium, should not fail to include his membership fee of \$1. Some little difficulty was encountered at the Newton meeting by reason of exhibitors not sending their money. The rule as laid down was that only members were entitled to make entries, and this means the payment of \$1 annually.

#### Another Butter Substitute.

The enemy of pure butter never sleeps. He is ever vigilant. While dairymen may be reposing in a feeling of security and taking things as they come, he sits up nights and crawls through the day studying how he can devise and foist some cheap but deceptive compound upon the market to take the place of genuine butter. He is not a product of American soil alone, but he sprouts wherever butter is an article of food. His latest venture appears to be in Holland, and we are told that he has succeeded in working out an article that is meeting with enormous sales. It is called "marjorina," and England and Belgium are reported as taking great quantities of it, with the demand constantly increasing. It is a mixture of oleomargarine with oil and milk, and is said to be sold openly under its own name, as it appears to have the sanction of most dairymen on account of its extraordinarily large demand for milk. The Belgian government, finding it to be of benefit to the farmers, is said to be encouraging its manufacture within its own domain and expects not only to supply the home market with it but to compete with Holland in the English market. It is said to be a more palatable product than the home dairy butter, and so long as the government and farmers are taking to it with a patronizing air, just so long it will no doubt be sold under its own name, but to what extent it may be so sold in a foreign and unfriendly market is a question. But both Holland and Belgium will rue the day when they permit this insidious foe to gain a foothold. It is only a

question of time when such a thing as dairying will be unknown in its broad and general acceptance. Imitation and genuine products can never thrive side by side. One or the other becomes extinct as a distinct vocation, and large capitalistic combinations generally carry the day when fostered by a government.—*Dairy World*.

Ayer's Pills, being composed of the essential virtues of the best vegetable aperients, without any of the woody or fibrous material whatever, is the reason why they are so much more effective and valuable than any other cathartics. The best family physic.

UR invited to send for my latest price list of small fruits. Half million strawberry plants, 800,000 Progress, Kansas and Queen of West raspberry plants. B. F. Smith, Box 6, Lawrence, Kas. Mention this paper.

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

ESTABLISHED IN 1873.

## WILLIS NURSERIES.

Offers for fall of 1895 large stock, best assortment. Prices low. Stock and packing the best.

We should be glad to employ a few reliable salesmen. Address

A. WILLIS, Ottawa, Kansas.

[When writing mention KANSAS FARMER.]

## EARLY KANSAS \$1 per bu. F.O.B.

## 345 bu. SEED POTATOES

per acre. An enormous yielder, a great keeper and a splendid table potato. Supply limited.

CLARENCE J. NORTON, Morantown, Kas.

By using one of these Feed Cookers you can realize on your present crop of

## Corn 75¢ per bushel.

This justly Celebrated Feed Cooker will save any farmer, feeder or Dairyman Hundreds of Dollars each Year. Will pay for itself the first year it is used.

Cook your corn before feeding to cattle or hogs, increasing its fattening qualities 50 per cent, and make it go about 1/2 further. It will enable you to realize 75¢ per bushel for your present crop—it will steam moldy hay or corn perfectly sweet and make dry cornstalks or straw soft and palatable. Made of steel boiler plates, with boiler tubes passing directly through the water, will do your work quicker, cheaper, and is guaranteed to be better and give better satisfaction than any other.

## CREAMERY AND DAIRY SUPPLIES

of every description; Boilers, and Engines; Milk Cans or Butter and Cheese making supplies.

address

Creamery Package Mfg. Co.

Dept. B. Kansas City, Mo.

## KNOCK

A sore spot, green, black, or blue, is a

## THE SPOTS

OUT.

Use ST. JACOBS OIL

and watch the color fade, the soreness disappear.

IT IS MAGICAL.

## BRUISE

Use ST. JACOBS OIL

and watch the color fade, the soreness disappear.

IT IS MAGICAL.

## Gossip About Stock.

O. P. Updegraff, of Riverside stock farm, Topeka, sold last week to K. T. Crimm, Kansas City, Mo., five Berkshire gilts by Riverside Model and a very choice young boar by Riverside Prince, a son of the imported boar, Western Prince. Also sold to J. F. Roe, of Vinland, Kas., a young boar by Riverside Model, a son of Longfellow Model.

Our live stock field man reports news from Sunny Slope farm, Emporia, Kas., and, among other things, states that the stock comprising the 'three herds—Herefords, Poland-Chinas and Berkshire swine—are in fine condition and business lively. Sales were made last week: A Hadley Jr. \$50 boar, a Longfellow gilt \$50, and three Sanders pigs for \$55. George Channon, Hope, Kas., selected a Hadley boar at \$50, a Longfellow sow at \$40, and two Sanders gilts at \$25 each. A car-load of young Hereford bulls went to Mr. Walsh, of the Adair ranch, in Texas, that brought an average of \$108 each. Orders are coming in from all over the United States, and about the only regrets that Mr. H. L. Leibfried, the manager, expresses is that from the outlook now the capacity of the farm ought to be doubled in order to supply the demand, that is sure to continue, especially for high-class pure-bred animals.

Our field man reports a day's visit, yesterday, at the Walnut Grove stock farm, near Topeka, where Mr. V. B. Howey breeds the best of Poland-Chinas and Berkshire swine. The visitor finds a strong aggregation of youngsters ready to go. In the Poland division are eighteen—seven boars and eleven gilts—that are sure enough good ones. Four of these boars are by Corwin Index, one by Challenge and two by Dandy Jim Jr. The gilts are of the same breeding and are among the best to be found in all Kansas. Every well-up Poland breeder will at once recognize the merits of their blood and the visitor is just as sure to find them just as meritorious as is their breeding. A major portion of them are being bred. In the Berkshire division are nineteen young boars ready for service and thirteen gilts that were sired by the Poet and by Stumpy Duke. These young Berks are fully as strong and as attractive a lot as are the Polands, and will be sold at reasonable prices to make room for the coming spring pig crop. The general condition of the herd is first-class—no cough, no cholera—and a straight, honest and thrifty condition meets the visitor on a personal inspection. Mr. Howey invites correspondence but prefers that his customers come and select individuals of their own choice, believing that the herd contains the equal of anybody's anywhere throughout the entire Western country.

## Publishers' Paragraphs.

**HOME SPECIFIC REMEDIES.**—One of the leading premium offers we make this season to our readers is the Medicine Case of Home Specific Remedies, delivered free, together with one year's subscription, for only \$3. This gives a year's supply of remedies of merit with a large volume of good reading. Its a good thing.

"Wilson's common-sense ear drums" are comfortable and invisible, simple and practical and are easily managed. Deafness comes from many causes and is very annoying, and the manufacturers of "Wilson's common-sense ear drums" claim to have the only device in the world that will refract and focus waves of sound upon the drum-head and assist the hearing power where any sound can be heard. Write for descriptive booklet to Wilson Ear Drum Co., Louisville, Ky.

The seed house of McBeth & Kinnison, of Garden City, located in the heart of the alfalfa country, has established a reputation for knowledge of the seed business and for integrity of dealing, which is an assurance of good faith in filling orders by mail. This house has advertised in the KANSAS FARMER every season for many years, and in consequence of this has done a large business in which the cash was sent with the order. There has never been a complaint as to treatment in such cases, and the publishers feel assured that all business sent to them will be attended to with the utmost promptness and integrity.

**HOUSEHOLD BENEFITS.**—The readers of this journal have noticed the advertisements of the Kansas City Folding Bed and Kansas City Lining Co. Both of these up-to-date household conveniences are the product of Prof. D. W. Moody's brain, and his factory is overtaxed to-day to keep pace with the present demand. To a representative of this paper he said: "My first invention was a dress-cutting system, placed on the market in 1875. The second was also a dress-cutting system, dated 1878. The third was the double tracing-wheel, 1880. The fourth was a new system of dress-cutting, in 1882. I worked almost night and day, on the system I put out in 1882, for three years, reducing my weight from 164 pounds to 115 pounds. In 1893 I put another dress-cutting system on the market. In

1894 I simplified the 1893 system so as to make it self-teaching and at the same time retain perfection. This year I have completed two inventions. First is Moody's new ready-cut crinkled waist linings, which I believe will place more credit to my name in a short time than all my other work, because the article is more needed than anything ever before given the public by an inventor. My last invention, and probably the last one I shall ever attempt to bring out, is Moody's new-style mantel folding bed. It is the only folding bed that supplies proper ventilation and also long enough for a full-grown man or woman."

**KANSAS CITY DROVERS TELEGRAM RED BOOK.**—It costs only 25 cents, and every live stock man should have one in his vest pocket. It contains sixty-four pages and is a compact, well-classified mass of reference figures which the stockman always needs. Receipts, prices and disposition of live stock on the four great Western markets of Kansas City, Chicago, Omaha and St. Louis for many years, besides prices of wheat, corn, oats and pork for fifteen years. It will be issued early in January, but in order that the publishers may know how many to have printed, all orders must be in by December 25, accompanied by the cash.

"How to Win at Football" is one of the interesting features of the Christmas number of *Frank Leslie's Pleasant Hours for Boys and Girls*. It is by Wilf. P. Pond, and gives some good suggestions for the formation of a football team that would be almost invincible. Another valuable article is "The Children of Corea," by A. B. de Guerville. Then there is a Christmas story by Judith Spencer; several other short stories; an illustrated Christmas poem by G. A. Davis; the continuation of "A Plucky Fight," by Edward S. Ellis, and "Three Little Heroines," by Jeannette H. Walworth; the description of a novel game, and a story for little folks—all handsomely illustrated. The editor chats entertainingly and wisely about the new books for boys and girls, and there are a number of puzzles.

## \$100 Reward \$100.

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

Address, F. J. CHENEY & CO., Toledo, O.  
Sold by Druggists, 75 cents.

## Cost of Producing a Pound of Butter.

The United States Department of Agriculture has lately organized a division of dairying in connection with the Bureau of Animal Industry, and in order to gather useful information in regard to the dairy industry and the needs thereof has divided the country in districts and appointed an agent in each. Among the first information sought is "The Cost of Producing a Pound of Butter." This is one of the subjects to be discussed at the annual meeting of the Nebraska Dairymen's Association, December 17-19 next.

## Automatic Feeding Box.

**EDITOR KANSAS FARMER:**—To avoid the necessity of visiting the stable when the animals are to be fed, an automatic feed-box can be arranged as follows: Place the usual allowance for a meal in a box, having its bottom hinged on one side and fastened at the other by a catch, which is liberated at the proper time by a lever, operated by an attachment to the hour shaft of a clock, and the feed allowed to fall in the manger. The attachment to the hour shaft is fastened by a set-screw, so that the catch may be liberated at any desired hour. JEROME.

"BROWN'S BRONCHIAL TROCHES" are of great service in subduing Hoarseness and Coughs. Sold only in boxes. Avoid imitations.

## The Solid Through Trains

of the NICKEL PLATE ROAD, equipped with the most modern constructed day coaches and luxurious sleeping and dining cars, illuminated throughout with the famous Pintsch gas lights, and colored porters in charge of day coaches, are some of the features of this popular line that are being recognized by travelers seeking the lowest rates and fast time. J. Y. Calahan, General Agent, 111 Adams St., Chicago, Ill.

## Publications of United States Department of Agriculture for November.

[All applications for the publications of this department should be addressed to the Secretary of Agriculture, Washington, D. C.]

Report of the Secretary of Agriculture for 1895. (Preliminary.)

The Treaty of Shimonoseki Between China and Japan, April 17, 1895, and Our Possibilities of Trade with Those Countries. Imports and Exports for 1893, 1894 and 1895.

Experiment Station Record, Vol. VII., No. 3.

Monthly Crop Report—November, 1895.—There is appended to a part of the report the transportation rates, as required by law, together with certain railroad and transportation statistics.

Silos and Silage.

State Laws Relating to the Management of Roads. Enacted in 1894-95.

Report of Committee on Legislation, Adopted by the Good Roads Convention Held in Richmond, Va., October 10 and 11, 1895.

Contributions from the United States National Herbarium, Vol. III., No. 4. Report on a collection of Plants made by J. H. Sandberg and assistants in northern Idaho in the year 1892.

Notes on Grasses and Forage Plants of the Southeastern States.

Library Bulletin No. 8. Accessions to the department library, July-September, 1895.

Instructions for Observers of the Weather Bureau. (Not for general distribution.)

Storm Bulletin No. 2 of 1895. Lake storm of November 25 and 26, 1895. Chart.

Charts of the Weather Bureau. Weather-crop bulletin (series of 1895), reporting temperature and rainfalls with special reference to their effect on crops. (Nos. 29 and 30 for the week ending September 30 and for the month of October.) Daily weather map, showing conditions throughout the United States and giving forecasts of probable changes.

Monthly Weather Review—May, 1895.

Climate and Health. No. 2.—A summary of statistics for the five weeks ended August 31, 1895. Not for general distribution.

## REPRINTS.

Information Regarding Road Materials and Transportation Rates in Certain States West of the Mississippi River.

Earth Roads: Hints on Their Construction and Repair.

Flax for Seed and Fiber in the United States.

The Grain Smuts: Their Cause and Prevention.

Handbook of Experiment Station Work. A popular digest of the publications of the Agricultural Experiment Stations in the United States.

Rheumatism positively cured by Kidney-kura. We guarantee it. See advertisement.

## Business Chance—A Good Income!

We pay you to sell fruit trees. Stark Nurseries, Louisiana, Mo., Rockport, Ill.

## 25% SAVED!

On **HOUSEHOLD SUPPLIES** of every kind. Is that not enough of an inducement for you to trade with a home institution? But that is not all, we not only save you about 25 per cent. in the cost of the goods, but **WE PAY THE FREIGHT** on all shipments within a radius of 500 miles. Ours is the **Largest SUPPLY STORE** west of Chicago, embracing 31 departments, carrying

**Dry Goods, Clothing, Hats, Caps, Boots, Shoes, Hardware, Crockery, FURNITURE, Groceries, Notions,**

and everything else needed in the home—the whole family should unite in making purchases of us, and if you can't come to the store, send for our handsome new illustrated catalogue, free, which gives the price of every article in the store. You need not hesitate to send your money to us, because we guarantee that every article is **exactly as represented** or we will cheerfully return your money to you. Our new line of

## CHRISTMAS GOODS

is complete, offering many beautiful novelties not to be found elsewhere. In buying of us you get the best and save a big margin on each purchase—don't fail to write a postal card to-day asking for our handsome new catalogue—sent free by

## Model Supply Store, TOPEKA, KANSAS.

## HENRY W. ROBY, M. D., SURGEON.

Office 118 Sixth Ave. West, TOPEKA, KAS.

**FREE MOODY'S** New Ready Cut Waist Linings. Also latest skirt and sleeve pattern and new complete directions for cutting, basting, boning, stitching, trimming, making and finishing entire dress. K. C. LINTHCO, 1008 Main St., Kansas City, Mo. When you write mention Kansas Farmer.

## Successful

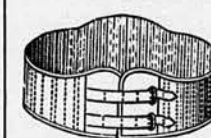
growers of fruits, berries, and all kinds of vegetables, know that the largest yields and best quality are produced by the liberal use of fertilizers containing at least 10% of

## Actual Potash.

Without the liberal use of Potash on sandy soils, it is impossible to grow fruits, berries and vegetables of a quality that will command the best prices.

Our pamphlets are not advertising circulars boasting special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,  
93 Nassau St., New York.

ESTABLISHED 1878  
Dr. Scott's  
GENUINE  
Electric Belt

for men and women, quickly cures Rheumatism, Paralysis, Liver and Kidney trouble, Nervous and General Debility, Gout, Indigestion, Pains in the Head, Hips, Back or Limbs, and kindred complaints. If you cannot get our belt from your druggist, read the following plan, which we have adopted to introduce them quickly in your neighborhood.

PRICE, \$3.00.

## Given Away

Dr. Scott's Electric Insoles.

For a limited period we will make to every person who sends us \$3 for one of our Standard Belts, a present of a pair of Dr. Scott's Celebrated Electric Insoles (Price 50c.), which will positively keep the feet warm and dry. Send for our circular giving information concerning all our goods. This offer is made for a short time only; do not delay; send at once; you may never have the chance again. Agents wanted.

PALL MALL ELECTRIC ASSOCIATION,  
Room 10, 844 Broadway, New York.

## Portable Well Drilling MACHINERY

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

Address, KELLY & TANEYHILL, WATERLOO, IOWA.

**NEW CATALOGUE FOR 1896.**  
Profusely illustrated. The finest and best Poultry Book ever published. Illustrates and describes all the leading varieties of Poultry. Gives prices of Poultry and Eggs. Plans for building Poultry Houses and Remedies for diseases. If you raise Poultry, how can you afford to be without it? Sent post paid for 15 cents. Address, THE J. W. MILLER CO., Box No. 152, FREEPORT, ILL.

**INCUBATORS, BROODERS, VEGETABLE and CLOVER CUTTERS, BONE and GRAIN MILLS.**  
A complete line of poultry supplies at lowest prices. Green cut bone will **MAKE HENS LAY** in winter and produce fertile eggs for hatching. Send 4c. for catalog and valuable information on poultry raising. **PERFECT INCUBATOR & BROODER CO.** Absolutely Self-Regulating. 111 Ohio St., QUINCY, ILL.

## Costs You Nothing To Try It. The Natural Body Brace

Cures Female Weakness. Makes Walking and work easy. Thousands of letters like this:

"I am wonderfully improved. Can walk, eat, sleep and work with comfort. Before using Brace—with falling womb, pains all through abdomen, painful menstruation, constipation, poor circulation, stomach trouble, etc. I cannot begin to say enough in praise or thanks for the Brace. All who have gotten Braces here are much pleased with them. The inventor ought to have a monument erected to him as a lasting testimonial."

Mrs. L. W. TRYON.

Money Refunded if Brace is not satisfactory. Send for full information.

Natural Body Brace Co., Box 151, Salina, Kas.

Every Pregnant Woman Should Have This Brace.

## The Veterinarian.

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

**WARTS.**—I have two Jersey cows with warts on their teats which crack and get sore. What will cure them?  
Moran, Kas. S. F.

**Answer.**—Cut the warts off with a pair of scissors and cauterize the parts with nitrate of silver; then mix one part carbolic acid with thirty parts lard and keep them well greased till they heal.

**SORE ON CALF.**—I have a calf that has been sucking milk from a diseased under. The calf has a lump on its hip that broke some time ago and runs matter. What can I do with it?

**Answer.**—Wear the calf and open the abscess at the bottom, then inject it with a strong solution of blue vitriol twice a day for two days, after which inject once a day with carbolic water—a teaspoonful of carbolic acid to a pint of water.

**PARTURIENT APOPLEXY.**—About two months ago one of my cows looked rather wild when I drove her up in the evening and in half an hour after she had a calf. Next morning she could not get up and I called a veterinary surgeon, who gave her as much as three pounds of salts, but it did no good. She lay with her head around against her side most of the time. The third day she groaned a good deal and soon died. The day before yesterday I lost another cow in the same way.

Elyria, Kas. B. R.  
**Answer.**—Your cows died of parturient apoplexy, a disease which frequently follows calving. It attacks large milkers in the prime of life and is considered very difficult to cure. The best and most successful treatment for the disease is that known as the chloral hydrate treatment, and is fully described in "The Farmer's Ready Reference, or Handbook of Diseases of Horses and Cattle," the advertisement of which you will find in the KANSAS FARMER.

**The Most Popular Highway of Travel,** penetrating the principal cities of the East—the shortest line between Chicago and Boston, with solid through trains to New York city via Fort Wayne, Cleveland and Buffalo, and the only line via these cities having colored porters on its first and second-class day coaches at the disposal of its patrons, is the NICKEL PLATE ROAD, whose unexcelled train service and most liberal rates have long been recognized by east-bound travelers. J. Y. Calahan, General Agent, 111 Adams St., Chicago, Ill.

### MARKET REPORTS.

| Kansas City Live Stock.                                                                                                                                                      |               |             |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|---------------|
| KANSAS CITY, Dec. 9.—Cattle—Receipts, 4,600; calves, 90; shipped Saturday, 1,244 cattle, 60 calves. The market was steady to strong. The following are representative sales: |               |             |               |
| SHIPPING AND DRESSED BEEF STEERS.                                                                                                                                            |               |             |               |
| No.                                                                                                                                                                          | Ave. Price.   | No.         | Ave. Price.   |
| 16.....                                                                                                                                                                      | 1.39 24.00    | 41.....     | 1.307 23.65   |
| 12.....                                                                                                                                                                      | 1.386 3.65    | 40.....     | 1.476 3.60    |
| 10.....                                                                                                                                                                      | 1.314 3.55    | 20.....     | 1.242 3.50    |
| 8.....                                                                                                                                                                       | 1.405 3.45    | 19.....     | 1.060 3.40    |
| 71.....                                                                                                                                                                      | 1.225 3.40    | 1.....      | 1.150 3.35    |
| 20.....                                                                                                                                                                      | 1.235 3.30    | 4.....      | 1.162 3.15    |
| 2.....                                                                                                                                                                       | 1.185 3.15    |             |               |
| TEXAS AND INDIAN STEERS.                                                                                                                                                     |               |             |               |
| 25 mfd.....                                                                                                                                                                  | 1.004 23.25   | 24 mfd..... | 819 23.80     |
| WESTERN STEERS.                                                                                                                                                              |               |             |               |
| 23.....                                                                                                                                                                      | 1.093 23.25   |             |               |
| TEXAS AND INDIAN COWS.                                                                                                                                                       |               |             |               |
| 63 Ind.....                                                                                                                                                                  | 685 22.00     |             |               |
| COLORADO STEERS.                                                                                                                                                             |               |             |               |
| 40 c. f.....                                                                                                                                                                 | 1.478 23.60   |             |               |
| COLORADO COWS.                                                                                                                                                               |               |             |               |
| 34.....                                                                                                                                                                      | 769 22.65     | 3.....      | 893 22.10     |
| COWS AND HEIFERS.                                                                                                                                                            |               |             |               |
| 25.....                                                                                                                                                                      | 1.097 23.55   | 25 mix..... | 1.042 23.40   |
| 1.....                                                                                                                                                                       | 1.300 3.25    | 6.....      | 911 3.15      |
| 13.....                                                                                                                                                                      | 892 3.00      | 88.....     | 731 2.95      |
| 11.....                                                                                                                                                                      | 875 2.85      | 23.....     | 793 2.80      |
| 4.....                                                                                                                                                                       | 760 2.70      | 1.....      | 1.250 2.65    |
| 8.....                                                                                                                                                                       | 1.127 2.60    | 3.....      | 1.103 2.55    |
| 2.....                                                                                                                                                                       | 1.175 2.50    | 2.....      | 900 2.45      |
| 3.....                                                                                                                                                                       | 940 2.30      | 1.....      | 1.040 2.25    |
| 5.....                                                                                                                                                                       | 1.070 2.15    | 8.....      | 1.041 2.10    |
| 1.....                                                                                                                                                                       | 890 2.00      | 2.....      | 1.130 1.75    |
| STOCKERS AND FEEDERS.                                                                                                                                                        |               |             |               |
| 46.....                                                                                                                                                                      | 1.056 23.35   | 6.....      | 1.056 23.30   |
| 7.....                                                                                                                                                                       | 1.175 3.25    | 8.....      | 1.110 3.25    |
| 4.....                                                                                                                                                                       | 812 3.00      | 11.....     | 810 2.95      |
| 1.....                                                                                                                                                                       | 660 2.50      | 1.....      | 420 2.40      |
| Hogs—Receipts, since Saturday, 5,864; shipped Saturday, none. The market was steady and active. The following are representative sales:                                      |               |             |               |
| 48.....                                                                                                                                                                      | 198 23.47 1/2 | 1.....      | 350 23.47 1/2 |
| 77.....                                                                                                                                                                      | 287 3.42 1/2  | 126.....    | 198 3.42 1/2  |
| 81.....                                                                                                                                                                      | 218 3.42 1/2  | 89.....     | 237 3.42 1/2  |
| 65.....                                                                                                                                                                      | 275 3.42 1/2  | 71.....     | 288 3.42 1/2  |
| 61.....                                                                                                                                                                      | 300 3.42 1/2  | 60.....     | 320 3.40      |
|                                                                                                                                                                              |               | 69.....     | 271 3.40      |

|         |              |          |              |         |              |
|---------|--------------|----------|--------------|---------|--------------|
| 51..... | 279 3.40     | 9.....   | 274 3.40     | 72..... | 274 3.40     |
| 80..... | 217 3.40     | 58.....  | 151 3.40     | 74..... | 237 3.40     |
| 98..... | 205 3.40     | 29.....  | 220 3.40     | 26..... | 264 3.40     |
| 70..... | 303 3.40     | 147..... | 272 3.40     | 79..... | 158 3.40     |
| 60..... | 274 3.40     | 62.....  | 260 3.40     | 13..... | 233 3.40     |
| 39..... | 248 3.40     | 67.....  | 258 3.40     | 94..... | 224 3.40     |
| 53..... | 218 3.40     | 32.....  | 232 3.40     | 39..... | 183 3.40     |
| 87..... | 216 3.40     | 61.....  | 212 3.37 1/2 | 19..... | 295 3.37 1/2 |
| 32..... | 290 3.37 1/2 | 30.....  | 291 3.37 1/2 | 79..... | 210 3.37 1/2 |
| 58..... | 280 3.37 1/2 | 18.....  | 285 3.37 1/2 | 61..... | 225 3.37 1/2 |
| 44..... | 251 3.37 1/2 | 27.....  | 265 3.37 1/2 | 66..... | 243 3.37 1/2 |
| 55..... | 203 3.35     | 58.....  | 303 3.35     | 71..... | 179 3.35     |
| 3.....  | 320 3.35     | 10.....  | 383 3.35     | 89..... | 158 2.25     |

Sheep—Receipts, since Saturday, 2,679; shipped Saturday, 65. The market was steady. The following are representative sales:

|               |          |                 |           |
|---------------|----------|-----------------|-----------|
| 41 lambs..... | 58 23.25 | 60 ewes.....    | 108 22.85 |
| 63 Col.....   | 108 2.75 | 106 Merino..... | 84 2.50   |
| 10 culls..... | 60 1.50  |                 |           |

Horses—Receipts, since Saturday, 141; shipped Saturday, 30. The receipts were moderate compared with a week ago. The demand from private sources was light, but prices generally remained steady with the close of last week. A good market is expected this week.

### Chicago Live Stock.

CHICAGO, Dec. 9.—Cattle—Receipts, 15,900; market steady to stronger; fair to best beefs, \$3.25@3.10; stockers and feeders, \$2.35@2.75; mixed cows and bulls, \$1.25@3.50; Texas, \$2.40@3.40.

Hogs—Receipts, 57,000; market generally 5c lower; light, \$3.35@3.52 1/2; rough packing, \$3.30@3.40; mixed and butchers, \$3.35@3.55; heavy packing and shipping, \$3.45@3.55; pigs, \$2.25@3.50.

Sheep—Receipts, 25,000; market steady; native, \$1.75@3.30; western, \$2.50@3.10; Texas, \$2.00@2.60; lambs, \$3.00@4.40.

### St. Louis Live Stock.

ST. LOUIS, Dec. 9.—Cattle—Receipts, 5,070; market steady; native steers, \$3.25@4.31; Texas steers, \$1.40@3.75.

Hogs—Receipts, 2,501; market steady heavy, \$3.20@3.45; mixed \$3.00@3.40; light, \$3.10@3.40.

Sheep—Receipts, 1,000; market steady.

### Chicago Grain and Provisions.

| Dec. 9.       | Opened | High'st | Low'st | Closing |
|---------------|--------|---------|--------|---------|
| Wht—Dec.....  | 57 1/2 | 59 1/4  | 57 1/2 | 59 1/4  |
| Jan.....      | 59 1/2 | 59 3/4  | 59 1/2 | 59 3/4  |
| May.....      | 61 1/4 | 63 1/4  | 61 1/4 | 62 1/2  |
| Corn—Dec..... | 26 1/4 | 26 1/2  | 26     | 26 1/2  |
| Jan.....      | 26 1/4 | 26 1/2  | 26     | 26 1/2  |
| May.....      | 29     | 29 1/2  | 28 1/2 | 29 1/2  |
| Oats—Dec..... | 17 1/2 | 17 1/2  | 17 1/2 | 17 1/2  |
| Jan.....      | 20 1/2 | 20 1/2  | 20     | 20 1/2  |
| May.....      | 7 1/2  | 7 1/2   | 7 1/2  | 7 1/2   |
| Pork—Dec..... | 8 5/8  | 8 5/8   | 8 5/8  | 8 5/8   |
| Jan.....      | 8 5/8  | 8 5/8   | 8 5/8  | 8 5/8   |
| May.....      | 8 9/16 | 8 9/16  | 8 5/8  | 8 9/16  |
| Lard—Dec..... | 5 1/2  | 5 1/2   | 5 1/2  | 5 1/2   |
| Jan.....      | 5 1/2  | 5 1/2   | 5 1/2  | 5 1/2   |
| May.....      | 5 5/8  | 5 5/8   | 5 5/8  | 5 5/8   |
| Ribs—Dec..... | 4 3/4  | 4 3/4   | 4 3/4  | 4 3/4   |
| Jan.....      | 4 3/4  | 4 3/4   | 4 3/4  | 4 3/4   |
| May.....      | 4 5/8  | 4 5/8   | 4 5/8  | 4 5/8   |

### Kansas City Grain.

KANSAS CITY, Dec. 9.—Offerings of wheat were large here to-day and the trade lagged until the speculative market started up. Then there was a brisk demand for samples of all kinds. It was difficult to get much advance at any time, though. The general range of prices was about the same as on Saturday.

Receipts of wheat to-day, 151 cars; a year ago 31 cars.

Sales were as follows, track, Kansas City: No. 2 hard, 12 cars 59c; No. 3, 2 cars 55 1/2c, 4 cars 55c, 6 cars 54 1/2c, 6 cars 54c, 4 cars 53c, 1 car 52c; No. 4, 3 cars 50c, 3 cars 49c, 6 cars 48c, 5 cars 47c, 1 car 46 1/2c, 3 cars 45c, 1 car 42c; rejected, 1 car 40c, 1 car 45 1/2c; no grade, nominally 34 1/2c. Soft, No. 2 red, 1 car 60 1/2c, 1 car 63 1/2c; No. 3 red, 3 cars 60c, 1 car 6c; No. 4 red, nominally 60 1/2c; rejected, nominally 53 1/2c. Spring, No. 2, 15 cars 59 1/2c, 28 cars 58c, 4 cars 57 1/2c; No. 3, 3 cars 56 1/2c, 10 cars 56c, 11 cars 55 1/2c, 1 car 55c; rejected, 1 car 52 1/2c; white spring, nominally 52 1/2c.

Offerings of corn were not as large to-day as expected. They were about the same as Saturday. The demand was fair, though prices were a little higher. Buyers who paid 23 1/2c early bid 23c at the close. Demand was almost entirely for southern export.

Receipts of corn to-day, 97 cars; a year ago, 90 cars.

Sales by sample on track, Kansas City: No. 2 mixed, 18 cars 23c, 28 cars 22 1/2c; No. 3 mixed, nominally 22c; No. 4 mixed, nominally 21 1/2c. White corn sold at the same prices as mixed.

Poor and medium samples of oats were hard to sell, but good oats were taken readily at steady prices.

Receipts of oats to-day, 26 cars; a year ago, 6 cars.

Sales by sample on track, Kansas City: No. 2 mixed, nominally 17 1/2c, 3 cars color, 18c; No. 3, 1 car 1 1/2c; No. 4, nominally 14 1/2c; no grade, nominally 13 1/2c; No. 2 white, 6 cars 19c, 1 car 18 1/2c, 1 car 18 1/2c; No. 3 white, 1 car 18c.

Hay—Receipts, 154 cars; market easier. Timothy—Choice, \$11.50@12.50; No. 1, \$10.00@11.00; No. 2, \$7.50@9.00; No. 3, \$5.00@6.50; fancy prairie, \$7.00@7.50; choice, \$8.50@7.00; No. 1, \$5.50@6.00; No. 2, \$4.50@5.00; packing hay, \$3.00@4.00.

### St. Louis Grain.

ST. LOUIS, Dec. 9.—Receipts, wheat, 34,542 bu.; last year, 15,167 bu.; corn, 133,000 bu.; last year, 110,000 bu.; oats, 37,400 bu.; last year, 39,600; shipments, wheat, 32,410 bu., corn, 26,800 bu.; oats, 16,000 bu. Closing prices: Wheat—Cash, 69c bid; December, 60 1/2c; May, 61 1/2c. Corn—Cash, 25 1/2c; December, 25 1/2c; January, 24 1/2c; May, 26 1/2c bid. Oats—Cash, 17 1/2c; December, 17 1/2c; May, 20 1/2c@20 1/4c.

### Kansas City Produce.

KANSAS CITY, Dec. 9.—Butter—Creamery, separator, 22c; firsts, 18 1/2c; dairy, fancy, 14 1/2c; store packed, fresh, 12 1/2c; off grades, 8c; country roll, fancy, 13 1/2c; choice, 10 1/2c.

Eggs—Strictly fresh candied stock, 18c per doz.; cold storage, 14c.

Poultry—Hens, 50c; springs, 60 1/2c; broilers, 7c; roosters, 15c; young, 20c; turkeys, 6 1/2c; ducks, 7c; geese, young, fat, 6c; old, 5c; pigeons, 60c per doz.

Fruits—Apples—Fancy, \$2.25@2.50 per bbl.; choice, \$1.75@2.00; common to good, \$1.00@1.50 per bbl. Cranberries, \$8.25@8.50 per bbl.

## BROOM CORN

CASH ADVANCES MADE ON ALL CONSIGNMENTS. REFER TO ANY CINCINNATI BANK. WRITE FOR FULL PARTICULARS.

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DR. B. J. KAY MEDICAL CO.,  
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620 Sixteenth St., Omaha, Neb.

## THE STRAY LIST.

FOR WEEK ENDING NOV. 27, 1895.

Atchison county—Chas. H. Krebs, clerk.

MARE—Taken up by W. M. Ham, in Grasshopper tp. (Muscotah P. O.), November 1, 1895, one brown mare, star in forehead, fifteen hands high, shoes on front feet, works well, about 5 years old; valued at \$18.

Hamilton county—John Wensinger, clerk.

MARE—Taken up by W. Sawyer, in Bear Creek tp., three miles northeast of Hutton P. O., October 18, 1895, one bay mare, fourteen and a half hands high, 3 years old, branded thus—on left shoulder; valued at \$30.

Washington county—August Solter, clerk.

STEER—Taken up by Fred Osticker, in Linn tp. (P. O. Linn), one black and white steer, 2 years old, four feet six inches high, black on shoulders, white body and white feet.

FOR WEEK ENDING DECEMBER 4, 1895.

Lyon county—C. W. Wilhite, clerk.

STEER—Taken up by Chas. Moss, in Agnes City tp., November 4, 1895, one two-year-old steer, all white, part of left ear gone, branded on left loin, has been dewlapped; valued at \$20.

STEER—Taken up by A. McCutcheon, in Emporia tp., November 2, 1895, one red two-year-old steer, white face; valued at \$24.

Rooks county—Chas. Vanderlip, clerk.

HORSE—Taken up by Israel Morris, in Northampton tp., November 19, 1895, one black horse, 3 or 4 years old, four feet four inches high, both hind feet white, small star in forehead, blind in left eye; valued at \$10.

STEER—Taken up by Philip McNulty, in Stockton tp., November 10, 1895, one roan muley steer, 18 months old, white face, white belly, two white feet, line back; valued at \$15.

Wabunsee county—J. R. Henderson, clerk.

STEER—Taken up by A. D. Elmore, in Mill Creek tp. (P. O. Halifax), one red two-year-old steer, droop horns, white spot in forehead, no marks or brands; valued at \$20.

HEIFER—Taken up by T. B. Henry, in Wilmington tp. (P. O. Eskridge), one red two-year-old steer, slit in left ear, crop off right ear; valued at \$16.

STEER—Taken up by A. Schwing, in Wilmington tp. (P. O. Eskridge), one red two-year-old muley steer, branded K on left hip, hog ring in left ear; valued at \$25.

Hodgeman county—John L. Wyatt, clerk.

COW AND CALF—Taken up by John Knouster, in Sawlog tp. (P. O. Jetmore), one red and white cow, branded J—on left side, both ears marked by cutting out underneath; valued at \$18.

Elk county—S. D. Lewis, clerk.

STEER—Taken up by P. H. Hard, in Painterhood tp. (

## The Poultry Yard

### ONE DOZEN HENS.

A Kansas City Man Tells What It Costs to Keep Them.

There is no surer way of getting at a thing than by trying to do it. As fowls eat so many different foods it is difficult to get at the exact cost. Mr. O. M. Todd, of Kansas City, Mo., in the Midland Poultry Journal, relates what he did with twelve fowls, and he mentions the cost of every article. Here is his statement:

In 1894 twelve full grown game fowls (yarded) dispensed with a pound of wheat a day—at one cent a pound—

|                                   |        |
|-----------------------------------|--------|
| For the year.....                 | \$3 60 |
| Corn (only in winter).....        | 30     |
| Kerosene for roosts.....          | 1 00   |
| Lime.....                         | 20     |
| Carbolic acid.....                | 10     |
| Bone meal.....                    | 60     |
| Condition powder.....             | 1 50   |
| Insect powder.....                | 20     |
| Grit.....                         | 30     |
| Corn and Indian meal.....         | 60     |
| Scraps from the table.....        | 00     |
| Raw meat scraps from butcher..... | 00     |
| Cut clover (in winter).....       | 25     |
| Straw for nests.....              | 25     |
| Sulphur.....                      | 10     |

Total.....\$9 00

Or 75 cents per hen. It will be seen by these figures that wheat, kerosene and bone meal were used liberally, while corn and Indian meal were used moderately. When you figure that a hen costs you 75 cents a year you may safely say that she will lay in eggs twice what she eats. Most any hen, with good care and management, will average 150 eggs a year, and it is a very poor hen indeed that will not lay 75 eggs in a year. In approximating the value of eggs we are apt to treat them too much from the market standpoint. One hundred and fifty eggs—fresh laid hen eggs—are worth 185 "store" eggs, for the difference is easily made up in the added and packed eggs we get from the store three-fourths of the year. Fresh eggs in a city like Kansas City are a treat that our country friends do not fully appreciate.

A word about the disposition to complain when hens do not lay well, especially in winter. It may be your fault, and it may be the hen's fault. Have patience; you cannot judge a hen by one week or one month, and if you doubt her ability to pay for her keeping start an account, charging her with all she eats and crediting her with all she produces. If you do this you will find that there is scarcely a hen in your yard that in a year's time cannot have the balance on her side of the account.

I have seen a slightly complete record of a poor laying individual hen which was as follows: Started to laying March 10; commenced to moult and quit laying September 28; broken up from setting seven times; eggs produced, 99. This shows that a poor layer, persistent setter, and a hen that never laid at all from September 28 to the following spring laid 100 eggs; or, at my figures for keeping a hen, gave 26 per cent. profit.

### ARE FAMOUS LAYERS.

Brief Description of the New and Promising Ancona Breed.

The latest candidate for public favor is the Ancona fowl, so named from a district of Italy. It owes its introduction to a report by the British consul at Ancona, in which he dilated on the enormous increase in the egg exports of that place. The attention of breeders



PRIZE ANCONAS.

having been called to the egg capabilities of this breed, they have taken it up and if it possess anything like the merit claimed we may soon see it entering into competition with the Leghorn variety.

So far the Anconas are practically un-

## Headache Destroys Health

Resulting in poor memory, irritability, nervousness and intellectual exhaustion. It induces other forms of disease, such as epilepsy, heart disease, apoplexy, insanity, etc.

### Dr. Miles' Nervine Cures.



Mrs. Chas. A. Myers, 201 Hanna St., Fort Wayne, Ind., writes Oct. 7, 1894: "I suffered terribly with severe headaches, dizziness, backache and nervousness, gradually growing worse until my life was despaired of, and try what we would, I found no relief until I commenced using Dr. Miles' Nervine. I have taken five bottles and believe I am a well woman, and I have taken great comfort in recommending all of my friends to use Nervine. You may publish this letter if you wish, and I hope it may be the means of saving some other sick mother's life, as it did mine."

On sale by all druggists. Book on Heart and Nerves sent FREE. Dr. Miles Medical Co., Elkhart, Ind.

### Dr. Miles' Remedies Restore Health.

known in this country, but we will doubtless have them in time. They are described as mottled throughout in plumage and of a neat and attractive appearance. They resemble the Minorcas in many respects, but are generally rather smaller. They are great layers and non-sitters. The eggs are white shelled and of good quality. They are of rather small size when from pullets, but this defect is corrected the next season. The breed is generally considered to result from the crossing of black and white Minorcas, but many believe that they are closely related to the Leghorns instead. This theory would seem to find confirmation in the habits of the birds, which possess the activity and foraging qualities of the Leghorns. They also mature early and are small eaters, turning their food into eggs rather than into flesh. Of course, they do not amount to much as table fowls.—N. Y. World.

### Red Pepper for Poultry.

Red pepper should never be given in large quantities. The practice of putting red pepper in all the soft food should be discarded. The best effect from its use is when it is given once or twice a week, and half a grain for each fowl is sufficient. If given constantly the birds become habituated to its use, and then it does more harm than good. It is only a temporary stimulant and serves best when the birds are not in full health. Sulphur should also be given cautiously. The best regular tonic is the Douglas mixture in the drinking water. It is cheap, costing about five cents a gallon, and is composed of one pound of copperas, two gallons soft water and an ounce of sulphuric acid, a teaspoonful being added to each quart of drinking water.—Prairie Farmer.

Whenever the beekeeper has been so careless as to leave his bees destitute either of brood or queen for ten days or two weeks, you may be pretty sure to find the evidence of fertile workers in the shape of eggs scattered about.

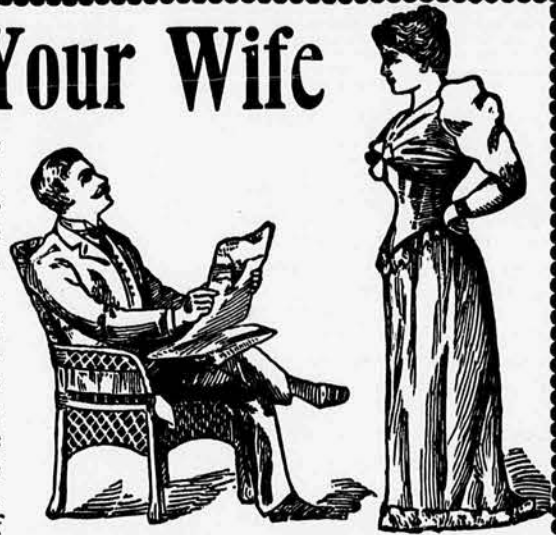
Neglect of the hair often destroys its vitality and natural hue, and causes it to fall out. Before it is too late, apply Hall's Hair Renewer, a sure remedy.

**NEW STYLE MANTEL FOLDING BED FREE** to ladies willing to take few orders. Is the strongest, simplest and best bed ever made. 10-year-old child can raise, lower or move it. To introduce, only \$6.25, DELIVERED. A gold mine for honest agents. K. C. BED CO., 1508 Main St., Kansas City, Mo.

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that you have read that Clairette Soap is one of the greatest labor-saving inventions of the time. Tell her that it will save her strength, save her time, save her clothes. The merits of



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appeal at once to every thoughtful woman. It's the best, purest, and most economical soap to be procured. Sold everywhere. Made only by

The N. K. Fairbank Company, St. Louis.

**\$5 Hand Bone, Shell, and Corn Mills for Poultrymen.** Dally Bone Cutter, Power Mills. Circular and testimonials free. WILSON BROS., Easton, Pa.

**NEW MAMMOTH Poultry Guide for 1896** Finest book ever published, contains nearly 100 pages, all printed in colors, plans for best poultry houses, sure remedies and recipes for all diseases, and how to make poultry and gardening pay. Sent post paid for 15c. John Bauscher, Jr., box 44 Freeport, Ill.

**HATCH CHICKENS BY STEAM—** With the MODEL Excelsior Incubator. Simple, Perfect, Self-Regulating. Thousands in successful operation. Guaranteed to hatch a larger percentage of fertile eggs at less cost than any other Hatcher. Lowest priced first-class Hatcher made. GEO. H. STAHL, 114 to 122 S. 6th St., Quincy, Ill.

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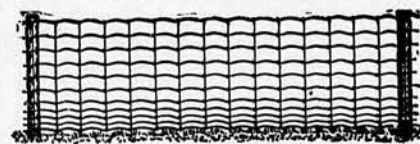
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In connection with the Lake City Automatic Stock Fountain, will enable you to water 50 to 150 pigs daily, as conveniently in the winter as in the summer. You will never have to cut ice from trough. Bank up barrel thoroughly, attach fountain to same or to tank, slip the small attachment under drinking cup, and it will never freeze. The heat is produced by a chemical combination of ground charcoal and coke, pressed into bricks 2 1/2 x 3 inches, burning 12 to 18 hours. As usual, will send one on trial, express prepaid, to any address, for \$3.50, and include free, coal to try the matter thoroughly, to be paid for when found satisfactory. As it costs nothing to try, send for one. Mention express station. AGENTS AND DEALERS wanted in every locality.

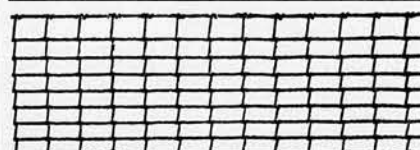
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But 'tis Page Fence that makes things in the world go round, or go through the gate. (We make gates also.)

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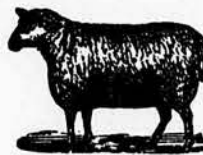
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(Continued from page 1.)

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facilities for receiving and reshipping stock.

|                                      | Cattle and calves. | Hogs.     | Sheep.  | Horses and mules. | Cars.   |
|--------------------------------------|--------------------|-----------|---------|-------------------|---------|
| Official Receipts, 1894.....         | 1,772,545          | 2,547,077 | 589,555 | 44,237            | 107,494 |
| Slaughtered in Kansas City.....      | 369,646            | 2,060,784 | 387,570 |                   |         |
| Sold to feeders.....                 | 308,181            | 11,496    | 69,816  |                   |         |
| Sold to shippers.....                | 409,965            | 468,616   | 45,730  |                   |         |
| Total sold in Kansas City, 1894..... | 1,677,792          | 2,530,896 | 503,116 | 28,903            |         |

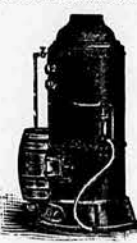
CHARGES: YARDAGE, Cattle, 25 cents per head; Hogs, 8 cents per head; Sheep, 5  
cents per head. HAY, \$1 per 100 lbs.; BRAN, \$1 per 100 lbs.; CORN, \$1 per bushel.

NO YARDAGE CHARGED UNLESS THE STOCK IS SOLD OR WEIGHED.

**C. F. MORSE**, V. Pres. and Gen. Manager. **E. E. RICHARDSON**, Secretary and Treasurer. **H. P. CHILD**, Assistant Gen. Manager. **EUGENE RUST**, Gen. Superintendent.

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As it Saves the  
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of plans to make the same. Price of book \$1.

**JACOB YOST**, Arkansas City, Kas.

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**DR. U. B. MCCURDY**, Veterinary Surgeon. Grad-  
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ada. Can be consulted on all diseases of domestic  
animals at office or by mail. Office: 114 West Fifth  
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Sales made everywhere. Refer to the best breed-  
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anteed. Terms reasonable. Write before claiming  
dates. Mention KANSAS FARMER.

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Live Stock and General Auctioneer.  
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Write for dates. Sales conducted anywhere in the  
country. Best of references and satisfaction guar-  
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ferent sets of stud books and herd books of cattle  
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sold for nearly every importer and noted breeder of  
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specialty. Large acquaintance in California, New  
Mexico, Texas and Wyoming Territory, where I  
have made numerous public sales.

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sas City 9:10 a. m., daily.

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Cal. 32, \$3.50. Car-  
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1000, \$2.25. Ideal  
Breach Loading Single  
Gun, Cal. 12,  
\$5.00. Forehand Arms  
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