

# KANSAS FARMER

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## BREEDERS' DIRECTORY.

Cards of four lines or less will be inserted in the Breeders' Directory for \$15 per year or \$5.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent to the advertiser during the continuance of the card.

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## The Stock Interest.

### THOROUGHbred STOCK SALES.

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

MARCH 15—Julius Peterson, Short-horns, Lancaster, Kas.

### CORN-STALK DISEASE.

By Prof. N. S. Mayo, of Kansas State Agricultural College.

There is probably no one disease, with the possible exception of hog cholera, which causes greater loss among stockmen than that commonly known as corn-stalk disease of cattle. This disease occurs among cattle pastured in stalk fields during the fall and winter months. The symptoms exhibited, and the peculiar and varied circumstances under which the disease occurs, has given rise to many theories as to its cause and nature.

Among the theories that are generally advanced as to the cause of the disease, is impaction of the third stomach, or "manifolds," with dry, indigestible corn stalks; and the post-mortem examinations invariably show such a condition of things to exist. But there are many serious objections to this theory, among which may be mentioned that in many cases animals die in a comparatively short time, only a few hours after being turned into the stalk fields—so short a time that it is difficult to explain how the stomach can become filled and sufficient inflammation set up to cause death. Preventive measures based upon this theory, such as turning animals into the stalk fields for but a short time, an hour or so a day, and giving them plenty of other food, including salt and water, seems, in many cases, to reduce the losses to a minimum, and yet many instances can be cited where these directions have been carefully followed and severe losses resulted.

Another theory is that the disease is caused by animals eating the corn smut; yet experience and experiments show that smut has little, if anything, to do with it. Fields in which a large amount of smut was found have not produced the disease among cattle, and cattle in fields comparatively free from smut have suffered severely. The corn smut has been fed to cattle in quite large amounts, with no serious results, and a case is related where a farmer, believing smut to be the cause of the disease, took pains to gather the smutty corn and pile it by itself. His cattle broke in and ate what smutty corn they could, with no bad results.

Another theory, advanced a few years ago, was that the disease was produced by germs, or bacteria, that grow naturally upon the corn, and which causes the corn stalks and leaves to turn a reddish-brown in spots; that these germs, when eaten by cattle, produced the corn-stalk disease. There are also many and serious objections to this theory. It is a recognized fact that cattle do not suffer from the corn-stalk disease when fed upon corn fodder, and the germs must be in the corn fodder just as certainly as in the stalks that remain standing in the field, and the germs ought to be more active in stalks that have been cut before fully ripe and not subjected to the "weathering" action of the wind and rains in the field.

Two years ago an experiment was carried on here in which a large quantity of growing corn was inoculated with the corn-stalk disease, pains being taken that every stalk should have the disease. This corn, when thoroughly ripened, was fed to a two-year-old heifer which ate the stalks clean and seemed to enjoy them, there being no unusual results whatever. A field of about twenty acres of corn near the college was affected very badly and twenty-eight head of cattle were pastured in the stalks during the fall and winter and showed no symptoms whatever of the disease.

There are a good many things to be studied in connection with this disease. Extensive and careful observation seems to show that outbreaks of corn-stalk disease are liable to follow cold rain storms and that it is most likely to occur following seasons when there has been a large growth of corn stalks

followed by storms and winds, especially in the early fall; but the disease also occurs under nearly opposite conditions, and under such varied conditions that it is impossible to mention them.

For the past three years an effort has been made to carefully study the disease with especial reference to its cause and prevention, that a bulletin of the experiment station might be issued upon it, but very little progress has been made, owing to the difficulty of finding outbreaks. While there have been many outbreaks and some losses, no notice has been received in time to investigate the disease. Notices of outbreaks and communications from those who have suffered losses from the disease with reference to the conditions under which it occurred, are requested. If a notice is received in time, and it is possible, I should be glad to avail myself of any opportunity to study the disease, that more information regarding its nature, cause, and prevention may be gathered.

### Swine Breeders Meet.

The Kansas and Nebraska Swine Breeders' Association met in the court house at Hiawatha, Kas., Tuesday, January 16, as per announcement. J. W. Babbitt, President, and L. C. Clark, Secretary. Minutes of last meeting read and approved. The report of the Constitution committee was read and change of name made to the Interstate Swine Breeders' Association and the constitution was adopted.

In the election of officers, L. W. Leonard was elected President; a Vice President from each State, as follows: J. W. Babbitt, Kansas; W. F. Garrett, Missouri; C. H. Beethe, Nebraska. L. C. Clark, Secretary; M. Meisenheimer, Treasurer; Bert G. Wise, E. Zimmerman and W. H. Babcock, Executive committee.

At the afternoon session L. W. Leonard talked upon the score-card system and explained the mode of judging, which consists of the following: Head and face, 4 points; eyes, 2 points; back and loin, 15 points; chest, 12 points. He thought the heart and chest girth was an important part of the good points, for if they are not well developed in chest the lungs are contracted and they are more liable to disease. Ham and rump, 10 points; feet and legs, 10 points; tail, 1 point; coat, 2 points; size, 5 points; action and style, 4 points; condition and disposition, 3 points. The speaker approved the single judge system in judging, because it is easier to get one good judge that is posted to attend than it is three.

A general discussion was had on oil meal and the prevalent idea was that it should come into more general use among swine men.

J. W. Babbitt spoke very much in favor of the swine men using tank heaters to warm water for stock and especially to make warm water for hogs. Breeders must make their hogs look good to sell, and ground flaxseed is one of the best feeds for that purpose. John McCoy feeds oats to keep his hogs in good condition and thought it an excellent feed. Eli Zimmerman thought that bran in slop would keep his hogs in good condition and oil meal a good feed.

E. F. Fassett, editor of the *Western Swine Breeder*, addressed the meeting in the interest of his paper, when they adjourned to Haver's livery barn, where O. S. Colthar, an expert scorer, scored hogs for J. E. Winterscheid, Ben Maxey and Bert G. Wise.

At the evening session it was decided to hold the next meeting in Hiawatha, one year from this date.

O. S. Colthar, of Pawnee City, read a paper on "The Requisites of Successful Swine-Raising." Question: "What is there to do when hogs have a barking cough?" Answer: Salt, ashes and charcoal—especially charcoal, and hog-raisers were advised to burn cobs and smother them out with oats, when hogs will greedily eat the charcoal and oats.

J. D. Ziller read a paper on judging swine at fairs and favored the single expert idea.

The meeting then adjourned until next year.

It has always been a mystery why so many people suffer from chapped hands when Salvation Oil will cure them at once.

### Swine Breeders' Institute.

Program of Swine Breeders' Institute, to be held at court house, Maryville, Mo., Tuesday, February 6, 1894, at 10 o'clock a. m.:

"Value of Pure-breds vs. Scrubs," L. W. Leonard, Pawnee City, Neb.; "Selecting and Fitting Hogs for the Show Ring," W. E. Biggs, Bradyville, Ia.; "Judging Hogs at Fairs," Hon. W. S. Hanna, Ottawa, Kas.; "Most Profitable Type of a Hog for Both Breeder and Farmer," Alex. John, Bedford, Ia.; "What Has the Score-Card Accomplished?" Sam'l McKelvie, Fairfield, Neb.; "The Successful Swine Sale," Mrs. A. M. Edwards, Fremont, Neb.; "The Swine Show at the World's Fair," J. S. Risk, Weston, Mo.; "What is 'Blue Blood?'" Hon. J. V. Wolfe, Lincoln, Neb.; "How to Manage and Feed the Pig from Farrow to Market," W. A. Hill, Belton, Mo.; "How to Hold Old Customers and Get New Ones," F. M. Lail, Marshall, Mo.; "Selection and Management of Herd Boar," T. A. Hubbard, Rome, Kas.; "Selection and Management of Brood Sow," O. S. Colthar, Pawnee City, Neb.; "How to Prepare for Sale Day," Col. J. M. Hosmer, Maryville, Mo.; "Hogs and the Corn Belt," J. West Jones, Lenox, Ia.; "How I Raise \$100 Pigs," W. T. Garrett, Maryville, Mo.; "How to Prepare Pedigrees for Record and When to Record," Ira K. Alderman, Maryville, Mo. General discussion following each subject.

### Excellence of Yorkshire Swine.

EDITOR KANSAS FARMER:—In a recent issue of the FARMER is an article by a Poland-China hog breeder, recommending that many of the present breeds of swine be dropped, among them the Yorkshire. According to this gentleman, the only reason for breeding the Yorkshire, Suffolk, Essex, etc., is "to absorb premiums at shows." You will readily see that this article is lacking in fairness, to say the least, toward Yorkshire breeders, as much as would be a recommendation from a breeder of Brahma fowls that hereafter Leghorns be ruled out of the standard.

I am a breeder of Yorkshires, and prefer them to all others for the following reasons: They are quiet in disposition and not given to breaking through fences; a two-foot fence will restrain them. They never hurt a chicken; my fowls and hogs eat from the same trough without any trouble. They fatten early; in fact, are always fat. They will reach a weight of 200 pounds quicker than any other breed, and can be kept growing on less feed than any other breed. They do not choke or die of "thumps" from overfatness. The sows have no trouble farrowing. They are great milkers and seldom have "teat mew." The offspring of a well-bred Yorkshire boar and sows of other breeds, whatever the color of the latter, will all be impressed with the distinctive traits of their sire—color, form and disposition.

In a column adjoining the one containing the article I before mentioned, is an article calling attention to the growing evil of weak legs in swine. I never had a Yorkshire with weak legs. The alfalfa-grown Yorkshire is no baby; while he can never reach the weight of the slow maturing Chester White or Poland-China, he easily reaches the weight of the Berkshire, and, indeed, has proven himself to be a hog of such dimensions that the term "small," which was a great drawback to the breed, has been dropped in the last two years.

JAMES BURTON.

Jamestown, Kas.

### Floor and Roof for Hogs.

EDITOR KANSAS FARMER:—One of the effects of the high prices and scarcity of hogs during the last year has been to cause the farmers to take better care of and give more attention to their hogs. Many are building good hog houses and making every effort to increase the hogs upon the farm, and while there will be an over-production in a year or two, and corresponding low prices, we will have learned to take better care of hogs and shelter them well, which pays equally as well, whether hogs are high or low in price.

If pork is low, every bushel of corn should be made to bring its full proportion of pork, and every brood sow raise a good litter of pigs or go to the butcher. And this can only be done by good shelter and care. One point about hog houses, or rather sleeping nests for hogs, is that they should have a good floor and a good roof, but the most important of the two is the floor. Hogs sleeping all winter on a dirt floor dig down and grind the dirt and trash very fine, and the fine dust is inhaled into the lungs, causing lung disease, coughing, and, who knows, but hog cholera? The hollow always rooted out where hogs sleep on the ground causes them to crush or overlay the smaller ones which may get in the bottom of the nest, and, finally, some rainy night toward spring, the whole nest will be filled with water and hogs turned out in the storm or chilled and soaked in the slop of the dust now turned into mud. Farmers, floor your hog houses. It pays every time in dollars and cents.

L. C. CLARK,  
Secretary Inter-State Swine Breeders' Association.

I. Z. Merriam is using a bit and check-rein on his driving horse which is attracting a great deal of favorable attention. The driving reins and check line are continuous, and instead of being fastened rigidly to the bit, they pass over a small pulley at each end of it. The part which runs on the pulley is about a foot long and is made of round leather. A ring at each end of this round part of the rein acts as a "stop," and prevents its passing further through the pulleys. Accordingly, when the reins are taken in hand, and drawn on, the horse's head is lifted till the bit comes to the upper ring, when the pull becomes direct. On hitching the horse, or at any time when the rein is slackened, he can drop his head till the lower ring strikes the bit, thus giving all the ease of an unchecked rein, and at the same time preventing his head from reaching the ground. "While the bit is very effective in handling a horse one of its chief merits is its humane features—doing away with or counteracting the barbarity of the high check-rein. It is seemingly the most comfortable bit ever put in a horse's mouth, and doubtless will receive the earnest commendation of every humane society. Mr. Merriam has recently received a patent on his invention and has others pending, and will place a few dozen among horsemen this season; and if their general verdict is as strong in their favor as the present indications seem to be, he intends, in the near future, to place them with the general trade. We can do no less than wish him the greatest success.—*Whitewater, Wisconsin, Register.*

### One Man's Faith.

Mr. B. R. Bohart, of Cedar Rapids, Iowa, purchased for his farm several years ago a quantity of particularly good fence—the Page—long advertised in our columns. He was so well pleased that he secured the agency for his county, and has now succeeded A. M. Keeney as agent for the north half of Iowa.

Mr. Bohart has registered a vow to devote himself henceforth alone to the advancement of the Page fence. He will offer for sale on February 6, his entire herd of Red Polled cattle, nearly all of them registered, also a number of well-bred horses and other live stock at a great sacrifice, as he has sold his farm, one of the best in the State, in order to embark unincumbered on this heavy business enterprise. We advise all stock buyers to write Mr. Bohart.

Mr. Bohart is not dismayed by the task before him of doubling the record of his predecessor, who sold 350 miles of Page Woven Wire Fence in 1893, and from what we know of the popularity of the fence we have no doubt he will succeed.

### TO OUR SUBSCRIBERS.

The SPECIAL ANNOUNCEMENT which appeared in our columns some time since, announcing a special arrangement with Dr. B. J. Kendall Co., of Enosburgh Falls, Vt., publishers of "A Treatise on the Horse and his Diseases," whereby our subscribers were enabled to obtain a copy of that valuable work FREE by sending their address (and inclosing a two-cent stamp for mailing same) to Dr. B. J. Kendall Co., is renewed for a limited period. We trust all will avail themselves of the opportunity of obtaining this valuable work. To every lover of the horse it is indispensable, as it treats in a simple manner all the diseases which afflict this noble animal. Its phenomenal sale throughout the United States and Canada makes it standard authority. MENTION THIS PAPER WHEN SENDING FOR THE TREATISE.

Get up a club for KANSAS FARMER.



## Agricultural Matters.

### CULTURE OF THE POTATO.

J. J. Willis, Superintendent of Lawes and Gilbert's Experiment Station, Rothamsted, England.

Taking thirteen countries where the potato is largely grown, their aggregate area under the crop being about 21,000,000 acres, and their aggregate produce about 61,000,000 tons, there is not one that reaches the average produce per acre of Great Britain. Norway, Belgium and Holland the most nearly approach the yield of Great Britain, and it is of interest to observe that these and Denmark are the countries that most nearly approach the United Kingdom in yield per acre of wheat and barley also. It is, then, only the countries of small total area, and of small area under the crop, that at all nearly equal Great Britain in yield per acre of potatoes; and among them Belgium and Holland more nearly approach the United Kingdom in density of population, and in the quantity of live stock kept per acre, and consequently in the supply of animal manure. The aggregate area under potatoes in the United Kingdom is rather over one and one-third million acres, and the aggregate produce is rather more than six and one-half million tons of tubers. Against this, we find that the United States of America has an aggregate area under the potato crop of nearly two and one-fourth million acres, giving an aggregate produce of about four and one-fourth million tons of tubers, equal to an average yield per acre of 1.87 tons only, being the lowest average quantity per acre obtained in either of the thirteen countries where potatoes are extensively grown.

The following table shows us the chemical composition of potato tubers and of potato vines, also the quantities of the various constituents abstracted from the soil by the growth of 1,000 pounds of tubers and of 1,000 pounds of potato vine, both in the green and in the ripe condition:

	In 1,000 pounds of		
	Tubers	Vines, green.	Vines, ripe.
Water	750.0	825.0	770.0
Organic matter	241.0	159.4	218.2
Ash	9.0	15.6	11.8
Ash consists of—Potash	5.2	2.3	0.9
Soda	0.1	0.4	0.7
Magnesia	0.4	2.6	2.7
Lime	0.2	5.9	5.5
Phosphoric acid	1.8	1.0	0.6
Sulphuric acid	0.6	0.9	0.6
Silica	0.2	1.2	0.5
Chlorine	0.3	0.7	0.4
Sulphur	0.2	0.6	0.5

The data thus given shows us in a conspicuous manner that in the culture of the potato special study should be devoted to the needs of the tubers, as distinguished from the requirements of the vines. It is a common experience that while a full crop of potato tubers cannot be secured without luxurious growth of vine, yet there is often luxuriance of vine with a poor yield of tubers. This happens when the fertilizer used or the soil itself contains an excess of lime, as when superphosphate or gypsum has been applied without other ingredients; and the contrary is found to be the case where potash fertilizer or wood ashes have been used. In the culture of this crop experience shows that a liberal use of the complete artificial manures which contain all the constituents of the plant, including vines and tubers, answers best. That is to say, although the crop requires a full available supply of potash, magnesia, lime and phosphoric acid within the soil, yet that these constituents being provided the amount of produce is largely dependent on the available supply of nitrogen at the command of the plant. In practice, barnyard manure, or seaweed, where it can be obtained, is mainly relied upon. These are used in very large quantities per acre, and are sometimes supplemented by liberal dressing of artificial manures, both mineral and nitrogenous. It is probable that, independently of the liberal supply in barnyard manure of all necessary constituents of the potato crop, its beneficial effects are in a considerable degree due to its influence on the mechanical condition of the soil, rendering it more porous and easily permeable to the surface roots, upon

the development of which the success of the crop so much depends.

Then, again, something may be due to an increased temperature of the surface soil engendered by the decomposition of so large an amount of organic matter within it, while the carbonic acid evolved in the decomposition will with the aid of moisture, serve to render the mineral resources of the soil more soluble. The potato is, indeed, largely a kitchen and market garden crop, as well as a farm crop; and for the production of garden vegetables generally very large quantities of barnyard or stable manure are applied, beyond what is required as a mere supply of constituents to the crops—the process being to a great extent one of forcing; and a necessary result is a great accumulation of unexhausted manurial residue within the soil. In fact, the potato crop removes a less proportion of the nitrogen of barnyard manure than any other farm crop. It has also been found that the most characteristic result of the increased growth of potatoes under the influence of nitrogenous manures is an increased production of starch, which means flouriness, mealiness, or a superior quality of tubers. Poor and inferior soil cannot yield first-class potatoes; they must of necessity be of a waxy nature after cooking, because they lack the constituents necessary for the formation of starch.

It has been found in the Rothamsted potato experiments that potato disease, though largely dependent on season, developed much more in tubers grown by highly nitrogenous manures, and containing a juice rich in nitrogen, than under contrary conditions. Finally, it has been shown that a result of the disease is a destruction of starch, the formation of sugar, the loss of organic substance, and the growth of the fungus at the expense of the tuber.

### Wheat and Corn for Feed.

Prof. C. C. Georgeson, Kansas State Agricultural College.

A correspondent from Oklahoma inquires if it would increase the feeding value of corn by grinding wheat with it, and if so, to what proportion wheat should be added, and he also asks if wheat alone ground will fatten cattle as well as corn. The exceptionally low price of wheat gives a practical aspect to such questions. Ordinarily wheat is worth so much for human food that its use as a feed seems almost absurd. Possibly conditions similar to the present may not arise again within the next dozen years. For the sake of the wheat-growers this is, at least, to be devoutly hoped. Meantime, the lower grades of last year's crop are now being fed quite largely to both cattle and hogs and by spring we shall be in possession of data bearing on the actual feeding value of wheat, which will be of much importance should such an emergency arise again. At present the available information on the subject can scarcely be expressed in figures. In western and southern Kansas, where wheat is the principal crop, the farmers feed it largely and with, apparently, the best of results. Theoretically, wheat is an almost perfect feed for both cattle and hogs. It contains the following amounts of digestible nutrients: Proteins 11.7, carbohydrates 64.3, fat 1.2, with a nutritive ratio as one is to five and eight-tenths. This makes it an ideal feed. It means that out of every hundred pounds of wheat seventy-seven pounds can be appropriated by the animal system, under normal conditions, and the proteins and carbohydrates are present in the proper proportion to balance the ration. Corn, on the other hand, contains the following amounts of digestible nutrients: Proteins 7.6, carbohydrates 61.8, fat 4.3, with a nutritive ratio as one is to nine and four-tenths. This shows that there is four and one-tenth pounds more protein in a hundred pounds of wheat than in the same weight of corn. Corn fed alone is a poorly balanced ration. The proportion of proteins is too small for the amount of carbohydrates it contains. It follows, therefore, that the corn ration would be much improved by the addition of some wheat. How much it would be profitable to add depends entirely upon the price of the

two. If both could be bought for the same money, wheat would, unquestionably, be the cheapest feed. If the same is true when wheat is worth from 15 to 20 cents per bushel more than corn can only be settled by experiment. With corn at 25 cents per bushel and wheat at 40 cents, the correspondent referred to will, doubtless, find that it will pay him to grind equal quantities of wheat and corn for his cattle instead of feeding corn only. Possibly he might use even more wheat with profit. Before such questions can be answered definitely it will be necessary to know what amount of corn and wheat, or other substance under consideration, is required to produce a hundred pounds of pork or beef, when fed alone under normal conditions, and also when used in combination with each other, and to obtain such data necessitates a long series of most careful experiments with these feeding materials. Theoretical estimates, based on the digestibility of any feed, can, at best, only approximate the truth.

### Kaffir Corn as a Fodder Crop.

Prof. C. C. Georgeson, Kansas State Agricultural College.

A Kansas farmer asks information in regard to the growing of Kaffir corn, and, since the answer may be of interest to others, I will give it also to the readers of the KANSAS FARMER.

And first, a word as to the varieties of Kaffir corn. We have, for several years, grown two varieties here at the experiment station, which, from the color of the seed, are respectively designated white and red Kaffir corn. They are alike in their habits of growth. Both attain a height of five to six feet or more on very rich soil. They both have short, stiff stalks, thickly covered with foliage which somewhat resemble leaves of sorghum, and both produce a long, slender, upright head, densely covered with small, rounded seed. They differ, however, not only in the color of the seed, but also in the yield per acre, and in time of ripening. The red variety has, invariably, been the best yielder at this station and it also matures a couple of weeks earlier than the white-seeded variety. Both points are of importance. While the red Kaffir corn has never been injured by frost the white variety has failed to mature seed more than once. Moreover, an unduly large percentage of the stalks of this kind fail to push the head completely through the sheath of the upper leaf, and, from this cause, a portion of the heads thus affected are mouldy below, or at best bear but poorly developed seed on the portion covered by the sheath. This is rarely the case with the red variety. For these reasons I consider the latter sort much the best of the two, although the grain has a somewhat more astringent taste than the white seed. Both are non-saccharine and, in common with all other sorghum, they will stand drouth much better than corn. In a comparison of the two the red-seeded variety must be given the palm.

Kaffir corn seed is equal to corn in feeding value and the red variety yields rather better than corn in all seasons, and in dry seasons will produce a moderate crop of seed when corn only produces fodder. It is owing to these combined good qualities that red Kaffir corn is growing more and more in favor throughout the West, and especially west of the Missouri river; and in my opinion it ought to be planted much more generally than is yet the case.

A plot of nearly two acres, on which the wheat was winter-killed, was planted to red Kaffir corn here at the experiment station, late in the spring of last year. A large Osage orange hedge ran along one side of the strip and sapped the ground considerably and it also afforded roosting places to myriads of English sparrows, which latter pest began to devour the seed as soon as it was fairly out of the milk; but with these drawbacks we still raised 110.6 bushels of clean seed, at fifty pounds to the bushel, or at the rate of 56.7 bushels per acre, besides nearly three tons of cured fodder, of fine quality, per acre. Corn in the same field yielded just about half as much, both of grain and fodder. It should be mentioned in this connection

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that Kaffir corn seed ripens before the leaves ripen, and that, consequently, the crop can be left undisturbed until the seed matures, when the fodder, being still green, can be cut and cured.

Corn, on the other hand, must be cut before the grain is fully ripe if a good quality of fodder is wanted.

Kaffir corn is best grown in rows thirty inches to three feet apart and can be sown either with a sorghum drill or with a common wheat drill. We use, successfully, an eight-hoe press drill on which all except the first and fifth hoes are closed up. We then seed two rows at a time, thirty-two inches apart. A little practice will soon show how the drill must be set in order to sow the right quantity of seed. If it comes up too thick it must be thinned. Good heads will be formed when the stalks are about four or five inches apart in the row. In all other respects it should be cultivated like corn.

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## The Farmer's Forum.

This department is devoted to the discussion of economic questions and to the interests of the Alliance, Grange and kindred organizations.

### GULF AND INTER-STATE RAILWAY.

Many inquiries have been received at this office for information as to the proposed Gulf & Inter-State railway. Hon. Albert Griffin has furnished answers to these in the following letter to a friend at Manhattan, which has been furnished to this office for publication: Hon. F. L. Irish, Manhattan, Kas.:

MY DEAR SIR:—Your letter asking about the Gulf & Inter-State Railway Company is received, and I will tell you candidly what I think of the enterprise.

The transportation and intelligence corporations constantly become more and more powerful and despotic, and it is notorious that their power not only can be, but is, used for the aggrandizement of the few at the expense of the many. The desire to end this tyranny spreads and deepens daily, and multitudes now realize that, unless deliverance comes quickly, it will be too late for them. As single States can do but little, and the general government will do practically nothing, it is evident that the people must emancipate themselves or remain bondage in indefinitely.

It was the same genuine spirit of liberty which called the Boston tea party into existence, wrote the Declaration of Independence and fought the Revolutionary war that inspired Mr. E. Stoddard, of Omaha, Neb. (now President of our company), to commence an agitation that led the Legislature of Nebraska to pass the resolutions that formally inaugurated this movement—which action was also indorsed by the Legislature of South Dakota. The Governors of both these States were Republicans, as was the Legislature of South Dakota, but the action was indorsed with equal heartiness by members of all parties in both bodies.

Having always been disposed to help the wrongly oppressed, I last week willingly accepted an appointment as a member of the provisional Board of Directors to help organize the company; but when, after the filing of the charter, I was asked to become its Treasurer, it was with much reluctance that I finally consented to do so.

The reason for this hesitation was that, although I was very anxious that it should succeed—and knew that, if it did, the beneficent consequences would be almost incalculable—I had but little faith that it would. I was aware that there were serious difficulties in the way; that the hostile influences would be very active and powerful; that it would be difficult to so guard the organization that enemies could not capture it; that it was essential that a majority of the Board of Directors should not only be competent but honest, and deeply imbued with the spirit that puts humanity above selfish interests; and, also, that a large sum of money—many millions—should be raised outside of the ordinary channels; and I greatly feared that some of these obstacles would prove insurmountable.

The boards were in session five long days, generally lasting far into the night. There was no cut-and-dried program. There were differences of opinion, but no rule-or-ruin spirit. All propositions were frankly and, sometimes, warmly discussed, but they were either dropped or modified, until they were adopted unanimously, or approximately so. There was no "controlling mind" and no "followers." That eleven men, the most of whom knew little or nothing of each other, should, of their own motion, have come together from such distances, and worked so long and harmoniously for the purpose of inaugurating a stupendous public work, on a line that had never before been attempted, was a remarkable fact, to say the least, and augured well.

During all of the sessions, I watched my associates with the intensest interest and anxiety to see to what extent they were apparently controlled by selfish, or higher, motives. I have no doubt their motives were more or less mixed (for we are all human), but, after adjournment and a rest, I re-examined

the charter and by-laws, weighed the men and their various expressions critically, and the result was a firm conviction—

First—That there are now no insurmountable legal obstacles.

Second—That the board can be trusted to do its duty honestly, intelligently and courageously.

Third—That the safeguards devised are sufficient to prevent the organization from falling into the hands of the Philistines.

Of course, these are simply my opinions; but they are opinions formed after careful study—and they cover all the main difficulties except that of raising the money, which will be considered later.

One day, Col. Needham, of Boston, whose address before the State Board of Agriculture had excited so much interest, attended our meeting, and, being called on for remarks, after hearing some of our plans and reading the charter, asked where the basis to work on had been found, and, when told "nowhere," he said in substance:

"I thought so, for I never heard anything even approximately like it. It is the most wonderful combination of Christianity and humanity applied to business matters that I ever saw. The conception is sublime. It is a second Declaration of Independence. I am delighted that I have had the privilege of meeting with the men who are, in my opinion, inaugurating a great revolution."

In a previous talk, Col. Needham had been general in his remarks, and quiet in his tone, but this time his eyes fairly blazed with light, and his enthusiasm thrilled his hearers. Nor is the distinguished Bostonian the only one whose soul began to burn when the proposition was unfolded and understood.

The essential points of the plan, boiled down, are:

1. To build a railway and telegraph line from a deep-water harbor on the Texas coast, through Oklahoma, Kansas, Nebraska and the Dakotas, with a line through Texas, Arkansas, Missouri, Iowa and Minnesota, to Lake Superior, with branches from both lines to various points, thus giving the West the shortest possible connection with the Gulf.

2. The entire cost of the road, with everything pertaining to it, or that may be needed for its operation, including rolling stock, is to be kept within \$15,000 a mile, and no indebtedness, of any kind, is to be incurred above that sum.

3. Passenger rates cannot exceed 2 cents a mile. Round-trip tickets are to be issued from and to all points. No discrimination is to be allowed in favor of or against any person or locality. The free-pass system is cut up by the roots; and mileage books, whether sold for cash, advertising, or services, are to be unlimited as to time, and usable by one or more persons.

4. No monopoly, special rates, or exclusive privileges of any kind, will be given to express, sleeping-car, telegraph, or other corporations or individuals; and all charges for freight, passenger and other services will be fixed at rates expected to net not more than 5 per cent. interest on the actual cost of the road.

5. As soon as five States provide for accepting the trust, the road, with all its branches, and other property, is to be turned over to them to be operated in the interest of the public, the net earnings to be paid into the school fund of all the counties in the several States.

6. In short, the road is to be built and operated for the people, as a whole, instead of for the stockholders and managers.

It will not be known just where the lines will be located until the preliminary surveys shall have been run, and the amount of help that can be secured ascertained. In this State, one of the lines under consideration commences at the southwest corner of Cowley county, and runs through Wichita, Newton, Abilene, Clay Center and Washington or Hanover. Another commences in the eastern part of Cowley county, and runs in a generally northerly direction, through Council Grove to the divide south of Manhat-

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tan, from which place it might go down Clark's creek across the Kansas between Junction City and Ogden, and traverse western Riley and the east part of Washington county; or, it might descend Deep creek, cross the Kansas between Manhattan and Wamego, and thence north through Pottawatomie and the east side of Marshall county; or, it might swerve a little east from a point further south, go through Alma, and then up the Red Vermillion, or Rock creek, in Pottawatomie county. In either case, there would be branches to Kansas City and other points.

The last matter to be considered is, can the money be raised? and, if so, how? It is true that the cost is limited to less than one-fourth the amount for which most Western lines are capitalized, but even \$15,000 a mile is not a small sum. It is not expected that capitalists will furnish the funds—at least not to begin with—and, as the road is to be donated to the public, it is evident that the money must be given outright or advanced from some source.

The financial plan devised is unique. It has no parallel, but I believe it will succeed. It has three features; donations—mainly an exchange by counties, townships and cities, of bonds for common stock; advances by individuals, to be repaid by transportation; and mortgage bonds.

The stock is divided into two classes—preferred and common. It is to be sold at par—\$100 per share—but with the distinct understanding that all of it will be extinguished when the road is turned over to the States, and that the preferred stock is to be held in trust, by the board, to prevent the road from being captured by rivals. It is probable that individuals would not buy much stock on those terms, if they were all.

It is therefore provided that every purchaser of a share of preferred stock shall receive twenty-two five-dollar "transportation certificates"—which certificates can also be purchased separately, by those who cannot spare as much as \$100. They will be received, as cash, for half of the price of tickets, freight and other charges—the other half being required in money, to pay running expenses. Thus the purchaser of preferred stock will get his money back, and \$10 more, in transportation. He simply pays in advance.

It is expected that the common stock will be taken mainly by the counties, townships and cities through which the road will run, and be paid for with bonds. These communities will get their money back in taxes, to say nothing of other benefits.

Income construction bonds are also to be issued in sums of \$5, \$10 and \$20, bearing interest at the rate of 5 per cent. per annum—principal and interest to be paid out of the income of the company, and not to be a lien on the road. They cannot exceed \$3,000 a mile, and, like the transportation certificates, are receivable for half of all dues to the road, with a premium of 5 per cent. added. It is expected that the bulk of them will be used to pay for the right of way, material and grading.

Lastly, first-mortgage bonds may be issued, to an amount not to exceed \$10,000 a mile, at a rate of interest not to exceed 5 per cent. per annum. It seems to me that, if \$5,000 per mile can be raised in cash, material, work and right of way, for stock, transportation certificates and income construction bonds, it ought to be an easy matter to sell as many of these mortgage bonds as will be needed to complete the road and purchase rolling stock; for, in that case, they will be gilt-edged securities.

Put in the plainest language, the question is, will the people vote enough

bonds, and advance enough money, work and material (to be paid in transportation of some kind), to aggregate \$5,000 per mile, so as to get the road in shape to be mortgaged for enough to finish it? I believe they will, for, it must be remembered that the entire nation is interested in the success of this novel experiment. There can be no doubt that, if it succeeds, it will work a revolution in railroading. Let it once be demonstrated that "the people" not only can, but have, emancipated themselves in one case, and the sufferers in other States and sections will begin to follow suit, and existing roads everywhere will be compelled to reduce rates and be less exacting and arbitrary every way.

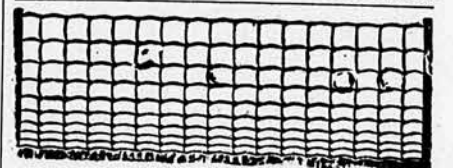
For many years, we have, with abundant reason, denounced the railroad system, which grows worse and worse every year. An opportunity is now given us to break the chains that bind us. And we ask, who will help? Not when it is too late, or no longer necessary, but now. No one is asked to cripple himself, but to risk (for there is some risk) what he can lose without distressing himself—whether it be \$5 or \$5,000—and to do it quickly. And again, and again, we ask, who will help? How will you help? When will you help? And it may be added, that this is a case where it is not possible for too many to speak at once.

Yours truly,  
ALBERT GRIFFIN.  
Topeka, Kas., January 20, 1894.

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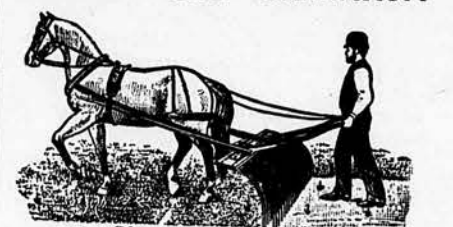


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### Surgical Emergencies.

(NUMBER 3.)

A man with a broken leg is a very bad cripple, indeed—much worse, in fact, than if he had his arm broken. A broken arm can be put into a splint and sling and the man can go about the house, or even the streets, and attend to many kinds of business, but the man with a broken leg must go to bed and lie there for two to three weeks and sometimes longer, and be waited on constantly, for he is practically helpless.

A broken bone is usually a very painful affair for some hours, the pain continuing many times for two or three days, but more frequently it practically subsides within the first twenty-four hours.

What shall be done for a person with a broken bone, is sometimes a serious question. The accident may happen at some distance, even miles, from any house, with no doctor near and no appliances at hand for alleviating the person's suffering. And if the right thing is not done with a good degree of promptness, the limb is likely to swell to such an extent that when a surgeon is called he finds it very difficult to replace the fragments where they belong—in apposition, or coaptation, as the medical books term it.

As principles are always better for general use than details, it is better to tell you what ought nearly always to be done. If an arm is broken, the man can walk to a place of relief in most instances, and can nearly always find something to improvise a sling out of to carry the arm in while going for or awaiting relief. But not so with the broken leg. The man, as a rule, cannot take a step. He must be transported, sometimes in a wagon, or buggy, or cart, or on a bed or stretcher, or something improvised for the purpose. While in transit, the leg must be so dealt with as to avoid the constant friction and grinding together of the rough and ragged ends of the broken bone, or the jolting of sharp ends of bone into the flesh about the site of the fracture. Some device must be resorted to which will practically immobilize the false joint at the seat of fracture. How will you do it?

A strip of board about the width of the limb and from two-thirds its length to even longer than the limb may (if possible) be padded a little with anything at hand, from an old coat or pants to a bunch of hay or straw or grass, and placed under the limb, while a bandage of some kind is so adjusted as to bind the limb firmly to the splint. Then, splint, leg and man may altogether be placed in the easiest position in the conveyance and taken home as easily as possible.

If the break is what is known as a compound fracture, in which a portion of bone is thrust through the flesh and even (as sometimes happens) into the ground, a much more serious complication confronts you. It will not do to pull the bone, all covered with dirt, back into the soft tissues, because that would so contaminate the wound as to jeopardize the healing process. In such a case it is better to leave it protruding until it can be thoroughly washed and cleaned. Usually a surgeon should do that. But if he is too far away, then the friends should, as soon as possible, obtain clean boiled water, not too hot, and with a clean cloth that has been purified by boiling, and with very, very clean hands that have been purified by repeated washings in hot water and soap, wash all dirt very carefully off the bone and the soft tissues about it, and then the limb should be pulled exactly straight out in a straight line, until the bone retreats into its proper surroundings, and then a very clean cloth should be bound over the wound, after which it can be prepared on a splint and transported as though the soft tissues had not been torn open.

A great many people foolishly imagine that they must daub a fresh cut or tear in the flesh with grease or tar or glue, or flour, or some other one of a hundred things. A worse practice could scarcely be invented. Let it be remembered, once and for ever, that any kind of a wound must be kept as clean as possible from the contact of any and everything that could possibly carry contagion or germs to it, or defeat the prompt union of severed surfaces. No dressing at all is far better than the usual dopes people apply themselves to open wounds. If you will simply apply very clean cloths wrung out of as hot water as can be borne, you will do the utmost good in the power of the laity. Of course, if there is hemorrhage along with a compound fracture, then the rules given (see No. 1) should be followed.

Let this principle guide you: Improvise something that will maintain the bone in quiet apposition, if possible—that is, end to end, until the doctor comes, and avoid all rucking and grinding of the broken bones, stop hemorrhage if there be any.

Many amusing incidents come to mind in

connection with broken bones. A few years ago I was called out of bed early one morning to see a man upon whose leg a large flagstone had fallen, breaking it badly below the knee. Having a very excellent leg splint ready for such cases, I took it along and gently lifted the leg into the smooth trough of the splint, into which it fitted almost like a hand in a glove, and applied a bandage the whole length, so that it could not move at all. Then the man was gently lifted into a spring wagon and slowly driven home. In the house I redressed the leg and left it lying easily in the splint and comfortably settled in its new home, where it was to remain three weeks. But I found, alas, that I had left it too comfortable, for when I started home he called me back and asked if I was sure it was all right. I assured him it was, but he shook his head and said, "I don't believe it. They told me it would hurt like the devil and it don't." I said, that was because it was well done; that by the prompt use of my patent splint I was able to spare him nearly all the usual tortures attending a broken leg. In a few hours a committee of friends came and told me he wanted something more done for the leg; he was not satisfied. I assured them it was all right and did not need to be painful. The next morning the committee came again and informed me that I was dismissed from the case because he knew it was not right because it did not hurt enough. The surgeon who was called was quite enough after hearing the grounds of my dismissal to pull off my dressings and put the fellow through all the racking pain he pined for, gave it to him unstinted and wanting in mercy. And the result of so much pulling and twisting and torture was a badly inflamed and swollen leg within twenty-four hours, which did not get well for over three months, instead of the usual three weeks. And after paying two surgeons instead of one and losing a whole summer's work he told me one day in the fall that if he ever got another broken leg he would trust it to the new method of painless dressing. A neighbor of his having broken his leg at about the same spot a week later, and having had painless dressing, got well in time to do two months' work the same summer, and had a much better leg from the start.

It is not always wise or profitable to know more than a well-educated and practical surgeon. But some people think they do.

A sailor at Milwaukee, once jumped from the deck of a lumber schooner to the dock, ten feet below. He felt a numbness and then a stinging in his foot, but walked a mile and a quarter to the office of Dr. Marks, a very able surgeon, and was there told that two or three bones in his foot were broken. He would not believe it and went off, and a few days later was sent to the hospital, where I saw him, in company with Dr. Marks. The foot was terribly swollen and went on to suppuration of the bone. Four or five pieces of bone died and became detached from the balance of the foot, and yet he refused to have an operation for their removal. Then it came to pass that the inflammation extended and involved the whole foot, so that amputation was all the hope we had to offer him, and declining that he lay there and died from a cellulitis that traveled up the leg into the body, all because he knew first that his foot was not broken or he could not walk a mile on it, and then that it was not necessary to take the dead bones out of his foot, and last that it was not necessary to amputate the whole foot to save him. The only admirable thing about the case was his sublime faith in his own superior knowledge of surgery.

### Answers to Correspondents.

(NUMBER 4.)

DEAR FAMILY DOCTOR:—I have an eruption on one of my wrists, or rather a lot of pimples under the skin, which, at irregular intervals, get red and itch terribly with a burning sensation. The flesh seems slightly puffed up and discolored. It is spreading up my arm. I have had rheumatism ever since I partook of the rather constrained hospitality of the Hotel de Andersonville, in Georgia, nearly thirty years ago. Had the scurvy very bad at that time. Have been treated for rheumatism by a "regular" physician, whose prescriptions contained a good deal of potassium (iodide, I think), which seemed to relieve the rheumatic pains, but has not effected a cure. The rheumatism is chronic. If you can give me advice through the KANSAS FARMER it will be greatly appreciated. I have read your column in the FARMER with great interest and pleasure, as well as your poems, etc., and hope they may continue forever. The "Swing of the Medical Pendulum" is especially good. R. W. DRAKE.

Anthony, Kas.  
Your trouble seems to be what is known as urticaria (nettle rash), and caused "by some chronic disorder of digestion. There is probably constipation and hemorrhoids back of the trouble. If so, that must be cured in order to get entire and permanent relief from the urticaria. For the treatment see "The Family Doctor" department October 25, 1893.

HENRY W. ROBY, M.D.:—I have been troubled for some years with a numb coldness in my knees and thighs as soon as I

stop exercising, when I ride or when I sit down to read, and often when I am in bed, and when the rest of my body is warm and comfortable they are chilly and cold. Is the trouble in the circulation? and what is the remedy? R. B. I.

Modoc, Kas.  
Local coldness or local heat are either frequently due to internal hemorrhoids, which put the terminal fibres of the great sympathetic nerve in a pinch and cause local congestions and disturbance in the circulation. When you walk the exercise forces the flow of blood more rapidly through the local channels, and when you cease the blood flows but sluggishly through those parts presided over by certain nerve centers and lines of distribution most affected by the compression at the site of the hemorrhoidal tumors. Orificial surgery will probably give prompt and permanent relief. It is safe and sure. If you want to try drugs, try Rhus tox. 8x., three doses a day.

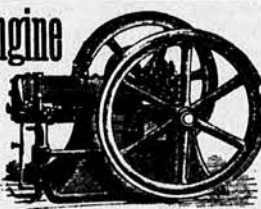
V. G., Virgil, Kas.—Your mother has bronchial catarrh, with strong tendency to towards consumption. Best remedy, tartar emetic 3x., a dose every two hours. Of the three States named, Kansas is the best for her. Should go slowly into a higher altitude. For the possible hemorrhages, you should have on hand a bottle of melilotus alba. 8x., in discs or tablets, and give two or three doses, a few minutes apart, at the very first sign of bleeding. Put the feet and hands in hot water, and call the best doctor to be had.

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## The Home Circle.

### To Correspondents.

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

Written for KANSAS FARMER.

### Belated Flowers.

BY JOSEPHINE RAPLEY HAGUE.

My neighbor was rich in earthly store,  
Her granite hall by my cottage stood—  
My cottage gray, with its naked yard,  
Where nothing could grow if it would,  
For the red clay soil was devoid of all  
That gives nourishment unto growth,  
While my neighbor's plot held the richest loam  
That grew flowers enough for both.

But that barefoot children should drink with  
joy

The beauty her wealth had bought,  
Was a thorn in the flesh to my neighbor fair  
And a hasty change she wrought,  
By a high, high wall, soon covered with vines—  
On her side but none on ours.  
I sighed when I thought of her selfish pride,  
My children wept for the flowers.

Ere the summer waned both sickened and died,  
And childless I wept alone,  
When my beautiful neighbor, laden with  
blooms,

Stepped on my threshold stone.  
"For your children, sir, I bring these flowers."  
"You bring them too late," said I.  
"My children are gone to a land of flowers  
Where none ever sicken or die."

"Where red clay sod nor gray stone walls  
Mar not each happy day,  
Take your flowers and go," I said, through tears,  
"To the cripple across the way;  
He cannot live till the frost shall cool  
His fevered and wasted frame.  
Take your flowers and go and give them to him,  
But give them in Jesus' name."

And when he shall climb the ladder of gold  
That mine have climbed to-day,  
He will tell with joy of the change that came  
To the lady "across the way."  
Ah! lady, 'tis often, too often in life,  
We withhold from a longing grasp  
The beautiful flowers, then press them with  
tears  
In the hands that death hath clasped.

### A TIGER'S PLAYTHING.

In India once I went out on a hot, dusty plain near the Ganges, with my rifle and one native servant, to see what I could shoot. It was a dismal place. Here and there were clumps of tall grass and bamboos, with now and then a tamarisk tree. Parrots screamed in the trees, and the startled caw of some Indian crows made me pause and look around to see what had disturbed them.

The crows almost at once settled down again into silence, and, as I saw no sign of danger, I went on carelessly. I was alone, for I had sent back my servant to find my match-box, which I had left at the place of my last halt, but I had no apprehensions, for I was near the post, and the district was one from which, as was supposed, the tigers had been cleared out some years before.

Just as I was musing on this fact, with a tinge of regret because I had come too late to have a hand in the clearance, I was crushed to the ground by a huge mass, which seemed to have been hurled upon me from behind. My head felt as though it had been dashed with icy or scalding water, and then everything turned black.

If I was stunned by the shock, it was only for an instant. When I opened my eyes I was lying with my face in the sand. Not knowing where I was or what had happened, I started to rise, when instantly a huge paw turned me over on my back, and I saw the great yellow-green eyes of a tiger looking down upon me through their narrow black slits.

I did not feel horror-stricken; in fact, so far as I can remember, I felt only a dim sense of resignation to the inevitable. I also remember that I noticed with curious interest that the animal looked rather gratified than ferocious.

I do not know how long I lay there, stupidly gazing up into the brute's eyes, but presently I made a movement to sit up, and then I saw that I still held my rifle in my hand. While I was looking at the weapon with a vague, harassing sense that there was something I ought to do with it, the tiger picked me up by the left shoulder and made off with me into the jungle; and still I clung to the rifle, though I had forgotten what use I should put it to.

The grip of the tiger's teeth upon my shoulder I felt but numbly, and yet, as I found afterward, it was so far from gentle as to have shattered the bone.

Having carried me perhaps half a mile, the brute dropped me, and, raising her head, uttered a peculiar, soft cry. Two cubs appeared at once in answer to the summons, and bounded up to meet her. At the first glimpse of me, however, they sheered off in alarm, and their dam had to coax them for some minutes, rolling me over softly with her paw, or picking me up and

laying me down in front of them, before she could convince them that I was harmless.

At last the youngsters suffered themselves to be persuaded. They threw themselves upon me with eager though not very dangerous ferocity and began to maul and worry me. Their claws and teeth seemed to awaken me for the first time to a sense of pain. I threw off the snarling little animals roughly and started to crawl away. In vain the cubs tried to hold me. The mother lay watching the game with satisfaction.

Instinctively I crept toward a tree, and little by little the desire for escape began to stir in my dazed brain. When I was within a foot or two of the tree the tiger made a great bound, seized me in her jaws and carried me back to the spot whence I had started.

"Why," thought I to myself, "this is just exactly the way a cat plays with a mouse."

At the same moment a cloud seemed to roll off my brain. No words of mine can describe the measureless and sickening horror of that moment, when realization was thus suddenly flashed upon me.

At the shock my rifle slipped from my relaxing fingers, but I recovered it desperately, with a sensation as if I had been falling over a precipice.

I knew now what I wanted to do with it. The suddenness of my gesture, however, appeared to warn the tiger that I had yet a little too much life in me. She growled and shook me roughly. I took the hint, you may be sure, and resumed my former attitude of stupidity, but my faculties were now alert enough and at the cruellest tension.

Again the cubs began mauling me. I repelled them gently, at the same time looking to my rifle. I saw that there was a cartridge ready to be projected into the chamber. I remembered that the magazine was not more than half empty.

I started once more to crawl away, with the cubs snarling over me and trying to hold me, and it was at this point I realized that my left shoulder was broken.

Having crawled about four or five feet, I let the cubs turn me about, whereupon I crawled back toward the old tiger, who lay blinking and actually purring. It was plain that she had made a good meal not long before, and was, therefore, in no hurry to dispatch me.

Within about three feet of the beast's striped forehead I stopped and fell over on my side, as if all but exhausted. My rifle barrel rested on a little tussock. The beast moved her head to watch me, but evidently considered me past all possibility of escape, for her eyes rested as much upon her cubs as upon me.

The creatures were tearing at my legs, but in this supreme moment I never thought of them. I had now thoroughly regained my self-control.

Laboriously, very deliberately, I got my sight and covered a spot right behind the old tigress' forehead, low down. From the position I was in, I knew this would carry the bullet diagonally upward through the heart. I should have preferred to put a bullet in the brain, but in my disabled condition and awkward posture I could not safely try it.

Just as I was ready one of the cubs got in the way, and my heart sank. The old tiger gave the cub a playful cuff, which sent it rolling to one side. The next instant I pulled the trigger—and my heart stood still.

My aim had not wavered a hair's breadth. The snap of the rifle was mingled with a fierce yell from the tiger, and the long-barred body straightened itself up into the air and fell over almost on top of me. The cubs sheered off in great consternation.

I sat up and drew a long breath of thankful relief. The tiger lay beside me, stone dead.

I was too weak to walk at once, so I leaned against the body of my vanquished foe and rested. My shoulder was by this time setting up an anguish that made me think little of my other injuries. Nevertheless, the scene about me took on a glow of exquisite color. So great was the reaction that the very sunlight seemed transfigured.

I know I fairly smiled as I wrapped the cubs on the mouth with my rifle barrel. I felt no inclination to shoot the youngsters, but I would have no more of their over-ardent attentions. The animals soon realized this and lay down in the sand beyond my reach, evidently waiting for their mother to reduce me to proper submission.

I must have lain there half an hour and my elation was rapidly subsiding before the agony in my shoulder, when at last my man, Gunjeet, appeared, tracking the tiger's traces with stealthy caution.

He had not waited to go for help but had followed up the beast without delay, vowing to save me or avenge me before he slept.

The cubs on his approach had run off into the covert, so we set out at once for the post. When I got there I was in a raging fever, which, with my wounds, kept me laid up for three months.

On my recovery I found that Gunjeet had gone the next day and captured the two

cubs, which he had sent down the river to Benares, while the skin of the old tiger was spread luxuriously on my lounge.

You will not wonder that the sight of a cat playing with a mouse has become somewhat distasteful to me since that experience. I have acquired so keen a sympathy for the mouse!—Charles G. D. Roberts, in *Youth's Companion*.

### Relics of Raleigh in Ireland.

It is now 300 years since Sir Walter Raleigh lived in Ireland, but, according to Sir John Pope Hennessy, many traces of his residence there can still be seen. The richly perfumed yellow wall flowers that he brought to Ireland from the Azores and the Affane cherry are still found where he first planted them by the Blackwater. Some cedars he brought to Cork are to this day growing at a place called Tivoli. The four venerable yew trees, whose branches have grown and intermingled into a sort of summer-house thatch, are pointed out as having sheltered Raleigh when he first smoked tobacco in his Youghal garden. In that garden he also planted tobacco. A few steps further on, where the town wall of the thirteenth century bounds the garden of the warden's house, is the famous spot where the first Irish potato was planted by him. In that garden he gave the tubers to the ancestor of the present Lord Southwell, by whom they were spread throughout the province of Munster.

### She Was Absent-Minded.

The recent celebration of "Forefather's day" at Medfield, Mass., was an event of more than local interest, says the Boston Journal. Mr. Ezekiah Butterworth, talking about it, spoke of that old town, its landmarks, and what it stood for. Then he said he had learned in connection with that one of the funniest things he ever heard of. "As a case of absent-mindedness it was very, very funny," he said. "Hannah Adams was the first female writer to receive recognition in this country. Her home was in Medfield, and her body was the first to be buried at Mount Auburn."

"It was customary then to ride horse-back to church. Hannah used to ride with her father, on a pillion behind him, on the same horse. It happened one Sunday on the way to church she fell off, pillion and all. He did not notice it, nor, indeed, miss her until at the church steps he would have helped her alight. Alarmed, he rode rapidly back, afraid she must have been seriously hurt not to have called to him when she fell. And do you know," went on Mr. Butterworth, laughing heartily, "do you know he found her seated on the pillion in the middle of the dusty path, and until he came up to her she was totally oblivious to the fact that she was not seated as usual behind her father on the old horse on the way to church. That's one of the worst instances of absent-mindedness I ever heard. I suppose Hannah was busy writing another book in her mind while sitting there on the pillion in the dust."

### The Education of Our Girls.

The education of a girl resolves itself to a simple basis after all. Woman's progress may, in the minds of some, have seemed to make it more complex, and confusion can enter into the question if a mother allows herself to listen to the proclaimers of so-called "advanced ideas."

We will be led into the mistake of cultivating the mind at the expense of the heart if we allow ourselves to be so led. But the error is a cruel one—painfully so to the girl who is led, unknowingly, into it. But if we permit our common sense to rule, the problem solves itself. We do not want our daughters to be encyclopedias, but true, womanly women. The first we can buy; the latter we cannot.

Let us first look after the physical development of our girls, teaching them that good health outweighs all things. Let them understand the human mechanism, hiding nothing.

Teach, by example as well as by precept, the value of outdoor exercise. Then begin mental development, giving her the benefit of the largest educational advantages within your powers, insisting, however, that her studies shall be those likely to be of greatest usefulness in after life. Let her study not up to her fullest capacity, but just a little this side of it. A margin of unspent power is a tremendous force to a woman.

Then, if our schools and colleges shall continue to neglect the teaching of household economics, keep your daughter close to you at home for a year at least, or longer if necessary. With her mind free from mental studies, teach her the rudiments of the home, hiding not the kitchen utensils, as you show her the dainty china. Make of her an all-round good home-builder and housekeeper, hold up ever before her the one great truth that a woman is always most satisfactory to herself when she is a woman, and most beautiful to others when she is womanly. Let her know what it means to be a wife and mother.—*Boston Post*.



THE PROCTOR & GAMBLE CO., CINCINNATI, O.

### Breakfast Oakes.

#### PANCAKES.

Take two cups of buckwheat and of wheaten flour take one.  
Two tablespoonfuls baking powder; then, this being done.  
Of salt take one-half teaspoonful, sift well together, make  
Into thin batter, then at once, on a hot griddle, bake.

#### RICE GRIDDLE CAKES.

Take two eggs and also use a cupful of boiled rice.  
One pint of milk, one-half teaspoonful of salt, to make it nice.  
One heaping teaspoon baking powder use, and then you'll take  
Flour to make thin batter. Stir well, and quickly bake.

#### HOMINY CAKES.

Two cupfuls of cooked hominy, rubbed smooth; one teaspoon salt.  
Two teaspoons baking powder; and then, to have no fault.  
Add one cup flour, stir well together, adding by degrees  
One quart of milk, three well-whipped eggs; and bake thin, if you please.

—Good Housekeeping.

### Eli Perkins on Woman Suffrage.

A very dirty, debased and ignorant-looking man came in to vote in a township in Michigan.

"I wish you would oblige us by voting this ticket," said Susan B. Anthony, who was standing at the polls.

"What kind of a ticket is that?" asked the man.

"Why," said Miss Anthony, "you can see for yourself."

"But I can't read," he answered.

"What! can't you read the ballot you have there in your hand, which you are about to vote?" exclaimed Miss Anthony.

"No," said he, "I can't read at all."

"Well," said the gifted lady, "this ballot means that you are willing to let the women, as well as the men, vote."

"Is that it?" he replied; "then I don't want it; the women don't know enough to vote."—*Eli Perkins' Letters*.

### Filing Covers for "Kansas Farmer."

We are sometimes asked for a suitable cover in which to file the copies of KANSAS FARMER, as the same are issued during the year, so that they may be preserved with as little soiling as possible. We have not enough such orders to warrant us in ordering a lot manufactured, but we would suggest the following inexpensive method of preserving your file in a manner convenient for reference at any time:

Cut two pieces of very heavy pasteboard to size a little larger than KANSAS FARMER. Paste or glue a "back" of strong cloth or light leather, letting the edge of "back" lap over edge of pasteboard a full inch, and make the back with room enough to admit fifty-two copies of the paper. Now take two strong needles and fit them with strong waxed threads with heavy knot in end. Insert needles at top and bottom of the front cover, stitching through the edge of the back piece and draw threads through till knot stops them. Now begin with No. 1, and string on your papers and tie threads in temporary bow-knot each week till next one comes. When fifty-two numbers have been received, stitch through the back cover at its edge and tie hard knot, and your whole year's numbers are already "bound." If you do not understand our "receipt," please step into our office and see our temporary file. This will be very convenient for you who live 400 or more miles away to do at any time. We mean the making of the "file," of course, and not the stepping into our office.



## The Young Folks.

### The Picture.

In a home-made corn-husk frame,  
A picture hangs without a name—  
A picture of a fair young grace,  
A slender form and thoughtful face,  
Lying beneath the boughs of spring,  
Dreaming the dreams that youth will bring.

Now o'er that picture's passing glory  
Hangs the dusty cobwebs hoary.  
But ah! that picture plays its part  
With the changing human heart,  
For it smiles at smiling grace  
And weeps to see the weeping face.

An so within each human life  
There is a scene, which in the strife,  
Though covered by the dust of years,  
And seared by many falling tears,  
Will be with us unto the grave  
To smile and lead and weep and save.  
Princeton, Kas. JOHN E. COWGILL.

### An Acrostic for Gardeners.

Just listen, please, while I say a word  
Of one whom doubtless you oft have heard.  
His name is known in all the land:  
None anywhere above him stands.

Let all who want the truest seeds  
Each send to him for what he needs.  
Who else has seeds so sure to grow  
In every clime where'er they sow?  
Seeds that are sure and sound and true—

Cabbage, onions and parsnips, too;  
Herbs, celery, squashes, beans and peas,  
Iris and pansies and pinks, if you please;  
Lilies and roses all sure to suit;  
Dewberries, apples and all kinds of fruit.  
Send for his catalogue, now, and see

For yourself just how these things can be.  
Large and reliable in every deal.  
Oh! deal with him and you'll never fail.  
Read nearly everywhere under the sun  
A journal he publishes, second to none.  
Let every one who reads this line

Put by fifty cents for the *Mayflower* fine,  
A magazine grand at lowest rates;  
Rich premiums, too, and colored plates.  
Kind reader, I know this is true, for I've tried

Not only his seeds but his plants besides.  
East or north, or wherever they're sown;  
West or south, at "the best" they are known.

You who read, can you guess the name  
Of this seedsman high on the ladder of fame?  
Read the initials of this and 'twill tell.  
Know this, his name and address as well.  
Longford, Kas. ALICE C. ROSE.

### A BOY WHO HAD A GOOD MEMORY.

"I'm not going to study this lesson any more. I know I never can remember it," and Ralph threw his book on the table with a very disgusted look.

"What is the trouble, Ralph?" asked his Uncle Joe.

"It's these dates. Father says they're a good thing to cultivate my memory. I don't see any need of having a memory."

"Did you ever hear of Samuel Slater and the use he made of his memory?" inquired Uncle Joe, quietly.

"No; who was he?" said Ralph, his attention fairly aroused.

"He was an Englishman," answered his uncle, "and he came to this country in 1789. This you will remember, even if your memory is not very good, was soon after the close of the revolution. About this time many improvements and new inventions for spinning cotton thread for cloth were being introduced in England. Nearly all the cloth used in America had been brought from England. When the people here began to make it, their machinery was so imperfect and old-fashioned that the cloth was coarse and ugly, and everybody preferred to buy fine imported goods. On this account the men who had gone into the business lost a great deal of money, and were very much discouraged."

"Why didn't they buy some of the new machines they had in England?" asked Ralph, who was accustomed to hearing schemes discussed for getting the very latest improvements in machinery.

"That was what they tried to do; they put advertisements in newspapers for men who understood such machines to come and make them, offering large wages. But England wished to keep the monopoly of making the best cotton yarn and cloth. You know, Ralph, some people think it is a fine thing to do something like that now."

Ralph nodded. He had heard of monopolies.

"In order to keep the knowledge of the business confined to the country, England passed very strict laws forbidding any one to give information about any branch of manufacturing to a foreigner. A manufacturer or inventor who should send out of the country a model or drawing that would enable one to build or make an improved machine was threatened with fines and imprisonment."

"I would have tried it anyhow!" exclaimed Ralph, indignantly.

"A great many did," replied his uncle, smiling. "Inventors and artisans tried to embark for our shores, but they were

searched, their models taken away, and they themselves thrown into prison."

"And what did Samuel Slater do?" inquired Ralph.

"When he was fourteen he was bound as an apprentice to a Mr. Strutt, who was the owner of a cotton mill. This man, Samuel's master, had been for several years a partner of Richard Arkwright, the inventor of the first machinery for spinning cotton. Therefore he had all the latest and most improved methods in his mill. Samuel was not slow to improve the opportunity thus offered to become familiar with all the details of the work and even the designs of the machines. All these he carefully studied and laid up in his memory. In a few years he was made general overseer of making machinery, and also of the manufacturing department. These positions gave him still further advantage in the line of study of details. But he was not contented with being merely an overseer; he had dreams of emigrating to America."

"At this time, just as his apprenticeship was at an end, he came upon an American paper which contained an advertisement for some one who could build satisfactory machinery for spinning cotton; to such a one a liberal bounty was offered. Here was his chance. He knew he could take neither model nor drawing, but no officer could confiscate his memory and experience, and with these he determined to make the attempt to reproduce the machines with which he was so familiar. Moses Brown, of Providence, who had been experimenting with little success, was only too glad to engage the service of the young man, who promised if he 'did not make as good yarn as they did in England to take nothing for his services, but throw all he had attempted over the bridge.' He had a hard task. The work must be kept perfectly secret until finished; he had one man to carry out his directions and outlines, which he chalked from memory on boards and planks; later a blacksmith was called in to make the iron work, but all others were carefully excluded."

"He must have been afraid he couldn't remember right," observed Ralph, who had listened attentively.

"Probably he was sometimes, and when the machine was finished and the first trial made we can imagine the anxiety with which the four men who were in the secret watched the operation. The result is told in the words of Mr. Brown, who was a Quaker:

"Samuel, thou hast done well."  
"And did he keep on making machines, Uncle Joe?"

"He made cotton yarn for a while on this one, but he soon went into a more extensive business. His brother John joined him, and they started and managed for many years one of the largest factories in the world. He did a great deal more for the business, so that he is called the 'Father of American Manufactures.' Don't you think it paid Samuel Slater to have a good memory?"

"Yes, indeed," answered Ralph, drawing a long breath. "I don't believe I could ever do that."

"Probably you will not need to do exactly the same thing," answered his uncle, "but a good memory is an excellent thing for a boy or a man to have, and we never know when it will be of benefit.—*Sunday Afternoon.*"

### Aim High.

Boys and girls, aim high. Do not say, "I will be pretty good," but endeavor to be perfect.

A great artist was once highly praised for a beautiful painting which he had just completed. "Ah, do not praise me," he said, sadly; "it may be very beautiful, but I aimed at perfection."

I once put the following question to a ragged little newsboy: "What are you going to be when you are a man?" The little fellow met my half-quizzical glance with a look of determination in the bright eyes, then he replied, "President of the United States, sir." That lad may not become President, but he will not remain a newsboy.

George Eliott, in writing the last words of one of her most powerful novels, exclaims, "It is so much less than I hoped for, I am dissatisfied."

Bear this in mind: "If we aim at the ground, we shall never reach the sky."—*New York Observer.*

### How They Began Life.

Henry A. Villard, whose ups and downs leave him a power in the Northern Pacific railroad, earned his first money as a reporter.

Sidney Dillon, whose name is always associated with Gould's and Sage's, was once an errand boy in the employ of the New York Central railroad.

Chauncey M. Depew rose to his present unique position from a law office. He was admitted to the bar in 1858.

Ex-Judge Noah Davis first felt the delight of making money of his own on his father's farm.

Inspector Williams, the best known police

officer in New York, began to earn his living in a fish yard near Digby, N. S., spreading the fish on flakes to dry.

Ex-Vice President Levi P. Morton was, as a boy, clerk in a village dry goods store, and aided his father, a poor clergyman, with a goodly share of his seven-dollar-a-week salary.

### A Few Facts.

Here are a few solid facts:  
The poet Tennyson could take a worthless sheet of paper, and by writing a poem on it, make it worth \$65,000—that's the genius.  
Vanderbilt can write a few words on a sheet of paper and make it worth \$5,000,000—that's capital.

The United States can take an ounce and a quarter of gold and stamp upon it an "eagle bird" and make it worth \$20—that's money.

The mechanic can take a material worth \$5 and make it into a watch worth \$100—that's skill.

The merchant can take an article worth 75 cents and sell it for \$1—that's business.

A lady can purchase a very comfortable bonnet for \$3.75, but she prefers one that costs \$27—that's foolishness.

The ditch-digger works ten hours a day and shovels three or four tons of earth for \$2—that's labor.

The editor of this paper can write a check for \$80,000,000, but it wouldn't be worth a dime—that's rough.—*Young Lutheran.*

### A True Penitent.

A moment later Zeph, the colored man, who sometimes did extra work for Aunt Polly, walked in. He was arrayed in his best clothes, and seemed strangely awkward and nervous as he stood by the fire twirling his hat in his hands.

"What's the matter with you, Zeph?" cried Aunt Polly, irritated that he paid no heed to her remarks.

"Now you're talkin', missus," said Zeph, brightening visibly, "case dat's jes' what I've come fer to tell. I've done spered religion."

"Well," responded Aunt Polly, "you need considerable if it's going to strike clear through."

"Dat's so, missus, but I've done got 'im, sure, an' I've boun' to give de proof to my 'quaintances; de preacher done tell me, an' so I've gwine roun' de country 'fessin' my sins."

"Here Zeph paused, and rolling up his eyes, gazed solemnly at the ceiling.

"If it's that job of whitewashing you're repentin' of," said Aunt Polly, "there's occasion enough, for I never see a wuss lookin' celin'."

"Taint the celin', missus," replied Zeph, slowly, shaking his woolly head; "it's dat turkey."

"That turkey!" shrieked Aunt Polly. And then her best vegetable dish dropped out of her hands and broke in twenty pieces, and poor Aunt Polly sank pale and trembling into a chair.

"Yes, missus," continued Zeph. "When de young gemmen was sleepin' I crope up mighty silent and took off dat bird."

"How did you get into the hen-house?" inquired Aunt Polly, as soon as she could speak.

"I knowed dey was a loose bo'd in de back, an' I jes' slips it out easy an' quiet, an' den I slips it in again."

"It's dreadful queer that those boys didn't hear that turkey holler," said Aunt Polly.

"I wrang her neck dat sudden she doan' fin' no time fer to holler," said Zeph, with a grin. "Dead turkeys doan' make no more noise'n dead folks."

"You've done a dreadful wicked thing!" cried Aunt Polly.

"Yes, missus, dat's just what I was thinkin' when we was all settin' roun' dat table eatin' dat turkey, an' so I done sen' de fadders to you an' Miss Winters. But," he concluded, with a sigh, "'twas mighty fine eatin'; it makes my mouth water now jes' thinkin' of it."

Aunt Polly vouchsafed no reply to this, but when Zeph ventured to look at her face he retired without an instant's delay from the kitchen.—*The Housewife.*

The old reliable remedy for cough, cold, croup and sore throat, Dr. Bull's Cough Syrup, should be kept in every home.

### Pond's Business College,

601 Topeka avenue, Topeka, Kansas, has turned out the best business writers, the best book-keepers, the most successful business men. On these three points their past record stands 25 per cent. above any other business college now running in Kansas. Any farmer's son can get a full business course here for only \$30, or three months \$15.

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Best Business Course. BOARD AND ROOM, \$2.50 PER WEEK. STUDENTS constantly securing good positions.

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## A Gentleman

Who formerly resided in Connecticut, but who now resides in Honolulu, writes: "For 20 years past, my wife and I have used Ayer's Hair Vigor, and we attribute to it the dark hair which she and I now have, while hundreds of our acquaintances, ten or a dozen years younger than we, are either gray-headed, white, or bald. When asked how our hair has retained its color and fullness, we reply, 'By the use of Ayer's Hair Vigor—nothing else.'"



"In 1868, my affianced was nearly bald, and the hair kept falling out every day. I induced her to use

Ayer's Hair Vigor, and very soon, it not only checked any further loss of hair, but produced an entirely new growth, which has remained luxuriant and glossy to this day. I can recommend this preparation to all in need of a genuine hair-restorer. It is all that it is claimed to be."—Antonio Alarun, Bastrop, Tex.

## AYER'S HAIR VIGOR

A world of misery is implied in the words "Sick Headache." A world of relief is wrapped up in a twenty-five cent box of

**Beecham's**

**Pills**  
(Tasteless)

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# KANSAS FARMER.

ESTABLISHED IN 1863.

Published Every Wednesday by the  
**KANSAS FARMER COMPANY.**OFFICE:  
No. 116 West Sixth Street.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

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

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Frank B. White, Advertising Representative.

## ADVERTISING RATES.

Display advertising 15 cents per line, agate, (fourteen lines to the inch).

Special reading notices, 25 cents per line.

Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.

Annual cards in the *Breeders' Directory*, consisting of four lines or less, for \$15.00 per year, including a copy of the *KANSAS FARMER* free.

Electros must have metal base.

Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send the cash with the order, however monthly or quarterly payments may be arranged by parties who are well known to the publishers or when acceptable references are given.

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

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

Address all orders  
**KANSAS FARMER CO., Topeka, Kas.**

The commercial and financial reports state that more industrial establishments are now starting than are stopping. If true, this is the beginning of the reaction which must come sooner or later.

Kansas was admitted to the Union as a State thirty-three years ago last Monday. She has made and helped make a good deal of history in these years and in this line she still seems to be doing business at the old stand.

A subscriber complains that he is unable to obtain the address of any breeder of Buff Cochins through the advertising columns of the *FARMER*. Can it be that all breeders of these valuable fowls have gone out of business?

Shawnee County Farmers' Institute will be held at Oak Grange hall, in Mission township, on February 14 and 15. The Agricultural college will be represented by some of the ablest members of the faculty and the local talent will shine as it always shines at this institute.

In considering the sugar item in the Wilson bill, the House has voted to repeal the bounty provisions of the present law and to place all sugar on the free list. Should the bill become a law, with this provision as voted by the House, it is doubtful if there will be a single sugar factory in operation in the United States in 1895.

Speaking of the financial, commercial and industrial situation, Mr. Philip D. Armour is quoted as saying: "It is time to begin to hedge on 'bear views.' Trade has picked up so much in the last ten days, I feel myself like hedging on the view of the situation I took a fortnight ago. There have been more signs of returning confidence this last week than I have seen for a long time. The general mercantile trade has very much more of the old-time look to it than I have seen for many a month."

A sale of export steers produced in Kansas was made at the Kansas City stock yards late on Tuesday afternoon of last week. These were raised and marketed by M. C. Harvey, of Usher, Leavenworth county, and the shipment consisted of 269 head of 1,472-pound Short-horn steers, which brought Mr. Harvey a total of \$19,402. The price per 100 pounds was \$4.90. After paying freight and commission charges Mr. Harvey had \$19,035 left. This was the largest single bunch of export cattle ever sold at the yards. The cattle were taken by the Schwarzschild & Sulzberger Packing and Exporting Co., and will be shipped alive to England. Not a single steer in the herd was rejected as docked.

## THE LOW PRICES—PROSPECTS.

The cash price for wheat in Chicago continued for a long time to fluctuate through a narrow range at and a little above 60 cents per bushel. Last week it repeated its decline of a few weeks ago to a point below 60, and the week closed at 59. Whether the prediction, said to have been made by a prominent speculator, that wheat will go as low as 55 cents in Chicago, is to be verified, remains to be seen. The course of the market thus far during the present crop year has been at variance with the indications of the best authenticated statistical information. Whether this seemingly anomalous course has resulted from the anomalous industrial condition of the country, or in what manner it is dependent upon this condition, is not apparent from accepted information.

As was pointed out in these columns, while the silver legislation of the extra session of Congress was pending, the legitimate tendency of that legislation is to the lowering of prices, and that continuously, until some other turn shall be made in our monetary system.

This lowering of prices necessarily results in demands by employers for lowering of wages. These demands, in turn, are resisted by all the power of the labor organizations, with consequent strikes, lock-outs and shut-downs. Cut off from the ability to earn, the laborer loses his ability to purchase, and his demands, as a consumer, are, necessarily, reduced. He must, indeed, have something to eat, but he can exist on half rations and those of the less expensive kinds, and he can, for a time, cease to be a purchaser of apparel and of a thousand appliances of the highest measure of civilization, so that there comes a condition in which consumption, on the part of millions, is reduced to the few necessities of a crude state of society—to supplying the mere wants of barbarism. The consequent lack of demand causes a glut in all markets, even though the supply be not above what would meet the ordinary and usual wants of the people. The great reduction of consumption, the lack of the usual orders, is the complaint of Eastern manufacturers, accompanied by the assertion that sales cannot be forced, no matter what the concession in price.

The increase in the purchasing power of money, contemplated and produced by the legislation of the extra session, has manifested itself in the decline in all corporation stocks, and in many securities for which the margin was so narrow as to be wiped out by the growth in the value of money, as well as the reductions in the prices of agricultural, manufacturing and mining products. The apprehension that this increase in the exchange value of money may continue, daunts enterprise; for who can afford to invest in any productive undertaking while there is the probability for such growth in money as shall make the value of the investment, after the lapse of the time necessary to obtain returns, greater than the value of the probable return.

An incident of this condition is the congestion of unused money at the money centers, giving there the appearance of too much money in existence, and giving rise to the demand for the curtailment of the amount of money in circulation to the wants of the restricted trade. It is just now, and has been for several weeks, the complaint of Wall street that there is no demand for loan money, even at the very low rates at which it is offered. But in what industry can the money, if borrowed, be invested, with a probability that it will return even the principal, saying nothing about interest?

It is not probable that this serious condition will be continuous, but rather that there will be a reaction and comparative activity in the near future, giving rise to the impression that prosperity has again returned. But the present arrangement of our money system, together with the fact that our outlet, into new sources of making a livelihood on new lands, is practically at an end, tends inevitably to produce as a chronic con-

dition a depression of which the collapse of 1890 and the catastrophe of 1893 are premonitory spasms.

As has before been pointed out in these columns, this condition must continue to bear most heavily upon those dependent upon others for employment and upon the debtor. On account of the necessarily increasing consumption of products of the soil, without a corresponding increase in productive area or capacity, the ultimate tendency must favor the free-from-debt owner of land. It should not be forgotten, however, that the relations of individuals in modern civilized countries is such that no great numbers of the people can suffer without entailing suffering on their fellows in some direct or indirect way. So, also, it will be found, that, if the farmer is discovered to be enjoying a larger than ever share of the good things of earth, schemers will lie awake nights devising ways and means—legislative and otherwise—to get away from him his excess.

It is to be hoped that so great philanthropy may prevail that each will seek the good of all; that selfishness may at least be so intelligent as to realize that the good of all is the good of each, and that self-seeking at the expense of the great mass of mankind defeats its own object on account of the reaction of widespread human suffering upon each individual of organized society.

To a stranger from the densely populated portions of Europe, large parts of the United States seem like undeveloped regions, needing the application of much labor to bring them to the condition of maximum productiveness. This impression of the stranger is doubtless correct. But so long as our energies are inspired or repressed by selfishness as the prime mover, and selfishness fails to recognize the selfish advantages of universal over-suppressed and restricted prosperity, so long must it be expected that the maximum development will progress slowly and irregularly, with spasms of suspension and consequent depression and suffering. That the farmer's condition is the most secure under these conditions is evident on the face of the case, and that the farmer's children, secure in their opportunity and tenure in employment, will in the future be more comparatively independent than in the past, and will continue, therefore, to develop the highest types of manhood and womanhood, is a fact which will incline those who comprehend the situation to seek rather the farm, with its basic certainty, than the city, with its dependence upon others and ever-increasing competition for opportunities to serve in subordinate positions.

Prices of farm products are low, as stated at the beginning of this editorial. They may go even lower. But they are not as low as the producer's returns for the products of city labor, and their production, even at these low prices, affords a sustenance, while the enforced idleness of employes in the towns and cities is pauperizing, unmanaging, demoralizing, desperate.

In a letter to the *KANSAS FARMER*, Thomas D. Hubbard, of Kimball, Kas., refers to his request in last week's paper for information from those who have had practical experience in growing timothy in southeastern Kansas, and suggests that an error was made as to the latitude for which the information is wanted. The request should be for opinions from those in the region between the thirty-seventh and thirty-eighth parallels. He further suggests: "A thorough consideration upon actual experiences, of how to introduce and successfully maintain tame grasses in southeastern Kansas, is of great present importance. Can blue grass be made a success for fall, winter and spring pasture, and can timothy be made a success as a meadow grass? Everybody knows about corn, wheat, flax, oats, hogs, cattle and other stock, but very few seem to have had experience with the tame grasses for a series of years, including the extremely dry ones. Now is the time to hear about the grasses, as it will be time to plant them soon, if any are to be planted in 1894."

## EXPERIMENTS IN IRRIGATION.

It is announced that the Regents of our State Agricultural college have determined to establish two sub-stations for the purpose of experimenting in irrigation. It is realized, when the subject of practically irrigating Kansas lands is considered, that a good many questions arise for which, in all the literature on a subject older than history, there is no answer. Indeed, so much needs determining, that the moderate allowance which can be spared from the experimental funds of the college will be found sufficient for only a part of the work which is so pressingly needed. One of the sub-stations is to be located at a point in Finney county to be selected by Regent Kelley, and the other is to be located in Decatur county at a point to be selected by Regent Street.

The interest in irrigation manifested in all parts of the State certainly warrants the college authorities in their action, and if Major Powell's prediction, that the eventual field of greatest irrigation development in the State will be in the eastern half, proves correct, it is not unlikely that the college will one day be asked to experiment in other than the far western counties.

Not the least of the advantages to be derived from entrusting this work to the Agricultural college is the certainty of reliability of reports of what is done and just estimates of the comparative merits of the appliances and methods employed. Doubtless the work will be entrusted to entirely competent hands, so that whatever money is expended will be made to yield the greatest possible amount of valuable information.

## Shawnee County Horticultural Society.

The January meeting of this society was held at G. A. R. hall, in Topeka, on Saturday, January 27. The following officers were elected: President, B. F. VanOrsdal; Vice President, J. M. Priddy; Secretary, Mrs. K. J. McCracken; Treasurer, Philip Lux. The President appointed the following Program committee for the year 1894: A. H. Buckman, Bradford Miller and G. W. VanOrsdal.

J. F. Cecil read a valuable and interesting paper on "The Peach, Culture and Varieties." An animated discussion ensued, in which nurserymen and orchardists differed widely as to both fact and theory in peach culture. Mr. Cecil's paper will appear in the *KANSAS FARMER* next week.

Reports showed that peach buds were nearly all killed by the late cold weather, while the most extensive orchardists are of the opinion that apples are yet sound.

The following program was reported for the next meeting, February 24: "Experience in Spraying," Bradford Miller; "Management of Nursery Stock," A. L. Brooke; "Climatic Influence on Trees and Fruits," J. W. Stout.

Mr. B. F. Smith, of Lawrence, editor of *Smith's Fruit Farmer*, was a visitor with the society and interested the society by a report on the horticulture in Douglas county.

## From Rooks County.

EDITOR *KANSAS FARMER*:—Local market prices: Old corn, 30 cents; new, 23 cents; oats, 25 to 35 cents; soft wheat about 25 cents; hard wheat about 35 cents. All stock doing well. Plenty of feed. Steer calves, 10 months old, selling at \$10 per head; cows, \$15 to \$30 apiece.

Is it wise for me to pour boiling water on soft wheat and let it stand twelve hours, then feed to horses and cows as half the grain feed, the other half of the feed being corn in the ear? I have no oats but have the wheat on hand. If you know of any experiment where wheat has been fed as I want to feed it, please mention it in your valuable paper.

I think the *KANSAS FARMER* is getting better and better for the farmers of Kansas and adjoining States.

Webster, Kas.

CHAS. A. BABBIT.

[Several years ago the writer fed wheat to his horses while doing heavy work. At first the wheat was soaked twelve to twenty-four hours; but later the whole wheat was fed dry. The horses did remarkably well, and there was no apparent advantage from the soaking. If any *KANSAS FARMER* reader has had experience in feeding scalded wheat we shall be pleased to hear from him.—EDITOR.]



### THE PRODUCTS OF OUR MINES.

The report on the mining resources of the country for 1892, prepared by Chief Day of the division of mining statistics of the Geological Survey, has been made public. It shows that the high-water mark in mineral productions was reached in 1892, both in this and every other country. The total value of all the mineral products of the year was \$684,778,768. This is \$20,000,000 greater than the amount for any previous year and \$28,174,070 more than the amount for the census year of 1890.

The value of the three leading grain crops for the same year, according to the report of the Secretary of Agriculture, were: Wheat \$320,000,000; corn, \$642,000,000; oats, \$209,000,000, or total for three grains, \$1,171,000,000.

Among the large gains in mineral production was that of 877,130 tons in pig iron, with an aggregate product of 9,157,000 tons, valued at \$131,161,039. Gold showed a slight loss. The year's product, valued at \$33,000,000, was 1,596,375 ounces. Copper gained 57,465,666 pounds, making an aggregate of 353,275,742 pounds, with a value of \$37,977,142. Lead product during the year gained 10,854 tons, aggregating 213,262,000 tons, with a value of \$17,060,960. There was a loss of 7,000 tons in zinc, and the new metal, aluminum, almost doubled in quantity.

The year's product of zinc aggregated 87,260 tons, valued at \$8,027,092, and the quicksilver 27,993 flasks, representing a value of \$1,245,689. Tin from the mines in California amounts to 160,000 pounds. The aggregate for the year was 162,000 pounds, valued at \$32,400. Nickel for the year aggregated 92,252 pounds, value, \$50,739; aluminum, 259,885 pounds, value, \$172,824, and platinum 80 ounces, value, \$550. The product of antimony was valued at \$56,466. Bituminous coal increased 8,000,000 tons during the year, attaining a total of 113,237,845 tons, valued at \$125,195,139. Pennsylvania anthracite coal increased 1,613,458 tons, amounting to 46,850,450 tons, valued at \$82,442,000. The value increased \$8,000,000, with a total value of \$82,000,000. Petroleum is declining rapidly. In 1891 there were 54,000,000 barrels produced, but only 50,509,136, valued at \$26,034,196, in 1892.

Natural gas is also falling off, both in quantity and value. Its high-water mark was reached in 1888, when the product was valued at \$22,629,875. Quantities and values of other non-metallic products during the year are given as follows:

Building stone, value \$48,706,625; lime, 65,000,000 barrels, value \$40,000,000; natural gas, \$14,800,714; cement, 8,758,621 barrels, \$7,152,750; salt, 11,698,890 barrels, \$5,654,915; phosphate rock, 681,581 tons, \$3,296,227; limestone for iron flux, 5,172,114 tons, \$3,620,480; mineral waters, 21,876,604 gallons, \$4,905,970; zinc white, 27,500 tons, \$2,200,000; potter's clay, 420,000 tons, \$1,000,000; mineral paints, 47,917 tons, \$744,243; borax, 13,500,000 pounds, \$900,000; gypsum, 246,374 tons, \$671,548; grindstone, value, \$480,000; fibrous talc, 41,925 tons, \$472,485; pyrites, 114,717 tons, \$305,191; soapstone, 23,908 tons, \$437,449; manganese ore, 13,613 tons, \$129,586; asphaltum, 36,930 tons, \$292,375; precious stones, value, \$299,000; bromine, 379,480 pounds, \$64,502; corundum, 1,771 tons, value, \$181,300; barytes, 32,108 tons, \$130,025; graphite, \$104,000; millstones, \$23,417; novaculite, value, \$146,730; marls, 125,000 tons, \$65,000; flint, 20,000 tons, \$80,000; fluor spar, 12,200 tons, \$89,000; chromic iron ore, 1,500 tons, \$25,000; infusorial earth, value, \$43,655; feldspar, 15,000 tons, \$75,000; mica, 75,000 pounds, \$100,000; ozocerite, refined, 60,000 pounds, \$8,000; cobalt oxide, 7,869 pounds, \$15,738; slate ground as pigment, 3,787 tons, \$23,523; sulphur, 2,688 tons, \$80,640; asbestos, 104 tons, \$6,416; and rutile, 100 tons, \$300.

The total value of metallic minerals for the year was \$303,775,629; non-metallic, \$371,003,109, and unspecified minerals, \$10,000,000.

The report reviews in detail the use of aluminum and states that the principal use of the new metal in the future will be in cooking utensils. Use of the principal minerals in the first six

months of last year is also reviewed in the report, showing a great decline in production, as was anticipated from the general monetary depression.

The total production of silver during the year was 58,000,000 ounces of a coining value of \$74,989,900. The amount is an increase of 877,130 ounces for the year. The increased valuation for the year was \$2,823,054.

So many inquiries are coming to this office every day from western Kansas, that we take this opportunity to say that our offer for KANSAS FARMER and Irrigation Age is still open. Send \$2 to this office and it will secure you subscription to both papers one year.

The business of the country for last week shows a continued decrease, as compared with that of the corresponding week last year. The falling off is, as it has been almost ever since the great depression began, greater in New York City than in any other city except Denver. The falling off in the metropolis amounted to 47.2 per cent., while the average decline in the other cities of the country was 25 per cent. The great decrease in New York doubtless indicates a heavy decline in legitimate business, but probably results in large measure from the falling off in those partially or wholly gambling operations called stock transactions.

### Publishers' Paragraphs.

To those who will want an excellent variety of seed corn for the next season, we would recommend that the advertisement of J. R. Ratekin, of Shenandoah, Iowa, be read carefully. Write him for further particulars.

Zachary Taylor, of Marion, Kas., writes the KANSAS FARMER as follows: "I am delighted with your paper as an advertising medium. I think one more week will dispose of all stock I have for sale at present. I expect to give you another advertisement in March of eggs for sale and shipment."

A. C. Brosius, of Cochranville, Chester county, Pa., is offering for sale Poland-China and Chester White swine; also has a large variety of thoroughbred chicks and turkeys. The stock is pure blood and kept on separate farms so as to secure the best possible results. Mr. Brosius also manufactures the Keystone Dehorning Clipper. Write him for circular and full information.

A MOST VALUABLE FARM TOOL.—The especial attention of our readers is called to the advertisement in this number of the "Zephaniah Breed Weeder and Cultivator." It is Mr. Breed's latest and best invention in this special line of tools, and is the result of eight years of study and experiment. It was put on the market in 1893 for the first time. It created a great sensation at once, and found immense sale from the Atlantic to the Pacific. With it you can cultivate and eradicate the weeds from fifteen to eighteen acres of crops per day. Used according to instructions no weeds can grow. There is no destroying of crops, but instead they are kept clear of weeds, the surface is kept in that loose, friable condition which is so conducive to their rapid growth, and a drought has but slight effect on them. It is a truly wonderful tool, and no farmer can afford not to have it on his place. See their advertisement and send for a circular.

### "Land Rich."

We hear of unfortunates being "land poor"—over-burdened with profitless acres, but you can wager that the property that brings poverty isn't located in the corn and wheat belt of northern Kansas and southern Nebraska. Farmers here are cropping out dollars and dollars for there's a surety of harvests and ease of cultivation that makes most any man successful. Frankly, we'd rather have a deed to a lot of this grain-yielding soil than a "license to steal"—and could make it better. These lands are owned, unincumbered, by C. P. Dewey & Co., 401 Chamber of Commerce building, and A. B. Dewey, 42 Merchant's building, Chicago, to either of whom prospective immigrants should make application.

### Much Made.

Money stringency is not the only cause of hard times, and it takes very little money to make a good deal of happiness, as the following shows: Mr. R. B. Kyle, Tower Hill, Appomattox county, Va., writes that he was afflicted with rheumatism for several years, and physicians gave him no relief. Finally he was rubbed all over with St. Jacob's Oil and it cured. During his illness he had spasms and was not expected to live. This points a way to many who think times hard, but who can find an easy way out of their troubles.

### SYMPTOMS OF CHRONIC CATARRH

As Described by Dr. Hartman, One of the Greatest Authorities and Writers on Catarrh.

The symptoms vary, according to the stage and exact location of the disease. The first stage of catarrh of the nose and head (frontal sinuses) produces discharge from the nose, sneezing, pain in the eyes and forehead, weak, and sometimes watery eyes, occasionally loss of memory. In the last stage the discharge ceases, and dry, offensive scabs form in the nose; polypoid growths sometimes form in one or both nostrils, and the pain in the head and eyes is much less. Unless something is done to prevent, the catarrh will follow the mucous membrane into the lungs, where it will be followed by cough, night-sweats, rapid loss of flesh, and the other dread symptoms of consumption.

Pe-ru-na is a specific for every case of catarrh. The dose of Pe-ru-na should be a large tablespoonful before each meal and at bedtime. Women and some delicate men should begin with a teaspoonful, and as slowly and gradually increase to the above full dose.

Free books on chronic catarrh, la grippe, coughs, colds and consumption are being sent to any address by the Pe-ru-na Drug Manufacturing Co., of Columbus, O.

### Gossip About Stock.

Among the new announcements for the year 1894, none is made with a greater degree of satisfaction by us than that of M. S. Peters & Co., the live stock commission company now doing business at the Kansas City stock yards.

The FARMER takes pleasure in calling the attention of its readers to the reappearance of Mr. Frank Iams, of St. Paul, Neb., the successful importer of draft and coach horses. He is in the business to stay and reap the rewards of the sure revival of business in the future. His advertisement tells the story. Read it.

Every one intending to buy a Percheron draft horse or a French coacher, should keep in mind the reduction sale of Henry Avery, that will take place on his farm, near Wakefield, Clay county, Kas., on Friday, February 23, 1894. A more extended description of the offerings will appear in our issue of February 14.

The name, Peters Bros., needs no introduction to the breeders and shippers of live stock to the Kansas City market, and their success and business integrity of nearly a score of years in the commission business needs no commendation other than to say that the new firm are prepared and propose to add, if hard work and strict attention to business will do it, to their already fair share of business. Information pertaining to feeders' and shippers' interests, as well as market reports, furnished free.

S. A. Sawyer, the Manhattan live stock auctioneer, writes us as follows about the Poland-China sale at Marion: "I am getting many inquiries about the Poland-Chinas to be sold at Marion, February 15, by W. H. Wren. This is probably the only hog sale in Kansas this spring of fine hogs, and Kansas breeders and farmers can get just as fancy bred and good individuals at this sale as there are in the country. Hogs are now on top, and Mr. Wren is a top breeder with the best of reputation." Mr. Wren's announcement will be found on 16th page.

L. A. Knapp, of Maple Hill, writes: "Our Italian weather has gone glimmering. We had a fine rain on last Friday, and it came off fine afterwards, giving the stock that has the beautiful canopy of heaven for a shelter a chance to dry off before the cold change, which came on Sunday afternoon, since which time it has been cold enough to suit the average Kansan. It has been a fine winter to save feed, and the stockman should now deal with a liberal hand. The Short-horns and Poland-Chinas are coming on in good shape. To-day I sold four yearling heifers to Mr. Andrew Pringle, of Harveyville, Kas., at \$50 each. Mr. P. was well pleased with his bargain, and he knows what he is doing, for he has been in the business for some years, and knows a good article when he sees it."

### Kansas City Stock Markets Review.

The Campbell Commission Co. writes the KANSAS FARMER, under date January 29, as follows:

"The receipts of cattle since our last letter have been extremely liberal and our market (unexpected to all) has again declined and is at the present writing in a very bad shape, with prospects of not getting much better for the very near future, however we look for lighter receipts the balance of the week and an improved market towards the last. The prospects are that we will have plenty of cattle to supply the demand for the next two months, and if such should prove the case, with the limited demand for beef in the East, we cannot, certainly, expect much better prices. Receipts of butcher stock the past week have been fairly liberal and our market, on this grade, has held up remarkably well, with a tendency to-day to advance some for the best grades.

"We advise our customers to make their cattle fat before marketing. As long as we have excessive receipts of immature cattle, we cannot hope for any material advance in prices.

"The receipts of hogs for the last six days, including to-day, were 43,788, and the mar-

ket has declined 20 cents on tops in that time. The top to-day was \$5.30, against \$5.50 on Tuesday last. The receipts to-day were 4,000, and the market was very slow; the trade was practically in the packer's hands as the shipping orders were few and small and the packers were very indifferent buyers. At the present price of pork hogs are selling high enough, but we still think they will sell better yet in the near future. The outlook for this week is fair for at least steady prices, and unless Chicago gets excessive runs, we look for a better market, as we do not anticipate heavy runs here.

"We invite correspondence from our customers and the trade generally, and assure them we will promptly reply to all communications, and we extend a cordial invitation to call and make our office your headquarters when in the city. We are always glad to meet old friends and make new ones."

### Of Interest to Feeders and Shippers.

The old and reliable live stock commission firm of Hale & McIntosh, doing business at the Kansas City stock yards, report that their business so far this year shows an increase over a corresponding period of 1893. The personnel of this firm is, indeed, a strong one. Mr. John E. Hale, who is perhaps as well-known as any of the old-timers in the history of the yards, stands at the head of the firm. J. S. McIntosh, whose name appears to the public as copartner in the firm, commands a very extensive acquaintance with the patrons of the Kansas City yards, and as he makes it a special duty to look after, personally, all cattle and sheep intrusted to the care of the firm, practically insures all that there is in the market for the shipper. He is assisted by D. C. Stockton and C. H. Hill. T. N. James, whom every hog shipper in the West knows, looks after the swine consignments and knows just what the tone of the market warrants all his offerings, and he generally gets out of the bunch all the court will allow. J. W. Goodlow, the yardman, is an old-timer among the hooks and alleys and understands how to get the "banquet tables" spread ere the exchange of property has been effected. Mr. S. D. Peters is the field man and is more than ordinarily successful in wooing new customers to his house. The affairs of the office are carefully and accurately looked after by Mr. S. M. Hale. The firm respectfully ask an extension of their acquaintance and refer all, as to their financial standing, to the Interstate National bank, Kansas City, Kas.; National Bank of Commerce, Kansas City, Mo., and the Bank of Topeka, Topeka, Kas. They promptly answer all correspondence, spare no pains to please consignors and furnish market reports free to those making application for the same.

### The Great Jersey Sale Next Week.

Every one is, or at least should be, interested in good dairy cattle, and especially those owning a home where the family cow is a necessary adjunct to the healthfulness and happiness of the "gude wife" and little ones. Experience teaches and actual tests demonstrate the fact that in the "little Jersey" we have the most perfect development in the requirements necessary in every way for family churn, the requirements of the table and kitchen, as well as the most profit from the products of well-conducted creameries, butter and cheese.

At no time during modern dairy history in the country west of the Mississippi river has there ever been offered at public sale such a grand array of tested individuals or their produce as are found in the collection of seventy head that will be offered by the Lincoln Jersey Cattle Co. on their farm, near the capital city, Lincoln, Neb., on Wednesday and Thursday, February 7 and 8, 1894. Among the noted foundation cows or their produce now in the herd and to be included in the sale, are Imp. Duchess St. Pierre 23478, Imp. Pennsylvania 23477, Imp. Philadelphia 23476, Imp. Kiserine 23480, Lula of Tunlaw 12361, Judy Leah 31164, Belle Peel 5th 9734, Etta Rex 11590, Calpurnia 13267, Zuleika Rex 31165, Ninita Rex 31169, Easter Pride 34905, and others. Among the queens is the aged cow Easter Belle 20806, by Easter Boy 3032, the only pure Rex bull except Rex himself, and out of Belle Peel 5th 9734, that gave eighteen quarts of milk per day. This prize-winner, Easter Belle, won sweepstakes at every State fair shown in the West during the years 1891, 1892 and 1893. She gave sixteen full quarts on her first calf. The service bulls used chiefly for the produce now on the farm was a son of Easter Boy 3032, whose sire, Rex 1830, sired twelve cows that made on an average each over fifteen pounds of butter per week. Another very fashionably-bred bull that has been used is Eastwood's Pogis 15299, whose grandsire was one of the most remarkable butter-getters the world's breeding has ever produced, numbering twenty-five that produced in seven days butter ranging 30 pounds 2½ ounces down to 14 pounds 5 ounces.

Space forbids a more extended notice further than to state that the visitor will find on a careful and close inspection that the quality of the individual make-up of the herd has no superior west of the Mississippi, and, in fact, but few equals anywhere. In all the aged cows and heifers comprising the females but one defective udder is found—something remarkable in so large a collection of dairy stock. The sale ought to bring together a grand crowd of prospective buyers, both to buy foundation stock as well as individual milch cows.

The swine offerings of forty head will bring good long prices, if one may judge from their breeding, their condition and excellent individuality. One hundred Kansans ought to attend the sale. Will you be there?



## Entomology.

### OUTLINES OF ENTOMOLOGY—II.

BY E. A. POPENOE, STATE AGRICULTURAL COLLEGE.

#### THE CIRCULATORY SYSTEM OF INSECTS.

As stated in the last paper, the blood or circulating fluid of insects is not carried in a system of closed vessels—the veins and arteries—as it is in the higher animals. Blood vessels, then, are not found everywhere in close con-

receive the form peculiar to the castings of many insects. Alongside and below the gullet and crop lie a pair of glands, often quite complicated, which discharge their secretion into the mouth. These are the salivary glands, and their fluid serves a purpose like that of the same glands in other animals. They are subject to some modification, as in the silk worm, where they become silk glands. At the beginning of the intestine, where it joins the stomach, will be seen several sets of tubes of a size varying in different species from quite small and short to very

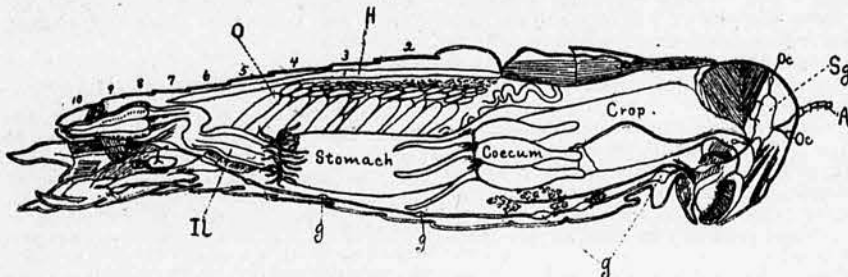


FIGURE 1.—Body of insect cut through, lengthwise, showing internal anatomy. H. heart; O. ovary; g. ganglia or nerve knots; Sg. larger ganglia, or brain; Oc. ocelli, or simple eyes; A. antenna; Il. intestine. The abdominal rings, except the first, are numbered above from right to left.

nection with the tissues. In fact, the heart, so-called, is the only blood vessel found in insects generally. In some, however, the "veins" of the wings, which are not proper veins but only supporting hollow ribs, are permeated by tracheal branches, and serve also as canals to direct the flow of blood through the wings. The motion of the wings aids the flow and also assists to secure the frequent renewal of the air in these tracheal tubes. Here, then, the blood must be continually and rapidly purified when the insect is in motion. The heart (Fig. 1, H.), so-called, is a vessel lying along the middle of the back, just under the skin and adjacent muscular layers. From its position it is often called the *dorsal vessel*. It is closed behind, but anteriorly it opens into the general body cavity. There are at intervals along this heart a series of valves, through which the blood may readily enter but which prevent its return into the body cavity. The pulsations of the heart begin at the posterior end and by a wave-like motion proceed forward, the blood being thus continuously moving forward through the heart and backward in general direction through the body. The heart's motion may be readily seen through the skin of the back in some of the larger smooth-bodied, light-colored caterpillars.

The blood of insects does not carry the red corpuscles which give color to that fluid in the vertebrate animals. Its color, therefore, when noticeable, is not the well-known red, but rather a transparent greenish, yellowish, or occasionally reddish hue. It abounds in large corpuscles, which undergo the peculiar changes of form called amoeboid movements, often while under the eye of the observer at the microscope.

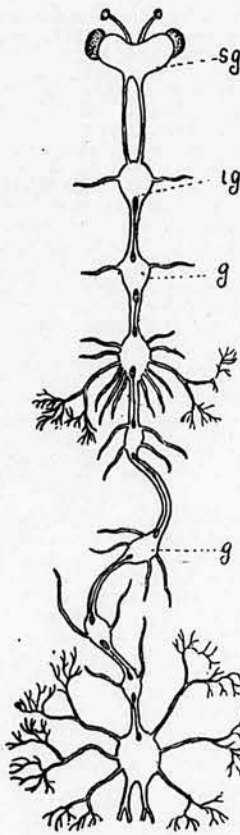
#### THE DIGESTIVE TRACT.

The alimentary canal and its different regions may be compared roughly, though not always with strict physiological accuracy, to the same parts in higher animals with which the reader may be familiar. It begins with a gullet or oesophagus, longer or shorter, connected before with the mouth opening and behind with the crop, or proventriculus. This crop serves as a first receptacle, in which the food is subjected to the digestive process. It is here softened by the action of the saliva and also by the fluids of the caeca, mentioned below, and passing from the crop through the gizzard into the chyle stomach absorption follows. The gizzard is variously developed, being inconspicuous in some and quite large in other insects. Its chief function is that of a strainer by which the fluids are separated from the solid or undigested portions of food. The chyle stomach is the large absorbent region, the absorbent surface greatly extended by the addition, in many cases, of large caeca, or pouches, which possibly secrete a liquid adapted for the further reduction of certain food elements. Following the stomach are the intestine (Il.) and the rectum. In the latter the undigested parts of the food mass

long and conspicuous. These are the urinary tubes, with the function of the kidneys.

#### THE NERVOUS SYSTEM.

The nervous tract in insects lies along the floor of the body cavity, under the digestive canal, except in the head, where the largest nerve mass lies above and in front of the gullet. (See Fig. 1, where the nerve masses are marked sg. g.) In structure this tract is essentially a pair of cords extending throughout the body, connecting a series of nerve masses or knots, called ganglia, primitively one to each body ring (Fig. 2). The most important ganglion is that in the front of the head. From its relation to the gullet or oesophagus it is known as the



Central nervous tract of a locust.

FIGURE 2.—Sg. upper brain; lg. lower brain; g. g. other nerve masses or ganglia.

supra-oesophageal ganglion (above the gullet), which we may call for short the brain (sg). Connected with it by a pair of cords passing the gullet is the infra-oesophageal ganglion (below the gullet), or lower brain (Fig. 2, lg). The other knots or ganglia may be described, where necessary, as the thoracic, or the abdominal ganglia, and may take the name of the segment of the body in which they lie. From these central nerve-masses branches go to different organs, as from the upper brain to the eyes and the antennae and from the lower brain to the mouth parts.

"Five years ago," says Anga A. Lewis, Ricard, N. Y., "I had a constant cough, night sweats, was greatly reduced in flesh, and had been given up by my physicians. I began to take Ayer's Cherry Pectoral, and after using two bottles was completely cured."

## Horticulture.

### Inquiries Answered.

EDITOR KANSAS FARMER:—I come to you for information concerning a few horticultural matters.

I have a couple of thousand yearling grapes (from cuttings last spring), and not wishing to transplant in a vineyard until they are two years old, I want to know if it is necessary to transplant in nursery. They are now in rows three feet apart and about five inches apart in the row. If it is necessary to transplant, please tell me how to do it properly, as I am only an amateur.

I also have a few currants, now two years old. Will you please tell me how to prune them? Can they be pruned to tree shape?

Would it do harm to prune raspberry vines during fall and winter?

Hoping to receive answers through your ever-bright paper, I am, Jno. G. MEYER, Shawnee, Kas.

[The above inquiries were referred to Prof. S. C. Mason, of the State Agricultural college, whose answer follows.

—EDITOR.]

Replying to the questions asked by Mr. Meyer, I will say to the first: It is not necessary to transplant the vines except as a matter of convenience. They are rather too close to make the best growth next season, and, if strong growing varieties, will be very difficult to tend, but could be managed by running a single wire on stakes to keep the canes up out of the way of the cultivator. They can be transplanted quite rapidly by running a furrow on either side of the row which will loosen them so they can be pulled with little difficulty and then resetting one every twelve or fifteen inches in furrows four feet apart.

Second—I would not recommend pruning the currant to a tree form, as the old wood must be occasionally renewed, but rather keep them in a rather open bush form. They will suffer less from hot sun and winds in this shape.

Third—Old canes and surplus wood may be removed from raspberry patches at any time during the winter or are often cut out soon after the fruit is gathered. Topping the young canes at about fruiting time to make them send out laterals and thicken up is a valuable practice and a great benefit to the next crop.

The reason why Ayer's Cherry Pectoral is so much more effective than other remedies for colds and coughs is because it is the most skillful combination of anodynes and expectorants known to medical science. It is in every respect a scientific medicine.

Mr. H. L. Williams, of Summerland, has just issued a pamphlet concerning the advantages and disadvantages of California. It is neatly gotten up and contains just such matter as answers the many questions that people in the East are asking in regard to our climate, productions and business opportunities. As the disadvantages are shown as well as the advantages, it aims to set forth things just as they are, and that is what people want to know.—Editorial in Santa Barbara, California, Daily Press, of December 17, 1893.—(See advertisement of book on page —.)

#### Look for the Corrugation.

When you find it necessary to purchase new hinges for your barn door we would suggest that you ask for the corrugated hinges, made by the Stanley Works, New Britain, Conn. They cost no more than the old style, and are driving the others out of the market.

The "Biography of a Yankee" is a Hinge smart little pamphlet, issued by the Stanley Works, and it will be sent free to any one who will take the trouble to forward their address.

#### California and Return \$65.50.

The Union Pacific offers to the California tourist for the winter of 1893-4 a rate of \$65.50 for the round trip from its Missouri river terminals. Quickest time and best service. The only line running Pullman Palace sleepers and diners through from Chicago to San Francisco. For any additional information, call on or address A. M. FULLER, City Agent, Topeka, or E. L. LOMAX, General Passenger and Ticket Agent, Omaha, Neb.

## A Horse

deserves the best remedy man can devise for his hurts. Phenol Sodique is that. For other flesh also.

HANCE BROTHERS & WHITE, Philadelphia. At druggists. Take no substitute.



### The High Speed Family Knitter

Will knit a stocking heel and toe in ten minutes. Will knit everything required in the household from homespun or factory, wool or cotton yarns. The most practical knitter on the market. A child can operate it. Strong, Durable, Simple, Rapid. Satisfaction guaranteed or no pay. Agents wanted. For particulars and sample work, address, J. E. GEARHART, Clearfield, Pa.

## CONSUMPTION

SURELY CURED.

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

## LOST OR FAILING MANHOOD,

General and Nervous Debility,



Weakness of Body and Mind, Effects of Errors or Excesses in Old or Young. Robust, Noble Manhood fully Restored. How to Enlarge and Strengthen Weak, Underdeveloped Organs and Parts of Body. Absolutely unfailing Home Treatment—Benefits in a day. Men testify from 60 States and Foreign Countries. Write them. Descriptive Book, explanation and proofs mailed (sealed) free.

ERIE MEDICAL CO., BUFFALO, N. Y.

"This company is too widely known and stands too high to stoop to dishonorable methods, like their ignorant and unprincipled imitators. Men who write them do not have their confidence violated."—N. Y. Hearst.

## ONLY 10% ABOVE FACTORY COST

\$8.78 buys a \$65 Singer

Style Machine. \$19.88 buys Highest Grade modern style machine in the world. 25 different styles at intermediate prices. Warranted Ten Years.

We are the only manufacturers selling sewing machines direct. Liberal terms for securing a Sewing Machine FREE.

CHICAGO SEWING MACHINE CO., 70 Halsted St., CHICAGO, ILL.

## Maule's Seeds..

### Lead All.

OUR NEW SEED BOOK contains not only everything new worth having, but the cream of all the good old stand-bys in Vegetable, Flower, Field and Grass Seeds, as well as Flowering Plants, Bulbs, Small Fruits, Fruit Trees, etc. It is mailed free to those desiring to purchase, to others on receipt of five 2-cent stamps, which does not cover half its cost. A few of its special features: 593 illustrations, \$2250 in Cash Prizes, etc., etc. Address

WM. HENRY MAULE,

1711 Filbert St., Philadelphia, Pa.

**ST. JACOBS OIL** MAKES A Perfect Cure of BURNS, BRUISES, SCALDS, CUTS AND WOUNDS.



## In the Dairy.

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

### Jersey Champions.

The Christmas issue of the *Breeder's Gazette* contained a beautiful double-page supplement of the two World's Fair Jersey Champions, Brown Bessie 74997 and Merry Maiden 64999. These were undoubtedly the two best dairy cows in the Columbian contest and presumably the best that the world has produced, notwithstanding the 1,000 pound private record cows that were not in the Columbian tests. Brown Bessie was champion in the ninety-day and thirty-day tests, and Merry Maiden the final or sweepstakes champion in the combined test covering the three periods. As a matter of permanent interest we give the following summary of the milk and butter fat production of these great champions:

	MILK.	
	Brown Bessie.	Merry Maiden.
	Lbs.	Lbs.
Fifteen-day cheese test.....	639.1	624.6
Five-day preliminary.....	209.7	203.0
Ninety-day test.....	3634.0	3041.2
Thirty-day test.....	1134.6	965.0
Total, 140 days.....	5617.4	4833.6
Daily average.....	40.1	34.5
BUTTER FAT.		
	Brown Bessie.	Merry Maiden.
	Lbs.	Lbs.
Cheese test (by Babcock).....	55.05	38.42
Five-day preliminary (by Babcock).....	11.899	12.525
Ninety-day test (churn).....	216.639	200.542
Thirty-day test (churn).....	72.235	66.695
Total.....	335.853	318.182

Brown Bessie's daily average was 2.40, or 16.80 pounds per week; and Merry Maiden's daily average was 2.272, or 15.904 pounds per week. The highest daily yield of any cow in a single day was 3.48 pounds, by Brown Bessie, July 10th.

### Oleomargarine vs. Butter.

Reports are coming in from a large number of dairy States that the friends of honest dairying are making a special effort to provide more stringent legislation in regard to the manufacture and sale of oleomargarine. The fact can be no longer disguised that this spurious article coming in competition with butter is gradually reducing the price of the latter, and in a few years more on the same ratio of decline, dairying, instead of being one of the best paying operations in connection with farming, would be affected to that extent, that the millions now invested in cows and dairy machinery would be a dead letter. Now is the time for those who are hit the hardest by this monster to rise and be heard.

Upon the question of the most profitable amount of food for a milch cow much valuable work has been done. In these experiments ten cows were fed a ration beginning with eight pounds of grain and twelve pounds of hay and gradually increasing up to as high as nineteen pounds of grain and twenty-seven pounds of hay per day and head, and then gradually decreasing to the original amount. Throughout the experiment accurate notes were taken of the amount and cost of the food, the amount of milk produced by each animal, and its butter value as determined by the Babcock test. Perhaps the most striking lesson of the experiment is the demonstration it gives of the profit there is in liberal feeding. The cheapest ration used cost 18.8 cents per day and produced butter valued at 26.5 cents, making a net profit of 7.7 cents per day per cow. An increase of 2.9 cents per day per cow in the cost of this ration made the daily value of the butter 31 cents and the net profit 9.3 cents per day, or a difference of 1.6 cents per day per cow in favor of the more costly ration. In other words, the farmer who attempted to economize by feeding the cheaper ration would, with a herd of twenty-five cows, save \$217.50 per year on his feed bills, but would lose \$337.50 worth of butter that he might have produced with the more costly ration, so that his ill-judged attempt at economy would result in a net loss of \$120.

Whatever may be the cause of blanching, the hair may be restored to its original color by the use of that potent remedy Hall's Vegetable Sicilian Hair Renewer.

### Directions for Sterilizing Milk.

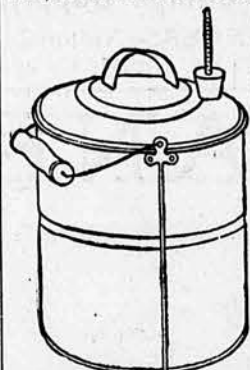
At the request of the Secretary of Agriculture, the Chief of the Bureau of Animal Industry has furnished the following simple directions for the sterilization of milk:

The sterilization of milk for children, now quite extensively practiced in order to destroy the injurious germs which it may contain, can be satisfactorily accomplished with very simple apparatus. The vessel containing the milk, which may be the bottle from which it is to be used or any other suitable vessel, is placed inside of a larger vessel of metal, which contains the water. If a bottle, it is plugged with absorbent cotton, if this is at hand, or in its absence other clean cotton will answer.



A small fruit jar, loosely covered may be used instead of a bottle. The requirements are simply that the interior vessel shall be raised about half an inch above the bottom of the other, and that the waters shall reach nearly or quite as high as the milk. The apparatus is then heated on a range or stove until the water reaches a temperature of 155° Fahrenheit, when it is removed from the heat and kept tightly covered for half an hour. The milk bottles are then taken out and kept in a cool place. The milk may be used any time within twenty-four hours. A temperature of 150° maintained for half an hour is sufficient to destroy any germs likely to be present in the milk, and it is found in practice that raising the temperature to 155° and then allowing it to stand in the heated water for half an hour insures the proper temperature for the required time. The temperature should not be raised above 155°, otherwise the taste and quality of the milk will be impaired.

The simplest plan is to take a tin pail and invert a perforated tin pie-plate in the bottom, or have made for it a removable false bottom perforated with holes and having legs half an inch high, to allow circulation of the water. The milk bottle is then set on this false bottom, and sufficient water is put into the pail to reach the level of the surface of the milk in the bottle. A hole may be punched in the cover of the pail, a cork inserted, and a chemical thermometer put through the cork so that the bulb dips into the water. The temperature can thus be watched without removing the cover. If preferred an ordinary dairy thermometer may be used and the temperature tested from time to time by removing the lid. This is very easily arranged, and is just as satisfactory as the patented apparatus sold for the same purpose. The accompanying illustration shows the form of apparatus described.



through the cork so that the bulb dips into the water. The temperature can thus be watched without removing the cover. If preferred an ordinary dairy thermometer may be used and the temperature tested from time to time by removing the lid. This is very easily arranged, and is just as satisfactory as the patented apparatus sold for the same purpose. The accompanying illustration shows the form of apparatus described.

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### San Francisco's Midwinter Fair

will be one of the attractions on the Pacific coast during the coming winter. It will be held from January 1 to June 30, 1894, and might be aptly termed the World's Fair in miniature.

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### Texas Wants You. You Want Texas.

If you like May weather in winter, apply to nearest agent of Santa Fe route. He will supply it in thirty-six hours. It is done by buying a ticket to Galveston or Houston. Perhaps less expensive than staying at home, because a big coal bill is saved.

Regular winter tourist tickets can be bought any day, but special excursions will be run the second Tuesday of each month from a limited territory to all points in Texas.

The excursion fare? Cheap enough—a little over a cent a mile; tickets good thirty days, with stop-overs south-bound.

The Gulf coast of Texas is a charming resort for invalids who don't like zero weather. Big attractions also for home seekers; twenty acres of land there planted in pears nets the owner \$6,000 each year after orchard is established. Strawberries and grapes also profitably raised.

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### Some Essentials.

Some fowls are better feeders than others. Some fatten readily on what would keep others in good condition. Some are better adapted to foraging than others. But there are a number of things that all fowls need. All breeds need exercise. There is not a breed in the world that can thrive without exercise. It must either be given by a wide range of some provision must be made indoors. Keep them busy. Therefore, scratching pens must be given them, and the floors of these pens must be well littered. No fowl can stand much exposure. Give them a chance to shelter themselves and they will "get in out of the rain." Fowls must have warmth. We do not favor artificial heat in the hen house. The houses should be made of matched boards or lap weatherboards and the walls and ceilings plastered. There will be a little cost at first, but the increased number of eggs will make up for the extra outlay in the beginning.

The roofs, too, must be well made, and nothing, in our experience, does so well as a shingled roof. The old theory of a glass front to let in the sunshine is a mistake. It will let in the sunshine during the day, but think of the cold that it will allow at night, unless the windows are double. A half window sash, if it is kept clean, will give all the light and sun necessary. Fowls want good sharp grit. Round pebbles will not be of any service. See that the grit they get is sharp, for the grain must be ground up in the crop. Poor grit is of no use. Good grit keeps the birds in a healthy condition. Fowls must have a constant supply of fresh water. It is strange how this item is neglected by so many people who keep poultry. A fowl, unlike a beast, does not drink much at a time, but comes often. Water makes up the largest part of the egg. Without a constant supply there cannot be many eggs. In winter the chill must be taken off the water in the morning. Fowls must have green food. No matter what bill of fare you adopt, green food must be supplied both summer and winter. Some poultry-keepers raise lettuce in hot-beds during the winter and also hang cabbages in the hen house. See well to these requirements, keep the place clean, be careful what you feed and how you give it, and success is yours.

### To Catarrh Sufferers.

A clergyman, after years of suffering, from that loathsome disease, catarrh, and vainly trying every known remedy, at last found a medicine which completely cured and saved him from death. Any sufferer from this dreadful disease sending his name and address to Prof. Lawrence, 88 Warren street, New York, will receive the means of cure free and postpaid.

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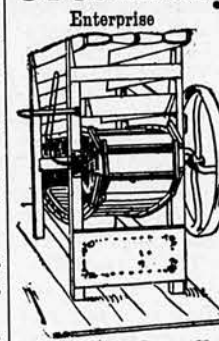
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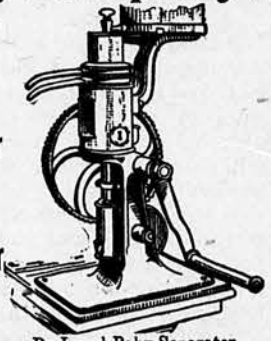


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## The Veterinarian.

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

**BLINDNESS.**—I have a mule, 12 years old, that is so near blind that she can only distinguish light from darkness. I have been told she was pulled blind, but do not know how long ago. I would like your opinion of the case.

Saffordville, Kas. L. B. H.

**Answer.**—It is not likely that any treatment will restore the sight of your mule. You might try the following: Nitrate of silver, 4 grains; distilled water, 1 ounce. Apply to the eye twice a day with a camel's-hair pencil.

**LAME MARE.**—I have a mare, 10 years old, that has small puffs on both sides of her right fore leg, just above the pastern. She goes a little lame when trotting, but not when walking. She does not flinch when I rub the leg. Will you tell me through that good paper, the KANSAS FARMER, what to do?

Webster, Kas.

**Answer.**—If the puffs are sore, blister them with cerate of cantharides. If you find no soreness in the puffs, you had better examine for corns. If the hoofs are very dry, they should be poulticed to soften them.

**LACTORRHEA.**—I have a valuable cow that got half of one of her teats frozen off last winter, and now it is constantly leaking milk. Please prescribe through the KANSAS FARMER.

Halifax, Kas.

**Answer.**—The milk is kept from running out of the teat by the involuntary contracting of the sphincter muscle at the lower end, and when that is gone the only remedy is to place a rubber band around the teat just tight enough to prevent the flow of the milk, and not tight enough to cut off the circulation.

**COW DIED.**—I lost a cow last night that I did not notice being sick. She did not eat anything yesterday, and this morning she was dead. I have been feeding millet hay, nearly ripe, and rye chop, over which I had poured boiling water till it was like mush. Is it dangerous to feed millet hay or rye chop?

Rubens, Kas.

**Answer.**—As your cow did not eat anything the day previous to her death, she must have been ailing. There is nothing dangerous about either millet hay or rye chop if fed judiciously. If there was much seed on the millet you may have overfed her.

**WART.**—I have a colt, coming 2 years old, that has a wart on the pastern joint. What can be done for it?

H. S. F.

**Answer.**—Tie a strong thread around the wart, as tight as possible, and in a few days tie another one around it. Repeat this as often as the thread gets slack, and when the wart comes off, if you think the roots remain, take a drachm of chloride of zinc in a cup and add a few drops of water—just enough to dissolve it—then add flour to form a paste. Spread this on the raw spot, place a piece of cotton on it and bind it up for twenty-four hours. Keep the part greased, and the dead roots will soon drop out.

**INJURED EYE—SWELLING.**—(1) I have a colt that struck its eye against a nail some time ago. The back part of the eye is covered with a film, but the front part is only slightly clouded. (2) The colt's dam also has a hard swelling from the breast bone down between her fore legs. What should I do for it?

Marysville, Kas.

**Answer.**—(1) Bathe the eye twice a day with very warm water, then with a camel's-hair pencil apply a little of the following: Nitrate of silver, 3 grains; distilled water, 1 ounce; mix. There will always be a scar where the nail pierced the cornea. (2) By the time this reaches you, pus will have formed in the swelling and you can open it at the most pendent part. It should be syringed out once a day with the following: Sulphate of zinc, 1 ounce; carbolic acid, 3 drachms; water, 1 quart.

**PROBABLE LUMPY-JAW.**—I have a

steer with a swollen jaw on the right side. There is a thin, colorless mucous running from the nostril on the same side. The swelling is hard, but hard pressure with the thumb will leave a dent. I pulled three ulcerated teeth from the same side, and I am applying iodine. Is it regular lumpy-jaw?

Blaine, Kas.

J. O.

**Answer.**—I cannot say positively that you have a case of lumpy-jaw; but the description is very much like it. It is a very common occurrence for the teeth to become loose in that disease. It is lumpy-jaw or an abscess from an injury, and it would be impossible to determine which it is without a personal examination. At any rate, you will be safe in using the iodide of potassium treatment, which is as follows: Allow 15 grains of iodide of potassium for each 100 pounds of the steer's weight; give this quantity daily, dissolved in water, as a drench. At the end of six or eight days the steer will lose his appetite and begin to discharge at the eyes and nostrils. The medicine should then be withheld for a few days until the appetite returns, when it should be repeated. It will take two or three months to effect a cure.

**RUPTURE—RINGING HOGS.**—(1) I have some pigs that are ruptured. Can you tell me how to castrate them? Is there any way to prevent it? (2) Some of my neighbors advocate ringing hogs when put in the pen to fatten; they say they do better. Is there anything in it?

Wagoner, Ind. Ter.

E. S. C.

**Answer.**—(1) If a pig is ruptured, tie a rope to each hind foot, or, if small, have a man to hold him with his hind parts up; work the intestines back to the inside, then cut the skin, but do not cut the last membrane that envelops the testicle, but draw this up with the testicle inside, and, with the other hand, work it loose as far in as you can and wrap it several times with a stout cord and tie it; then cut it off an inch or two outside of the cord and let the pig loose. The only way to prevent it is to select such animals for breeding as produce the fewest ruptured pigs. (2) Hogs do not root to eat dirt; they are hunting for roots and worms which they find in the earth. If they are given a sufficient variety of food stuffs the desire to root in the ground will be lessened. If you ring them and then do not supply these things in the feed, they must do without.

**INCO-ORDINATION OF MOVEMENT.**—One of my neighbors has two cows that after calving became weak and stagger when walking, and sometimes they pitch forward on their knees. They have good appetites and have the appearance of health when standing. What is it?

Tecumseh, Kas.

I. J. F.

**Answer.**—It is partial paralysis of the power of locomotion. It frequently follows parturition in cows. It may result from an overtaxed condition of the system before calving, or it may be due to retention of the placenta after calving. It also comes from numerous other causes. The cows should each have one pound of Epson salt, dissolved in half a gallon of water, and given as a drench at one dose, and then have half-pound doses as often thereafter as is necessary to keep their bowels moderately loose. Also, give twice a day 4 drachms of nitrate of potash and 1½ drachms of powdered nux vomica. This can be given in feed or given as a drench, and should be continued until improvement is well marked. At the same time the cows should have turpentine rubbed on the entire length of the backbone twice a week. Give feed and water liberally.

**MANGE IN PIGS.**—I have about sixty head of pigs that have a disease that I call scurvy. The hide gets wrinkled, rough and dry, and the hair comes off in places. It has been among my hogs for four years, but it is so bad this season that some have died. It gets a little better when they run on grass. What is best to do?

Eskridge, Kas.

M. H.

**Answer.**—Your pigs have mange or scab. It is due to a minute parasite—*Sarcoptes Suis*—that burrows in the skin. You will have quite a job on your hands, but you can get rid of it if you are persevering. There are different preparations, any of which are effective, but in treating so many pigs the cost of medicine is an item to be considered. In the first place it will be



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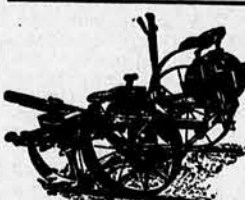
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**REFERENCES:**—National Bank of Commerce, Kansas City; First National Bank, Kansas City; this paper.

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necessary to have a tank or vat of sufficient capacity to allow the largest pig in the lot to be placed in it. It should be six or eight inches higher than the back of the tallest pig. Fill this tank with warm soapsuds, and give each pig a thorough washing with a scrubbing brush to get all the loose scabs off. When this is done, have ready a wash made as follows: Unslaked lime, 1 pound; sulphur, 2 pounds; water, 2 gallons. Slake the lime in the water, then add the sulphur and boil till thoroughly combined. A sufficient quantity should be mixed, with these proportions, to fill the tank and have some left to replenish the tank as the liquid gets low. Have the liquid moderately warm and give each pig a thorough washing in it, using the brush again, and as fast as the pigs are let out of the tank they should be put in a clean pen or yard where no diseased hogs have been. Care must be taken not to strangle the pigs by getting their heads under the water. After this dipping the next step is to gather and burn all straw and litter of all kinds where the pigs have been and then whitewash pens, fences and walls with a strong lime wash in which has been dissolved a pint of salt to each two gallons. In the clean pens should be placed, for the pigs to eat, a supply of sulphur, wood ashes and salt, mixed in equal parts. In a week the dipping process should be repeated and in another week repeated again. Great diligence should be exercised in cleaning the old yards; also keep the hands as clean of the scabs as possible as the parasite will burrow in the skin and cause some uneasiness, although it is not serious.

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It allays inflammation,

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## THE STRAY LIST.

### FOR WEEK ENDING JAN. 17, 1894.

Greeley county—Wash Huffaker, clerk.

MULE—Taken up by Olof Shuland, in Colony tp., October 23, 1893, one black male mule, sixteen hands high, scar on left shoulder; valued at \$15.

Stafford county—Ike S. Lewis, clerk.

COW—Taken up by James T. Morford, in Fairview tp., P. O. Stafford, November 12, 1893, one black cow, square notch in right ear.

CALF—By same, one black bull calf, square notch in right ear; two animals valued at \$15.

Chautauqua county—G. W. Arnold, clerk.

HORSE—Taken up by J. D. Houston, in Belleville tp., P. O. Chautauqua, one dun horse, about 11 years old, fifteen hands high, scar on hind leg.

### FOR WEEK ENDING JAN. 24, 1894.

Sumner county—Chas. Sadler, clerk.

HORSE—Taken up by John L. Williams, in Bluff tp., P. O. Blackstone, December 17, 1893, one black horse, sixteen hands high, light collar marks; valued at \$25.

HORSE—By same, one bay horse, sixteen hands high, light collar marks; valued at \$20.

Chautauqua county—G. W. Arnold, clerk.

2 HORSES—Taken up by A. J. Scott, in Jefferson tp., P. O. Cedar Vale, two bay horses, about fifteen hands high, each has harness marks and white star in forehead.

Sedgwick county—M. A. Carvin, clerk.

COLT—Taken up by V. Hartman, in Ohio tp., P. O. Clearwater, one sorrel colt, 2 years old, about fifteen hands high, two white feet on left side; valued at \$25.

Norton county—D. W. Grant, clerk.

COLT—Taken up by R. L. Morgan, in Rockwell tp., one black horse colt, about 6 months old, white star in forehead, two white hind feet, left hind ankle crooked.

Miami county—Jas. E. Caton, clerk.

STEER—Taken up by T. B. Robinson, in Marysville tp., P. O. Spring Hill, January 18, 1894, one red steer, 1 year old, dehorned; valued at \$20.

STEER—By same, one red and white steer, 1 year old, dehorned; valued at \$20.

Labette county—J. F. Thompson, clerk.

MARE—Taken up by John Livingston, in Howard tp., December 1, 1893, one black mare, 7 years old, white spot in forehead and white hind feet.

Anderson county—J. T. Studebaker, clerk.

STEER—Taken up by John G. Edwards, in Indian Creek tp., one three-year-old roan steer, crop off right and upper-bit in left ear.

Greeley county—Wash Huffaker, clerk.

MARE—Taken up by James Hurt, in Colony tp., January 10, 1894, one bay mare, weight about 750 pounds, box 8 on left hip; valued at \$35.

### FOR WEEK ENDING JAN. 31, 1894.

Atchison county—Chas. H. Krebs, clerk.

MARE—Taken up by Joseph Kennett, in Kapioma tp., P. O. Arrington, January 1, 1894, one bay mare, 7 years old, left hind foot white; valued at \$20.

HORSE—By same, one bay horse, 7 years old, branded 8 J on left shoulder and O on right hip; valued at \$20.

## MARKET REPORTS.

### LIVE STOCK MARKETS.

Kansas City.

January 29, 1894.

**CATTLE**—Receipts, 4,819 cattle; 70 calves. The receipts from January 1 have been 128,760 cattle and 1,952 calves, against 100,692 cattle and 1,347 calves for the corresponding period last year. Top prices for dressed beef steers were \$4.10, against \$5.40 one year ago. The top on stockers and feeders was \$3.25, against \$3.85 a year ago.

The following selections from the lists of sales made indicate the range of prices:

### DRESSED BEEF AND SHIPPING STEERS.

No.	Wt.	Pr.	No.	Wt.	Pr.
19.....	1,419	4 10	8.....	1,242	3 70
20.....	1,125	3 40	22.....	870	3 20
21.....	1,070	3 45	25.....	1,238	3 50
22.....	1,084	3 35	52.....	832	3 25
41.....	944	3 15	41.....	1,110	3 60

### FED TEXAS STEERS.

57.....	968	3 00	47.....	821	2 75
81.....	857	2 85	66.....	1,089	3 10
23.....	970	2 90	97.....	1,025	3 00
77.....	1,219	3 60	49.....	810	2 70
75.....	968	2 95	51 still.....	1,000	3 15
132.....	1,048	3 15	66.....	1,052	3 15

### TEXAS COWS.

34.....	657	1 80	9.....	725	1 75
22.....	777	2 00			

### COWS.

2.....	920	1 30	16.....	933	1 75
11.....	809	1 90	3.....	913	2 00
11.....	960	2 40	18.....	857	2 50
22.....	1,013	2 60	24.....	984	2 85
42.....	897	2 70	20.....	1,036	2 80
18.....	1,063	2 85	20.....	935	2 90
12.....	1,084	3 00	31.....	704	2 10
39.....	960	2 45	2.....	1,110	2 50
10.....	1,230	2 65	36.....	683	2 70
22.....	953	2 75	26.....	809	2 80
57.....	820	2 90	20.....	1,055	3 00

### BULLS.

\$1.50@2.75

### CALVES.

1.....	140	8 00	3.....	@.....	9 65
3.....	833	8 00	7.....	@.....	9 50
3.....	466	2 75	5.....	@.....	11 75
3.....	886	2 60	3.....	@.....	3 50
3.....	420	2 75	5.....	@.....	8 50

### STOCKERS AND FEEDERS.

3.....	863	3 00	12.....	592	2 75
11.....	1,045	3 25	27.....	665	3 05
8.....	925	3 30	4.....	1,065	3 50
10.....	1,056	3 30	45.....	1,190	3 45
10.....	727	3 10	38.....	940	3 25

**HOGS**—Receipts, 4,088. Receipts from January 1, 1894, against 180,381 for the corresponding period last year. Top prices were \$5.30, against \$7.90 one year ago. The following sales show the range of prices.

### FIGS AND LIGHTS.

No.	Doek.	Av.	Pr.	No.	Doek.	Av.	Pr.
85.....	20	115	4 00	125.....	80	122	4 25
93.....	120	132	4 70	5.....	116	4 80	4 80
105.....	40	168	5 10	19.....	134	5 20	5 20
96.....	60	124	4 20	50.....	108	4 35	4 35
82.....	120	178	4 40	6.....	111	4 80	4 80
98.....	200	171	5 10	76.....	174	5 17 1/2	5 17 1/2

### REPRESENTATIVE SALES.

1.....	380	4 60	8.....	410	4 95		
12.....	355	5 00	66.....	40	219	5 10	
103.....	40	182	5 12½	73.....	240	271	5 15
72.....	221	5 20	59.....	222	5 22½	5 22½	
63.....	40	239	5 25	77.....	217	5 30	5 30
2.....	415	4 85	81.....	240	5 30	5 30	

**SHEEP**—Receipts, 2,050. Receipts from January 1, 1894, against 28,609 for the corresponding period last year. Top prices were \$4.10, against \$3.90 one year ago. It should be noted, however, that the top was for lambs, while no lambs were sold on the corresponding date last year. The top on sheep is about 80 cents lower than a year ago.

13 lambs.....	54	3 00	297 Nlms.....	64	4 10
39.....	90	2 50	1 goat.....	2	2 00
249.....	88	3 10	57 lbs.....	55	3 00
235.....	83	2 75	12 mixed.....	131	3 50
168.....	88	2 50	30 lbs.....	66	3 60

### Chicago.

January 29, 1894.

**CATTLE**—Receipts, 13,000. Market steady and quiet. Beef steers, \$3.25@5.00; stockers and feeders, \$2.50@3.75; bulls, \$1.75@3.50; cows, \$1.50@3.10.

**HOGS**—Receipts, 30,000. Market steady. Mixed, \$5.15@5.50; heavy, \$5.10@5.50; light weights, \$5.15@5.45.

**SHEEP**—Receipts, 14,000. Market steady. Natives, \$2.00@3.65; lambs, \$3.25@4.75.

### St. Louis.

January 29, 1894.

**CATTLE**—Receipts, 3,500. No good natives on sale. Some fed Texans at \$3.40. Native steers, common to best, \$3.25@4.00.

**HOGS**—Receipts, 5,200. Market opened steady, closed easy. Top, \$5.42 1/2.

**SHEEP**—Receipts, 1,200. Market strong. Natives, \$1.50@3.65.

### GRAIN AND PRODUCE MARKETS.

Kansas City.

January 29, 1894.

In store: Wheat, 552,260 bushels; corn, 29,983 bushels; oats, 25,369 bushels, and rye, 8,904 bushels.

**WHEAT**—Receipts for forty-eight hours, 37,800 bushels; last year, 153,600 bushels. While the market lacked life, there was, at the same time, a firmer feeling, encouraged by a decrease in the visible supply, both in this country and Europe, and it closed at the highest point of the day. By sample on track on the basis of the Mississippi river (local 60 per bushel less): No. 2 hard, 6 cars 59 pounds at 59 1/2c, 7 cars 59 and 60

pounds at 59c; No. 3 hard, 1 car at 57 1/2c, 5 cars choice at 58c; No. 4 hard, 56@57c; rejected, 50@55c, 2 cars at 55c; No. 2 red, 60@60 1/2c, 2 cars 60 pounds at 60c, 1 car choice 60 pounds at 60 1/2c; No. 3 red, 2 cars 57 pounds at 59c, 1 car 56 pounds at 58c, 1 car choice at 58 1/2c; No. 4 red, 56@57 1/2c.

**CORN**—Receipts for forty-eight hours, 43,300 bushels; last year 81,600 bushels. There was more on sale yesterday than for several days, and white dull and weak, but for mixed there was a very fair demand and prices ruled much the same as Saturday. By sample on track, local: No. 2 mixed, 30 1/2@31c, as to billing; No. 3 mixed, 30 1/2@31c; No. 2 white, 32@32 1/2c; No. 3 white, 31 1/2@31 1/2c. Sales: No. 2 mixed, 15 cars local at 31c, 12 cars local at 31c; No. 3 mixed, 2 cars local at 30 1/2c; No. 2 white, 10 cars local at 32 1/2c and 3 cars special at 32 1/2c.

**OATS**—Receipts for forty-eight hours, 8,000 bushels; last year 12,000 bushels. A steady and very good market was had yesterday. Millers and order men both made fair purchases and the close was much the same as Saturday. By sample on track, local: No. 2 mixed, 28 1/2@29c, as to quality and billing; No. 3 mixed, 27 1/2@28 1/2c; No. 4 mixed, 26 1/2@27c; No. 2 white, 29 1/2@30c; No. 3 white, 28 1/2@29c; No. 4 white, 27 1/2@28 1/2c. Sales: No. 3 mixed, 2 cars poor at 27 1/2c; No. 2 white, 3 cars at 30c and 1 car at 29 1/2c; No. 3 white, 2 cars at 29c.

**RYE**—Receipts for forty-eight hours, 1,800 bushels; last year, 12,000 bushels. Market steady and demand fair, and what little on sale disposed of without trouble. By sample on track, on the basis of the Mississippi river: No. 2, 48@49c; No. 3, 45@46c.

**FLAXSEED**—Still in good demand and firm. We quote at \$1.27 per bushel upon the basis of pure.

**HAY**—Receipts for forty-eight hours, 360 tons. Demand fair but prices weak. Fancy barn, prairie, \$8.50; choice, \$5.50@5.75; low grades, \$3.50@5.00; timothy, fancy, \$3.00@3.50; choice, \$2.50@3.00.

**BUTTER**—The market is still quiet, though prices of all good to choice table goods are held firm, and common and medium steady. Creamery, highest grade separator, 21@22c per pound; finest gathered cream, 20c; fine fresh, good flavor, 19c; fair to good, 18c. Dairies—Fancy farm, 18c; fair to



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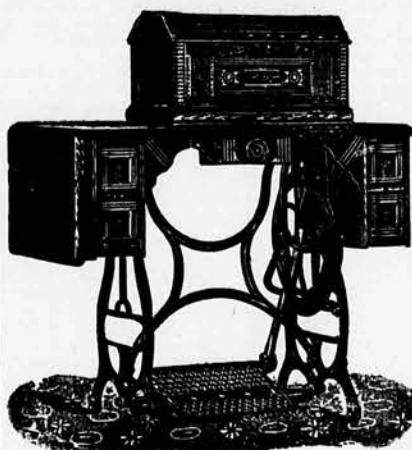
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**IMPROVED PEERLESS HATCHER**  
**SOLD UNDER A GUARANTEE**  
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SOWS CLOVER, TIMOTHY, ALFALFA, RED TOP, FLAX, and all kinds of GRASS SEEDS.  
Sows any quantity, evenly, accurately.  
20 to 40 ACRES PER DAY in wet, dry and windy weather.  
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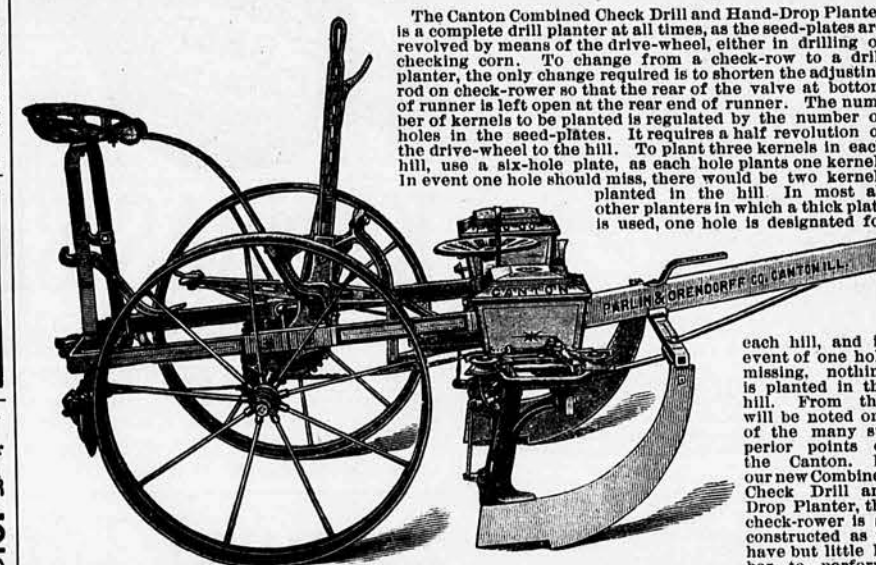
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The Canton Combined Check Drill and Hand-Drop Planter is a complete drill planter at all times, as the seed-plates are revolved by means of the drive-wheel, either in drilling or checking corn. To change from a check-row to a drill planter, the only change required is to shorten the adjusting rod on check-row so that the rear of the valve at bottom of runner is left open at the rear end of runner. The number of kernels to be planted is regulated by the number of holes in the seed-plates. It requires a half revolution of the drive-wheel to the hill. To plant three kernels in each hill, use a six-hole plate, as each hole plants one kernel. In event one hole should miss, there would be two kernels planted in the hill. In most all other planters in which a thick plate is used, one hole is designated for each hill, and in event of one hole missing, nothing is planted in the hill. From this will be noted one of the many superior points of the Canton. In our new Combined Check Drill and Drop Planter, the check-rower is so constructed as to have but little labor to perform, only having the valves at bottom of runners to open in order to drop the corn in the hills, the seed-plates being revolved from the drive-wheels by means of a chain and sprocket wheels, while in other planters wherein the seed plates are driven by means of the check-rower, many hills are missed on account of the wire in many instances being released before the stroke has been completed, thereby not only missing many hills, but also drilling the corn between the hills, as the valves remain open until the stroke is completed. Manufactured by Parlin & Orendorff Co., Canton, Ill., manufacturers of plows, cultivators, harrows and all kinds of farm implements. Send for circulars and illustrated catalogue and prices.

PARLIN & ORENDORFF CO., Canton, Illinois.

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We have a fine selection of all breeds on hand. Long time to responsible parties. Farmers' companies a specialty. Write for full particulars. Visitors always welcome. Address

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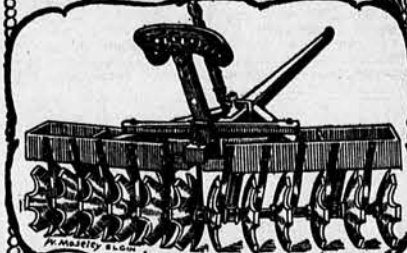
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Are the most complete and commodious in the West and the second largest in the world. Higher prices are realized here than farther east. This is due to the fact that stock marketed here is in better condition and has less shrinkage, having been shipped a shorter distance; and also to there being located at these yards eight packing houses, with an aggregate daily capacity of 8,000 cattle, 40,000 hogs and 4,000 sheep. There are in regular attendance sharp, competitive buyers for the packing houses of Chicago, Omaha, St. Louis, Indianapolis, Cincinnati, New York and Boston. All of the eighteen railroads running into Kansas City have direct connection with the yards.

	Cattle and calves.	Hogs.	Sheep.	Horses and mules.	Cars.
Official Receipts, 1893.....	1,746,828	1,948,373	569,517	35,097	99,755
Slaughtered in Kansas City.....	956,792	1,427,763	372,385		
Sold to feeders.....	249,017	10,125	71,284		
Sold to shippers.....	300,237	510,469	15,200		
Total sold in Kansas City.....	1,506,046	1,948,357	458,869	22,522	

C. F. MORSE, General Manager. E. E. RICHARDSON, Secretary and Treasurer. H. P. CHILD, Assistant Gen. Manager. E. RUST, Superintendent.

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**FARMERS WHO MAKE THE MOST MONEY**  
USE THE LATEST AND MOST IMPROVED MACHINERY.  
JUST SEND FOR OUR CIRCULAR OF  
**CLARK'S CUTAWAY HARROW**  
AND SEE WHAT IT WILL DO.  
**THAT'S WHAT COUNTS**  
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Save time and money by dehorning your cattle. Write us for special information on the subject.  
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Greatly Improved.  
SOLD ON TRIAL.  
12 to 25 Bushels per hour  
of Ear Corn, dry or damp, and all small grain, fine or coarse.  
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Also Steel Web Picket Fence and Steel Wire Fence Board. Write for circulars.  
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Entirely of Steel. No Castings to break. Strongest and simplest Lever Arrangement on the market. Write for Descriptive Circular.  
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Grinds more grain to any degree of fineness than any other mill. Grinds ear-corn, to chafe. We warrant the PEERLESS to be the BEST and CHEAPEST MILL ON EARTH!  
Write us at once for prices and agency. There is money in this mill. Made only by the  
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**THE "WESTERN SETTLER" IS A NEW PAPER.**  
TELLS ALL ABOUT THE WEST.  
Will be sent free to you and your friends.  
Address JOHN SEBASTIAN, Gen. Ticket and Passenger Agent.  
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WATCHES  
**GUNS**  
BICYCLES \$15  
All kinds cheaper than elsewhere. Before you buy, send stamp for catalogue to  
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246 Main St., Cincinnati, O.



## TWO-CENT COLUMN.

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

**WANTED**—Blacksmith. Address E. B. Hansen, Olcott, Kas.

**FOR SALE OR TRADE**—For horses and farming implements, 160 acres clear land in Greeley county. Chas. W. Grimes, Arkansas City, Kas.

**B. P. ROCK COCKERELS** AND M. B. TURKEY gobblers for sale. Write at once as supply is limited. John C. Snyder & Son, Posey Creek Farm, Constant, Kas.

**BARRED PLYMOUTH ROCK** AND P. COCHIN cockerels. Toulouse geese. Cheap this month. Lucy Ziller, Hiawatha, Kas.

**FOR SALE**—Two thousand bushels of seed sweet potatoes, nine best kinds, cheap. For prices write to N. H. Pixley, Wamego, Kas.

**SWEET POTATOES SENT OUT**—To be sprouted on shares. No experience required. Direct ones for sprouting free. T. J. Skinner, Columbus, Kas.

**280 ACRES**—In Leavenworth county to exchange for central or western Kansas clear land. Stock of drugs and groceries, now running, for clear central or eastern Kansas farm. Horses to trade for land or Topeka property. For bargains of all kinds see us or write. John G. Howard & Co., 423 Kansas Ave., Topeka, Kas.

**THREE EXTRA FINE POLAND-CHINA BOARS** (registered) for sale. Two weigh about 300 pounds each and one about 300 pounds. H. W. McAfee, 616 Kansas Ave., Topeka, Kas.

**POWERFUL FRENCH FIELD GLASS**—Cost \$30, for \$10 C. O. D.; privilege examination. Address P. O. Box 392, Cincinnati, O.

**FOR SALE OR TRADE FOR OTHER STOCK**—Sheep preferred, imported English Shire stallion. Recorded, large, sound; a good breeder, as his stock shows. Address Wm. Roe, Vinland, Douglas Co., Kas.

**COCKERELS FOR SALE**—Having decided to change the heads of my flocks, I offer a few more choice White Plymouth Rock and Indian Game cockerels. W. V. Church, Marion, Kas.

**FOR SALE CHEAP**—A Clydesdale stallion, bright bay, seventeen hands, 1,700 pounds, 8 years old. The Helmers Manufacturing Co., Leavenworth, Kas.

**FOR SALE**—Thoroughbred Polled Angus bulls, 1 and 2 years old. For particulars address Conrad Krueger, Pfeiffer, Kas.

**HIGHEST MARKET PRICE PAID**—For millet and sorghum seed. Send samples and state quantity. Address Kansas City Grain & Seed Co., Kansas City, Mo.

**TO EXCHANGE**—Choice poultry for good breech-loading double-barrel shotgun. Fred Dille, Edgerton, Kas.

**FOR SALE**—Sixty choice Light Brahmas. Felch strain. Wm. Plummer, Osage City, Kas.

**FOR SALE**—Choice Plymouth Rock cockerels at \$1 to \$1.50 each. A. B. Dille & Sons, Edgerton, Kas.

**FOR TRADE**—Unincumbered quarter. Thirty-nine fourths tillable. Good improvements. Four miles from Webster, nine from Stockton. Want farm near town of eight hundred or more. Chas. A. Babbitt, Webster, Rocks Co., Kas.

**TREES, PLANTS AND SHRUBS**—Surplus nursery stock at the following very low prices, best named kinds, select stock: Strawberry plants, \$3 per 1,000; asparagus, two year, \$4 per 1,000; rhubarb, \$4 per 100 (greenhouse plants, thirty for \$1, mail or express); Russian apricots and Russian pears, \$8 per 100, each 10 cents; evergreens, red cedar, arbor vitae and Scotch pine, three feet high, \$15 per 100, each 20 cents; hardy shrubs, six for \$1. Price list free. Bonner Springs Nurseries, Bonner Springs, Kas.

**WE HAVE** a cash buyer for a good eighty-acre farm. John G. Howard & Co., 423 Kansas Ave., Topeka.

**HAVING** rented my farm I offer five choice Shires for sale or trade very cheap. Oldreive, Florence, Marion Co., Kas.

**EARLY OHIO SEED POTATOES**—Grown in northern Minnesota. Car lots. Write. W. H. Davy & Co., Moorhead, Minn.

**DRESSMAKING**—And plain sewing. Dresses from 75 cents up. Satisfactory prices and work guaranteed. Please call at 213 E. Fourth St., Topeka. Alice Day.

**CHOICE BARRED PLYMOUTH COCKERELS**—C at \$1.50 apiece. Also White Holland turkeys. Young toms \$3 each, \$5 a pair. Mrs. E. P. Mason, Belle Plaine, Kas.

**FOR SALE**—Or will trade for farm land, six nice medium-priced residences in Topeka. Farmers wishing to come to town to live or to better educate their children will find this a first-class opportunity for a city home. Dr. Henry W. Roby, Topeka.

**GALLOWAY BULLS FOR SALE**—I have some fine young Galloway Bulls for sale cheap; also Scotch Collie pups. Come and see them, or address, F. R. Hinton, Snokomo, Wabauunsee Co., Kas.

**600 PURE-BRED COCKERELS AND PULLETS**—\$1 to \$2. Ten leading varieties. Sixty White Holland Turkeys. \$2 to \$2.50. Circulars free. R. L. Barrier, Eureka, Kas.

**FOR SALE**—This month, 100 choice Silver-Laced Wyandotte cockerels, \$1 each, or \$10 for twelve. D. Tennyson, Frankfort, Kas.

**FOR SALE OR TRADE FOR STOCK**—100 acres of clear land in Graham county, Kas. Thomas Brown, Box 55, Palmer, Kas.

**5 CENTS** in stamps for an Oklahoma Territory newspaper. Address The Sooner, Kildare, Okla.

**DOUGLAS COUNTY NURSERY**—Offers for the spring trade a full line of nursery stock—fruit trees, small fruits, shrubbery, bulbs and roses; grape vines in large quantities; 800,000 hedge and forest tree seedlings. Prices to suit the times. Send for catalogue, free. Wm. Plasket & Son, Lawrence, Kas.

**FOR SALE**—Mammoth Bronze turkeys, Poland-China and Duroc-Jersey pigs. Best stock. D. Trott, Abilene, Kas.

**READ AND WRITE**—To E. T. Fay, Mineral Point, Mo., for two valuable prescriptions for the cure of consumption and rheumatism. No charges.

**MICROBES** cause disease; Microbe Killer kills microbes. Cures all diseases. Write for agency. Big money; exclusive control. If sick write for pamphlet. Try our Granules: finest laxative in the world; 25 cents, postpaid. Microbe Co., St. Joseph, Mo.

## TWO-CENT COLUMN--CONTINUED.

**WANTED**—To exchange some good Topeka real estate for a Percheron stallion; also standard-bred stallions for mares or fillies. Riverside Stock Farm, Topeka, Kas.

**WANTED**—Cheapest farm you know of. Send full particulars first letter. L. Ferrell, Wichita.

**SEED OATS**—Southern Red Rust-proof winter oats of the original stock—not Texas Red oats. An early-maturing spring oat in Kansas and a great yielder. Supply limited. One to five bushels, 75 cents, free on cars. For larger lots and further information, write to D. J. Fraser, Peabody, Kas.

**FOR FRESH ALFALFA SEED**—Address Carter & Son, Garden City, Kas.

**FOR PURE ALFALFA SEED**—Direct from the grower, address E. G. Jones, Syracuse, Kas.

**FOR SALE**—Eight pairs of fine English carrier pigeons. H. A. Thomas, Scranton, Kas.

**I HAVE THE FINEST MAMMOTH YELLOW** Dent seed corn ever raised. Special price for first five-bushel order from each county. J. D. Ziller, Hiawatha, Kas.

**WANTED**—The farmers to know that they can get a good square meal for 25 cents at 321 Kansas Ave., Topeka.

**CHOICE EARLY OHIO SEED POTATOES**—Grown especially for seed purposes, and for sale by car lot, barrel or bushel. Write for prices to A. Tomlinson, North Topeka, Kas.

**EGGS FOR INCUBATORS**—By express. I can furnish them in ten to forty dozen quantities, 90 per cent. or more fertile. Eggs saved with care. I have an incubator running now. C. J. Cooper, Beverly, Kas.

**FOR SALE**—Four young Jersey bulls from cows that are making over 300 pounds of butter a year. St. Lambert and Champion of America blood. Write A. E. Jones, Topeka, Kas.

**FOR SALE**—Choice pure Early Ohio seed potatoes. Eighty-five cents per bushel in sacks or barrels. Address Topeka Produce Co., 304 Kansas Ave., Topeka, Kas.

**FOR SALE**—Several varieties best early potatoes. Write for prices. Topeka Produce Co., 304 Kansas Ave., Topeka, Kas.

**BLACK LOCUST**—I will sell black locust trees, eight to fifteen inches high, for spring of 1894, at \$2 per 1,000, f. o. b. Pawnee Rock, Kansas, as long as they last. Send in your orders. Pawnee Rock Nursery, Pawnee Rock, Kas. W. M. Zieher, Prop'r.

**FOR SALE**—A few choice Poland-China males, eligible to record. J. R. Killough & Sons, Richmond, Kas.

**D. TROT**, Abilene, Kas.—Mammoth Bronze turkeys, Wyandotte and Light Brahma chickens.

**CANE SEED WANTED**—If any cane seed to offer, address F. Barteldes & Co., Lawrence, Kas.

**FOR SALE**—Holstein-Friesian bulls, one 2 years old and one spring calf. Both thoroughbreds. Address W. E. McCarter, Box 156, Topeka, Kas.

**RIVERSIDE POULTRY YARDS**—FOR SALE—M. B. Turkeys, S. L. Wyandottes, B. P. Rocks, S. C. White Leghorns, and their eggs in season. I took first and second premiums at the State Poultry show, also at the Central show at Emporia, 1894. Toms, hens and pullets scoring 94 and 95. Lucille Randolph, Emporia, Kas.

**LEGHORNS, LANGSHANS AND LT. BRAHMAS**—Premium stock. Heavy, handsome and hardy. Also Yorkshire hogs, Italian bees, honey and alfalfa. James Burton, Jamestown, Kas.

**WANTED**—To buy a 160-acre farm that can be irrigated. Expensive buildings not desired. Describe location, lay of land, improvements and amount of and depth to water available for irrigation by pumping. State all cash price. Address "B," KANSAS FARMER, Topeka.

**SWEET POTATOES**—Sent out to be sprouted on shares. No experience required. Directions for sprouting free. T. J. Skinner, Columbus, Kas.

**A BARGAIN**, if taken soon, in a young French Draft stallion, registered and warranted sound in every respect. Will sell on time or trade for land. Have splendid location and business established. C. A. Graham Humboldt, Kas.

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

## Three Jersey Bull Calves.

One, dam Princess Chuck, published butter test 24 pounds 14½ ounces in seven days; sires on Stoke Potts 6th. One sired by Tobago, sire of first premium bull at World's Fair, dam St. Lambert cow. One sired by St. Lambert bull; dam daughter of Rosetta of Whiteland, published test 27 pounds 2¼ ounces in seven days, half sister to Princess Chuck, 24 pounds 14½ ounces in seven days. Fifty dollars will take either one. Registered. The LaVeta Jersey Cattle Co., Topeka, Kas.

## ALFALFA RED KAFFIR AND JERUSALEM CORNS.

Address W. P. Haywood, Lakin, Kas.

**PUBLIC SALE OF THOROUGHbred POLAND-CHINA sows**, February 15, 1894. I will sell at my farm, five miles northwest of Marion, Marion county, Kas., at least sixty head of above breed, consisting of twenty-eight sows, bred, balance summer and fall pigs. Twenty-six of the bred sows are the tops of all of my early spring litters, and two yearling sows. The summer and fall pigs are the tops of all litters farrowed on and after June 22, 1893. All of the early litters are sired by Kansas King 5911 and Royal Finch 5912. The fall pigs are partly by Young Model 985. His sire, Admiral Chip 7915, sold at public sale in October for \$250. The brood sows of the herd are sired by Wm. H. 2319, Good Quality 4700, Black Duke 3558, and other well-bred boars. All breeders recorded in Standard Record. The sows are bred to four different boars. The foundation for this herd was laid in 1885 by the purchase of the best stock obtainable, and has been added to from year to year until I confidently believe, after visiting a number of the best herds and shows in the West, that I am offering as fine a lot of stock in this sale as I have ever seen together. Sale positive, without reserve or by-bid, and under cover. Customers from a distance coming day before sale will be taken care of without expense. All stock to be shipped will be crated and delivered at railroad. All parties coming by rail on any train on either road on the 14th and 15th will be met by giving notice. I will sell at same sale eight head of horses and mares, ranging in age from 2 to 8 years. Wren & Yost will sell six or more head of same class of stock at same sale. Both lots of horses are our own breeding and have from one to three crosses of Clydesdale blood. The mares are mostly in foal to my Kentucky jack. I will sell at private sale on same day my Clydesdale stallion, Blackfriar 2875, and my fifteen-hand Kentucky jack, Dexter. These animals are fine specimens of their respective breeds, and will be warranted as represented. Correspondence solicited. Horse sale will commence at 11 o'clock sharp. Hog sale immediately after dinner. Please be on time, as we have no trumpety to kill time with. Terms of sale: Eight months at 10 per cent., or 5 per cent. off for cash. Catalogue on application. Col. S. A. Sawyer, Auctioneer. W. H. Wren.

## SEEDS

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

## SEEDS

**T. LEE ADAMS**, Clover, Timothy, Blue Grass, Red-Top, Millet and Cane Seed, 419 Walnut St. LANDRETH'S GARDEN SEEDS, Kansas City, Mo. Sheridan & Pratt's Poultry Food.

## SEEDS

**ALFALFA A SPECIALTY.** Cane, Millet Seeds, Kaffir, Rice and Jerusalem Corn, Yellow and White Milo Maize—all grown in 1893. For prices address McBETH & KINISON, Garden City, Kansas.

## SEEDS

**KUMLER & UNDERWOOD**, Lawrence, Kas.

Onion Sets, Seed Potatoes, all kinds Garden Seeds. Wholesale and retail; very low, quality considered. Write for prices.

Better than Ever for 1894.



Is Different from Others.

It is intended to aid the planter in selecting the seeds best adapted for his needs and conditions and in getting from them the best possible results. It is not, therefore, highly colored in either sense; and we have taken great care that nothing worthless be put in, or nothing worthy be left out. We invite trial of our seeds. We know them because we grow them. Every planter of vegetables or flowers ought to know about our three warrants; our cash discounts; and our gift of agricultural papers to purchasers of our seeds. All of these are explained in the Catalogue, a copy of which can be yours for the asking.

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

## KANSAS SEED HOUSE

F. BARTELDES & CO., LAWRENCE, KANSAS.

**EVERYTHING IN THE SEED LINE.** Our Specialties:—Onion Seed and Sets, Alfalfa, Kaffir and Jerusalem Corn, Cane, Millet and Seed Corn, Tree Seeds for Nurseries and Timber Claims. Have also a limited supply of Lathyrus Silvestris (Flat Pea), the new forage plant.

New Catalogues mailed free on application. (Please mention this paper.)

## Annual Linwood Sale.

**W. A. HARRIS & SON**, OF LINWOOD, Leavenworth Co., Kas., announce that their annual sale of young Short-horn bulls of the BEST CRUICKSHANK BREEDING, will be held at the Stock Yards Sale Pavilion, Kansas City, Mo., on Wednesday, February 28, at 1 p. m. In addition to the young bulls (16 in number) the well-known stock bull IMP. CRAVEN KNIGHT 96923 will be sold. Also eleven head of desirable young females, including the first GOLDEN DROP ever sold from the herd. Age considered, this is believed to be the best lot of young stock ever sold from Linwood. Catalogues now ready. Send for one. Address as above.

COL. FRED M. WOODS, Auctioneer.

## Grand Closing-Out Sale

About 70 head of A. J. C. C. Jersey Cattle And 40 head Poland-China Brood Sows, all bred.

Belonging to the Lincoln Jersey Cattle Co., at Riverside Stock Farm, situated three miles south of the city of LINCOLN, near the State Penitentiary.

**ON FEBRUARY 7 and 8, 1894.**

Swine Sale Wednesday, the 7th. Cattle Sale Thursday, the 8th.

There has never been offered at public sale west of the Mississippi river as highly bred or as good dairy cattle as those comprising this herd. St. Lambert's Rex 1330 and Cormac's strains.

The swine consist of U. S. Standards, Van Dee, Van Worts, Beauties and Black Hens C. strains.

Sale to commence each day at 10 o'clock a. m., under cover. Catalogues ready January 20, 1894. Take Fourteenth street car to Penitentiary.

**LINCOLN JERSEY CATTLE CO., LINCOLN, NEB.**

COL. F. M. WOODS, Auctioneer.



## FIRST ANNUAL REDUCTION SALE!

Of Imported, Pure-bred and Grade

**Percheron and French Coach HORSES.**

Friday, February 23, 1894

I will offer Thirty Head of Horses to the highest bidder, regardless of price, consisting of SIX PURE-BRED STALLIONS, EIGHT PURE-BRED MARES, SIXTEEN HIGH-GRADE PERCHERON and ROADSTER MARES and GELDINGS. Catalogue ready for distribution January 20, 1894. TWO TOPPY SHORT-HORN BULLS will also be sold.

TERMS:—Under \$200, one year's time; over \$200, one and two years.

Sale begins at 10 a. m. Free lunch at noon.

**HENRY AVERY**, Wakefield, Clay Co., Kas.

COL. S. A. SAWYER, Auctioneer.

## HORSES! SOLD AT AUCTION,

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

THE LARGEST & FINEST INSTITUTION OF THE KIND IN THE UNITED STATES.

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