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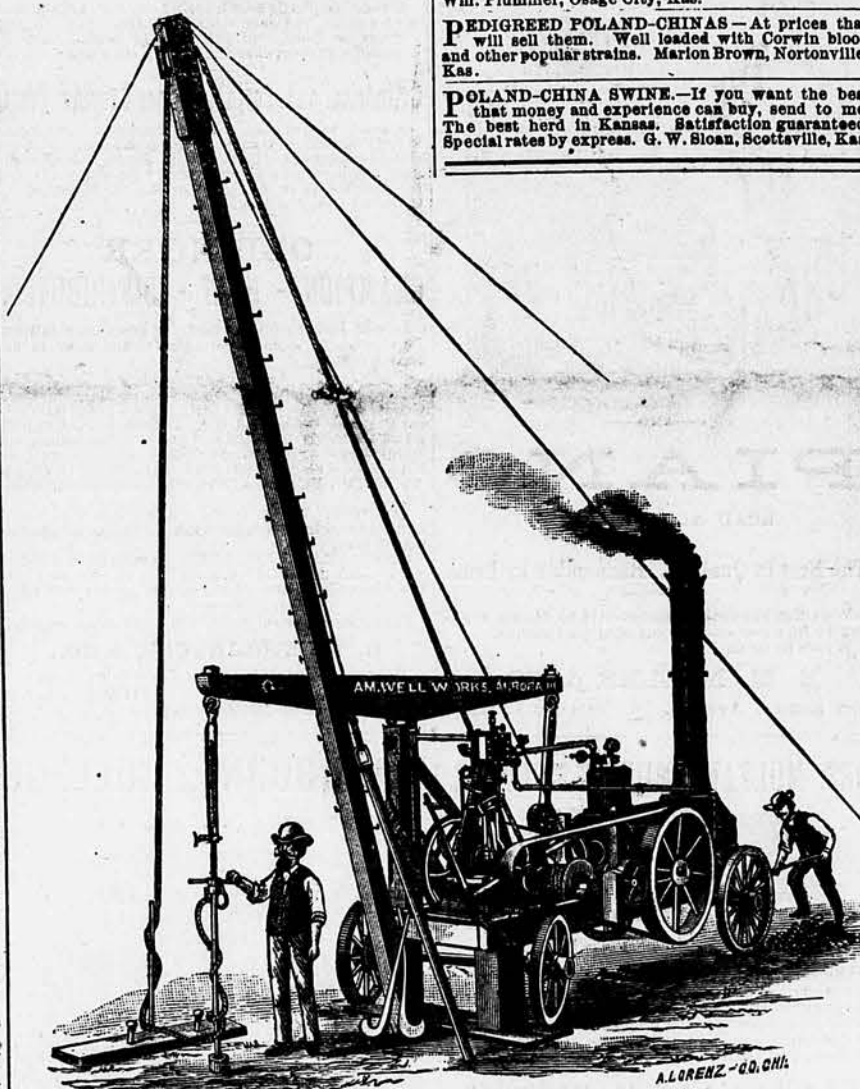
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(Continued on page 20.)

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Agricultural Matters.

TAME GRASSES IN KANSAS.

Bulletin No. 2, of the Kansas Experiment Station, is devoted to a review of experience with grasses and clovers on the College farm since 1873. We have not room for all, but give the record from 1885 to the present, together with the Director's observations on what the experiments show. Beginning with 1885, the Bulletin recites:

1885.—The early season was well-nigh perfect for grass and all other cultivated plants. The following items from the *Industrialist* will serve to show, in a statistical way, the relative earliness of a few of the commoner grasses and clovers at the date mentioned: April 7th—"Grass is starting well. Alfalfa shows the largest and most vigorous growth, with meadow oat grass a good second, showing blades six and seven inches long, and plenty of them. Blue grass follows, with orchard grass and red clover in the third or fourth place." April 20th—"Meadow oat grass shows shoots nine to eleven inches high; alfalfa, eight to ten; English blue grass, five to eight; orchard grass, three to six; timothy, four to five; red clover, two to five. Bermuda grass shows no green blades above ground, although evidently alive." The late summer and fall, however, did not maintain the promise of the springtime. About six acres seeded to orchard grass and red clover made an almost perfect growth. The *Industrialist* of September 26th gives the facts of the season as they relate to our theme as follows: "The early growing season was nearly or quite all that could be desired by the grower of cultivated grasses; but, later, protracted dry weather put the tender sorts to a severe test. Tall meadow oat grass, for which so much has been claimed, gave a medium crop of hay; but, since the cutting, has hardly shown a sign of life. Kentucky blue grass has killed out in places, the fields showing many bare spots, but the late rains have put new life into the living plants; so that, without doubt, it will soon recover lost ground. Red clover has given an enormous yield of hay; and, since cutting, has afforded abundant pasturage. The same, and even more, can be said of orchard grass and alfalfa. Our experience the present season, and the experience of many other seasons, have shown mixed red clover and orchard grass to be the most useful of perennial forage plants." October 10th—"An exceedingly dry fall has brought pastures to a condition of more or less complete barrenness; so that on October 8th the herd was gathered to the barn."

1886.—The winter of 1885-6 will long be remembered because of its length and severity; resulting in the total destruction of nearly all the alfalfa, clover, timothy and orchard grass (about thirty acres) then growing on the College farm. The only exception to the general fatality was the orchard grass, sowed the spring immediately preceding this severe winter. For some unaccountable reason, the six acres sowed in the spring of 1885, although the field was a very exposed one, was not damaged in the least. Elsewhere, in protected situations, the south side of board fences and buildings, no damage was done. Neither were Kentucky blue grass, or its near relative, Texas blue grass, injured in the least; but the destruction of all other grasses, and all clovers, except as stated above, was complete. This was, by far, the most serious set-back that we have experienced in the course of fourteen years of experimenting with cultivated grasses and clovers. That the circumstances of that winter were exceptional to a degree, I have every reason to believe. The results of the losses of the previous winter were soon made painfully ap-

parent in a greatly diminished pasture and hay crop. The *Industrialist* of August 21st, contains this note: "Hay is a poor half crop, and pasture is the poorest we have known for years." The absence of clover, orchard grass, and alfalfa explains this shortage in part; but only in part, for the season was a dry one, and not well calculated to bring the grasses to their best estate.

1887.—This was one of the most unfavorable seasons known to Kansas agriculture; or, for that matter, the agriculture of almost the entire nation. A dry spring was followed by a very dry and hot summer, which reduced the yield of all crops to the lowest point known for many years. About twelve acres of mixed orchard grass and red clover, seeded late in April, germinated perfectly; and, for a time, its growth was all that could be desired. The dry summer, however, greatly damaged the young grass plants; for a time, indeed, the destruction of the entire crop seemed complete. The early fall rains, however, showed the loss to have been much less than was supposed. At the present time the field shows much more than a good half-stand. By re-seeding the vacant patches we are not without hopes of getting the field thoroughly set. The early fall rains did much more than to revive the spring-seeded grass; the blue grass started with vigor, and soon displayed a luxuriant growth that rarely has been equaled upon the College farm.

1888.—We have this year seeded, outside of experimental plats, about twelve acres of ground. The basis of the seed mixture used has been orchard grass, although to this have been added, in various proportions, to suit different soils and situations, red-top, clover, alfalfa, and, to some extent, English blue grass. So far, all have started from the ground in a way that leaves nothing to be desired.

This, in brief, is the history of the successes and failures had with the cultivated grasses upon the College farm, so far as there are any records. Of the failures in seeding, it ought to be said that, at least, in the case of two seasons, the loss grew out of ignorance and inexperience of Kansas soil and climatic conditions. Of course, these errors are not likely to be repeated. The facts of this history may be concisely summarized as follows: In seeding, we have, in the course of thirteen years, been completely successful in seven years, and have made more or less complete failures in five years; and, in the same period, we have had eight great crops of hay, one medium crop, and four years when the hay crop was light. We have had, in the same period, but one season (that of '85 and '86) when the destruction of grasses and clovers by winter, killing was really serious. We have never yet—at least since 1874—had experience of a season of drouth that has permanently injured well-set orchard grass, alfalfa or red clover.

These facts seem to me to show, beyond any possibility of question, that the tame grasses and clovers, when cultivated with intelligence and judgment, are a profitable crop in this section of the State, and doubtless in others where they have never been tried. The experience above detailed seems a sufficient basis for certain general rules of practice which, without much further statement of reasons, are given below. It is not claimed that these rules are of the infallible, cure-all sort. I know of no matter in which the farmer can safely waive judgment, or where he can delegate his thinking to another. Circumstances may make it necessary to follow an entirely different course from that which has generally proved satisfactory at the College farm. Nor have

the practices here recommended *always* been satisfactory to us; they have simply given better results, all things considered, than were obtained where a different course from that here recommended was followed.

WHERE TO SOW.—THE SOIL AND ITS PREPARATION.

A strong clay loam, resting on a friable clay subsoil, is, in Kansas, as everywhere, natural grass land. The soil can hardly be too rich, naturally or artificially, for grass. Poor lands may be counted on to produce poor crops of grass as of everything else; but lands which have been impoverished from any cause may be relied on to exhibit, in the crops grown upon them, in an unusual degree, all of the unfavorable influences of the climate in general, or of a particular season. But, whatever the character of the soil, prepare it for the reception of grass seed by as thorough plowing and harrowing as is ordinarily done for oats or corn; and follow the seeding with a light harrow or roller, or both. Do not seed upon raw prairie. Except in the extreme eastern and northeastern sections of the State, I never heard of a "catch" obtained upon unbroken prairie, although I have been familiar with a considerable number of costly "experiments" made to test this matter. I would in no case attempt seeding grass upon land that had not been cropped three years. Never consent to seed with some other crop, as wheat or oats; this is a rule with scarcely an exception.

WHEN TO SOW.

Our best stands have been had from spring seeding. It is difficult to speak accurately here; but I would in no case be tempted to sow grass seed until the ground was thoroughly wet from the spring rains. We have rarely found it advisable to sow earlier than April 15th. The following excerpt, an argument for spring seeding, is taken from my report of 1885: "I am aware that by many the view is held that, inasmuch as the plant casts its seeds in the fall season, this is nature's own time for the sowing of seed, and that, in this respect as in so many others, art can do no better than to copy nature. To this, answer may be made that nature, in her seeding operations, is wasteful in the extreme, sowing a thousand seeds that come to nothing for every one that develops a plant. Moreover, this argument for fall seeding applies equally in the case of corn, oats, and other similar 'spring' grains, which, in a state of nature, are equally with grass seeds sown in the fall. Fall seeding may be said to be better than seeding in the spring in the case of all plants which make a growth in the fall sufficiently strong to withstand the rigors of winter. This, corn and oats and most grasses will not do." Timothy and Kentucky blue grass may be sowed late in August or early in September with fair prospect of success; but even these have done better with us when the seeding has been delayed until spring.

WHAT TO SOW.

Many sorts of grass and clover are, doubtless, valuable to the agriculture of the State; and it is equally certain that varieties useful in one section or situation are of little value in others. The practical man, however, never finds it to his interest to attempt the cultivation of many sorts. Usually, two or three varieties complete the list of grasses cultivated in any section; and very often a single species, like alfalfa, as grown in southwestern Kansas, satisfies fully the requirements of a large section of country. For this reason I refer to but few sorts here; others might, beyond question, for other localities, be substituted to advantage for those commended here.

Mixed orchard grass and red clover have proved, for the general purposes of the farm, superior to any single sort or combination that we have yet tried. A bushel and a half of orchard grass, or better still, two bushels, with three quarts of red clover

seed, per acre is a very satisfactory mixture. English blue grass (*Festuca elatior*) has often been very valuable, although it has not the staying qualities so characteristic of orchard grass. When sown alone, two bushels of seed per acre should be used, and, if to this two or three quarts of red clover seed are added, the product of the field will be improved both in quality and quantity.

There are few Kansas farmers who might not grow alfalfa to advantage. In the ability to resist drouth, and in its yield of hay or pasturage, it has no equal among the common grasses and clovers. About twenty pounds of seed should be used to each acre of ground, which must, in every case, be well prepared by plowing and harrowing. Of the above-mentioned sorts, and, indeed, of every variety of grass that we have tried, it may be said that ultimately it will give place to Kentucky blue grass. Red clover will hold its own longer than any other grass or clover against the encroachments of this conqueror of grasses; but the blue grass is sure, sooner or later, to dispute with it the possession of the land. Except for lawn, I would on no account advise seeding to Kentucky blue grass. For the reason that it gives no hay crop worth mentioning, and almost no pasturage, except during about five weeks of the early spring, it has, in this section at least, but trifling agricultural value. Its near relative, Texas blue grass (*Poa arachnifera*), seems to us a much more useful sort, and, not unlikely, one of our very best grasses. A wider experience is needed before a statement of the agricultural value of this grass can be made.

IN TIMES OF DROUTH.

There is no drouth-proof fodder plant; although some deep-feeding plants like alfalfa are but slightly affected by the ordinary "dry spell." But grass is like every other crop, in that it falls when from any cause it is deprived of its proper supply of moisture. To look for heavy crops from the meadow in dry seasons is as unreasonable as to expect large crops of grain when the rains fall us. We are not warranted in demanding much more of any grass than that it shall pass the time of lengthened drouth uninjured. The grass or clover that may be relied upon to do this (as will most of the sorts commended above), rallying promptly on the recurrence of rain, is a very valuable sort, accomplishing nearly all that may reasonably be expected of agricultural plants.

In conclusion, I wish to express my obligations to my assistant, Mr. H. M. Cottrell, for much pains-taking work in compiling the facts of this Bulletin.

—The bulletins and annual reports of the station will be sent free to residents of the State on application to Director of Experiment Station, Manhattan, Kansas.

It is a curious fact that wasps' nests sometimes take fire, as is supposed, by the chemical action of the wax upon the material of which the nest is composed. Undoubtedly many fires of unknown origin in hay stacks and farm buildings may thus be accounted for.

The U. S. *Dairyman*, opposing the popular clamor for small cheeses, reminds its readers that the smaller the cheese, the larger the per cent. of rind and waste. It is a serious objection to all small cheeses, not only that they involve extra labor and waste, but that they do not cure as well as the large ones.

Creameries and Dairies.

D. W. Willson, Elgin, Ill., makes a specialty of furnishing plans and specifications for building and operating creameries and dairies on the whole milk or gathered cream systems. Centrifugal separators, setting cans, and all machinery and implements furnished. Correspondence answered. Address, D. W. WILLSON, Elgin, Ill.

It is claimed by those who have made the experiments, that grafts set on the first cut on the root or collar are more apt to live than those on lower cuts. The first or lower cut of the scion is more apt to live than those taken higher up. The terminal bud is not so likely to live as other grafts, but those that do, generally make a longer growth. When cuts of the roots four or five inches long are used, they are more likely to live than two and one-half inch cuts, and more than twice as many will grow as when the cuts of the roots are one and one-half inches long.

The Stock Interest.

Honor to Whom Honor is Due.

EDITOR KANSAS FARMER:—There is an old maxim, and a good one, "Honor to whom honor is due." When Christopher Columbus discovered America, and had returned in due time, and was being banqueted by certain of the nobility, they all with one accord began to quiz him about his discovery, and I am sorry to say they also began to belittle him and his discovery, and I have no doubt there were those present who used language substantially like this, "Well any fool could do that," or "Well, it was not much of a trick after all; all you had to do was to keep sailing due west." The comments of Mr. George Y. Johnson, of Boston, Mass., smack very much, both in your columns and on the rostrum in Boston, of that same kind of talk. He tells us at one of these places that "There is a man who has been making considerable noise lately on the subject of dehorning cattle. That he sent and got that man's book on the subject, and also wrote him a private letter. That he got little satisfaction from either; and that he learned more about dehorning cattle from a few lines in some paper than he did in any other way." You will remember, Mr. Editor, that on the occasion referred to Columbus handed his disparaging critics an egg, and requested them to stand it on end, which the account says they all tried, and failed to do; that thereupon they in turn asked Columbus to stand the egg on end, and that gently tapping the shell on the table until it was a little broken, he sat it erect on its end before their very eyes. Now, if Mr. Johnson is so wise, and was so original on the subject of dehorning cattle, will he kindly tell us when and where he first sat the egg on end. In my opinion, Mr. Editor, about the best thing Mr. Johnson can do is to take my new book, "The Practical Dehorner," and study it and learn something about how to operate on cattle; and I will venture the assertion here and now that one-third of all the cattle that he has ever dehorned will show stub horns on examination, and as great a proportion of the calves that he boasts about dehorning with a knife; and I believe that any fair-minded man who reads my book will agree with me in what I say. As to dehorning with shears, or with stiff-back saws, or with butcher saws, I simply say that I am receiving letters every day from all over this country in which men relate their experience, and I do not hesitate to say that my position regarding the use of improper tools is justified in their individual cases. Mr. Editor, I challenge any man, far and near, to show the written page, either in this country or abroad, in which prior to my time it was ever taught how to so remove a horn from the head of a bovine that no stub would follow, and that the animal would be a clean muley. If men will insist upon following their own devices, and if they will be governed by such crotchety writers as Mr. J., they may expect what has already followed, that when their cattle go to market they will pay dearly for having sent a lot of stub horns.

Now, as to your quotation from the *Bloomington Pantagraph*, allow me to say that the conclusion drawn in that paper, namely, "That none but an expert should be employed in dehorning," is entirely wrong; on the contrary the rule should be from this time forward, "Every man his own dehorner," and they can send to you for the book, and learn the how and all about it. If I am

not entitled to the credit as the inventor and the originator of dehorning cattle, and if I did not coin even the word "dehorn" itself, then let the proof be produced, and let me be "Anathema Maranatha." Let Mr. Johnson and his tribe of growlers put up or shut up, so far as I am concerned. I discovered and invented the practice of dehorning cattle so that no stubs should follow, and it will take several men to deprive me of the credit, if any justly follows the discovery. "Honor to whom honor is due." Send your order to this paper for my book and it will be sent to you by return mail. H. H. HAAFF.

Turnips for Pork and Turnips for General Use—More Succulent Food.

The American farmer must learn to appreciate the value of food which will furnish more succulence. Where long winters are exceedingly trying to the health and constitution of domestic animals, the long regime of dry foods of all sorts, topped off with corn, is a reign of wrong which the present age should not tolerate. The silo is a potent invasion into the realm of constipation and fever, and with turnips, as a cheap and ready ally, we may expect to hold our own and make advances on the line of better success and prosperity. Somehow the citadels of prejudice and custom are so firmly imbedded in the head of the average farmer that the most determined attacks must be made, and a constant fire kept up in order to make the least impression.

I have preached turnips for years, and have been ready to lead an army of recruits to my side right onward; but as yet only a corporal's guard have reported as ready for action. I do not give it up. It afforded me some satisfaction to spread before the people, during the winter, an account of the most successful experiment in making the best of pork chiefly on turnips. The farmers opened their eyes, there was so much advance. The readers of the *Stockman and Farmer* were told of the mode of feeding, but as this was early in the winter, and before the hogs were killed, I will recall some of these facts.

Sixteen sows which had pigs, and four of which had two litters each, were fattened on turnips boiled in a potash kettle which held, heaping, ten bushels. The hogs ate the ten bushels of cooked turnips each day, with which were mixed a half bushel of rye ground entire. Three weeks before they were butchered the rye meal was increased a half bushel more. The whole food was divided into two meals, as I have found that when any kind of animals are fed for fattening two meals are all they can digest and assimilate within twenty-four hours. This kind of food made the best of pork. The flavor was superior and the quality the best I ever had. It was simply a confirmation that, whereas turnips will make the best of mutton and beef, as has been proven at Kirby Homestead, they will also make the best of pork, hams and bacon.

Very few farmers understand the value of succulent foods for fattening animals. They know that grass will make animals fat all over, and that it will make rich milk; but the importance of succulence in the food, or its predominance in the rations of fattening animals, is an untried idea. That succulent foods, such as turnips, will cause the tissues to be better filled out, and the meat to be far more juicy and palatable, has been demonstrated on this farm in a number of experiments. The making of pork by the same process was a new idea, and that this is feasible has now been most satisfactorily proven. The gain no doubt

would have been faster with more rye in the ration.

In this experiment there was an attempt to build up the lean meat and increase the proportion over the fat. The hogs ran all the time in the root field and ate the tops of the roots which had been gathered and the small ones left in the field. This kind of food helped to fill them up and make growth, not fat. Any food which will make a rapid growth or increase of the whole body is a healthy food, and must make meat which will be nutritive and taste well. The stuffing of the skin with fat is not making meat. There is weight to be sure, and roundness and plumpness; but there is no large amount of meat with it all.

With the meat made on the turnips there is less waste because, less fatty matter, and more muscle. Let unbelievers try it and eat and be converted. My hogs had 75 per cent. of juicy, tender and sweet lean meat. There was no piggy flavor, so common to swine's flesh. Why not make pork out of turnips as well as mutton and beef? The chief reason is the lack of turnips, and there may be something in the breed of hogs. It may be some hogs will not eat turnips. Then get rid of such hogs and get a breed which will. The coming hog must be a hog which will forage and grow on grass, fatten on clover and sweet corn stalks and get ready for market on turnips as a leading ration.

I want to urge farmers to grow more turnips. My hogs are now feeding in the turnip lot, and the fresh ground and succulent food obtained there is just what they want. It saves more expensive foods, and tones up the sows to bear their young and to do well. The turnip field can be made the last pasture in the autumn and the first in the spring. Store hogs require but little other food and none at all, before cold weather sets in.

There is a use which can be made of turnips in winter which an experiment made the past season has shown to be practicable and economical. Common flat turnips have furnished two of the three meals that all the hogs here had. The third meal consisted of a thin slop made of meal and bran mixed with water. The hogs never looked brighter in their coats, or were more active and vigorous. They are not fat, but in prime wintering order, and two barrows are fit to butcher. The most satisfactory result of this experiment is that the pigs are born strong and active and require no assistance. They have all cared for themselves, although born sometimes at night when the weather was very cold. Only one pig has been lost, so far, by being chilled, and that in a litter of twelve by a young sow. Two others have been laid on, which completes the entire loss thus far.

I consider some form of succulent food a necessity for sows when carrying pigs. When they have plenty of such food they almost always do well. And when confined to corn or all grain they are liable to be feverish and to destroy their young. The pigs are also weak and puny and a succession of this kind of breeding soon fixes the characteristics of weakness in the race. I want to breed on the opposite line and establish a prepotency for vigor which carries with it a strong appetite and digestion, which in turn fits the hog for a thorough forager. Such hogs can be turned to a good account on the farm, as they will fit the corn ground for a crop by utilizing the grass in it, after harvest and in the early spring; and they will take to turnips with a relish. My hogs ate their breakfasts and dinners of raw turnips with as much satis-

faction, evidently, as others would corn or other more costly foods.

Most farmers should keep more hogs. They are almost invaluable as factors or aids on the farm. The reason why there is so much objection to them in the old States is because of the great cost of keeping them and the constant doubt in regard to the profit. This doubt is well taken, as they are usually managed, being kept on grain the year round, supplemented perhaps with skim milk. No farmer scarcely thinks he can rear hogs and breeding sows on such cheap foods as turnips and apples with grass and clover. The bran and middlings, fed extra, will help to increase the growth and profits.—F. D. Curtis, Kirby Homestead, N. Y., in *National Stockman*.

Stock Notes.

Prof. Roberts says there is no such thing as "native cattle." The term is misnomer. Our so-called natives are a conglomeration of all the best blood of Europe.

Plan your crops to suit the stock on the farm this year. If you have improved stock you can utilize your farm crops at much more than the market price of grain and forage.

The *London Live Stock Journal* says a Leicester ewe belonging to Mr. Wm. Armstrong, Cumberland, Eng., gave birth to four fine lambs; the same ewe last year had three lambs.

A very successful breeder of Poland-Chinas never feeds old sour swill to his swine, contending that it is poisonous to them. All milk, steamed food, etc., is fed within twenty-four hours of mixing.

Cattle, says a well-known dairyman, will eat ensilage in preference to hay every time, and sometimes in preference to meal. Cattle fed on corn ensilage for two years looked splendidly, and were sleek and fat. They had no hay, but were fed meal in addition to the silage.

Farmers should consider that corn is not a proper food for young stock. It will fatten them, but does not encourage growth. A young animal should be made to secure bone and a heavy frame, not fat. It can be fattened after maturity. It is simply wasteful to feed corn to young stock.

An advocate of pig pork declares that a young pig will produce more live weight from a given weight of food adapted to its use than any other domestic animal. Skim milk and meal, he says, are the most effective rations fed. Middlings is the best single food; cob meal, fine ground, is an efficient food, and equal to clear corn meal.

The *Rural World* "rises to remark," for the benefit of those esteemed contemporaries who denounce the pleuro-pneumonia as a mere pretext by which "veterinary butchers" earn big fees and exercise arbitrary authority, that a single bull purchased in Illinois introduced the disease into Missouri at an estimated loss to the State of over a million dollars.

Do not look for a general-purpose sheep, advises a Western shepherd. All breeds produce wool and lambs; some excel in one point and some in the other. Decide what your location demands for a leading characteristic and then go and get it. If you have a flock of coarse, roomy-bodied sheep, get a Merino buck to improve the wool, or a Southdown for early lambs.

Speaking of the care of early lambs a correspondent of the *New York Tribune* says that the lamb should have a variety of grain, the main point being to induce it to eat all it can digest. In addition to the foods recommended for the ewes, crushed barley is an excellent food, and, where obtainable, peas are also excellent. It is a good plan, though some trouble, to provide separate troughs for each variety of grain furnished, and thus enable the lamb to eat that which suits its taste best. In all cases the lambs should be provided with whole mangels fastened in some way, from which they can eat as much as they please. All this may seem troublesome, but inasmuch as the early lambs and the prime lambs are the ones that pay, any little trouble that produces these results is a good investment.

One dollar is all that we now ask for this paper one year.

In the Dairy.

Private Dairying.

EDITOR KANSAS FARMER:—I am greatly interested in the article in KANSAS FARMER, April 26, page 5, headed "Private Dairying," from the pen of P. C. Branch. Among other truths Mr. B. writes:

"The common mistake, and the fruitful source of only partial success in farm dairying, is in turning the labor and responsibility over to the women, and regarding it as too small business to engage a man's time and attention."

This mistake is more common in the West than in the East. Without any disrespect to farmers' wives, will state that I believe facts will show that no great improvement has ever been made in butter-making, save where men have given the matter attention. This is not strange, as the men have better opportunities for attending meetings and coming in contact with persons who are well up in the dairy thought and practice. Of course there are exceptions, and in many instances improvements have been made and in many adopted by women. In Franklin county, Vt., the work in private dairies is done mainly by the men. In the West there are too many men who think butter-making is too small business. Taking this view of it, they are not inclined to provide improvements nor give the subject much thought or attention, and of course will meet with but little success.

Mr. B.'s plan of co-operation is, no doubt a good one. The only objection that I can see to it, and that may perhaps be overcome, is that the butter would be likely to pack together, when it will not be quite as easy to salt it as when in granular condition. The position he takes regarding salting butter with brine is a new one—or at least new to the writer of this—but is worthy of investigation. Have heard some complaint within the past year that butter made in public creameries had too much water in it, and the trouble may come as a result of brine-salting. On the whole, Mr. B.'s letter contains a great deal that is practical and will put in motion a great deal of thought.

F. W. MOSELEY.

Clinton, Iowa.

HOW TO BUILD A GOOD SILO.

The following interesting article was written by John Gould, of Portage county, Ohio, and published first in the *Mirror and Farmer*:

The stone, cement silo has had its day. Its only claim was durability, but as a complete receptacle for silage it has never been perfect. It was never any more proof against frost than a wire fence was ever a good wind-break. In the days of sour ensilage it was a No. 1 plan to develop acid, but when it was found that silage should be heated up to 125 deg. at each day's filling to kill the germs of acid ferment, and give us ripened silage, the stone silo failed. The center of the pits would heat up, but along the sides and in the corners no heat would develop, because the stone was a good conductor of heat and prevented it. The silage next to the walls of course soured, and when the frosts came the silage on the one side condensed the entering frost and so a space of silage along the walls was more or less sour, more or less moldy and more or less absolutely worthless. The wooden silo obviated this. The two-inch boards forming the sides, with the tarred paper between them, made an almost perfect non-conductor of heat and cold. The silage readily took on heat up to the walls, and only in the very corners could any imperfections be found, and this only a fractional per cent.

The question then came how to build

with wood. The outward pressure of the silage was large, and a strong frame would be needed. This was quickly remedied by making the frame of 2 by 10-inch studding, and setting them 16 inches apart. Fix a foundation by simply making the ground level where the silo shall stand, of course with reference to handiness in getting the silage into the stables, and guarding against surface water; the sills of the silo, 6 by 10-inch pieces, are put flat on the ground. These sills should be thoroughly saturated with gas tar, put on boiling hot. The best form of silo for the average farmer is 16 by 32 feet, and 16 feet high. The studding are set with two mortices, the same as any balloon frame. Four cross-sills, 2 by 6 inches, are framed in to keep the sills from spreading. They should cross flatwise, and be morticed in close to the bottom side of the sills.

The studding in place, no plates are needed. Line up the silo on the inside with common rough inch boards, well nailed to the studding. Paper this up and down with tarred paper, well lapped, and then over this nail on a second lining of inch boards surfaced on the inside, the same way round as the first course, but breaking joints with a half lap to prevent cracks from being over each other, and well nail this last lining. It is better not to use matched lumber, simply using straight-edged lumber. To keep the silo from spreading at the top, put on the rafters by spiking them flatwise to the tops of the studding, using 2 by 8-inch rafters. Crosslap them at the top ends, instead of mitering them together at the end as usual. Then take inch boards, eight inches wide, and cross-tie the rafters on the under side, letting the ends of the boards go flat against the other side of the stud to which the rafter has been spiked, and then take some 20-penny wire nails, and clinch through the three thicknesses; and then the roof will be a truss rafter roof and can't be sprung apart.

The roof can be covered with roof boards and shingles, or an iron roof can be used. On the outside of the studding, the building can be covered as cheaply or as well as the farmer may desire; the cover will add nothing to the better keeping of the silage. It will be simply a matter of looks. If weather-boarded, the spaces between the studding should not be filled in with any material like sawdust, tan bark, etc. They are each and all better away, and it is even better to make the outside bottom boards a little "scant" at the sill, to allow free circulation of air between the studding.

Inside the silo a floor made of lumber, gravel, cement or the like is wholly unnecessary. The better and cheaper way is to pound in clay enough to cover the cross-ties, and come up a few inches on the inside facing of the silo walls. This is all that need be done; so far as making a good floor, cement is not as good as clay, well hammered down. An inch or two of straw can be scattered over the bottom if thought best, but it is not necessary. The ground close to the silo can be graded away so as to have the silo on the highest ground, and then surface water cannot do damage.

Weights and covers can be dispensed with for the reason that there is no use for them, and everything that will economize labor should be accepted. Weights were used when filling a big silo in a day; they were deemed essential, and that a cover must be put on to the silage before we went to bed. A great weight was put on to press out the air, when, if a moment's thought had been taken, it would have been seen that as quick as the silage became hot the air would have been forced

out, and much more effectually than when an air-tight cover is put on and pressure applied. The new idea is to cook the silage, and prevent acetic or vinegar acid formation, a scientific "find out" that the Western silo men have practiced from the start, and are away ahead of the Eastern farmers if Eastern silo literature is to be accepted as an indication of general practice. This cooking the silage has many things to recommend it. First, one gets sweet or ripened silage. It compacts more in the silo than any weight applied on the cover can accomplish. It avoids acetic or sour ensilage, and gets silage with a mild form of lactic or milk sugar acid; it enables one to fill the silo with the usual amount of farm help, and reduces silage-making to a minimum expense; it gives food for stock that has no objectionable features, and is a material out of which the finest butter and cheese can be made.

Teats and Teats.

A few weeks ago I noticed a request from a subscriber that some of the old breeders would throw a little light on the "rudimentary teat" question as applying to bulls. I have been in hopes some one who had given it careful attention would take the subject up and let us know what there was in it. I have made a great many observations in the past two years and have satisfied my own mind that it is of more importance than most of us believed. I have not confined my investigations to Jerseys altogether, but have examined the rudimentary teats of every bull calf that I could find and compared them with the teats of his dam, and I think it is safe to say that in four cases out of five the bull calf's teats will be in miniature that of his dam or his sire's dam. This being the case, you will see what a mistake will be made if you select your bull calf with the largest or longest teats unless you prefer such in your cow. The calves that I have noticed showing the largest rudimentary teats have been the offspring of cows with deep-pointed, hanging udders, and whose teats are very large at the junction of the udder and run to a point—cone-shaped, thus: V. To my mind this is the worst shaped udder and teats possible, and yet your bull calf from such a cow will show up great on rudimentary teats. Another class of cows have very long, slim teats; their bull calves will generally show the same. These are not desirable teats. You will find other cows whose forward teats are large and the hind ones small. The calf will show the same. Others have little short dumpty teats that if they were about three times as long would be all right. You will find such teats on many of the Ayshire cows. Their calves show just little warts of teats. These are the undesirable styles. Now a good teat on a cow is one not too large, too small, too short or too long, a soft pendant teat, of medium size and length, round at the end and the same size its full length, and straight, squarely placed on the udder. I have a few Jersey cows and I have found quite a number of native cows with such teats, and their bull calves show the same general characteristics only in miniature. Their teats will be plainly developed, pretty good size around, but not very long. Any one who will take the trouble to examine a number of bull calves, knowing what style of a teat their immediate ancestors have, can gain all the information he needs. In a general way these rudimentary teats do not show what your bull calf will give to his offspring, but it shows what his ancestors have done for him, and he is likely to perpetuate it. To breed to my cows I would not select a bull calf with very

large or very long rudimentary teats, as I do not wish to increase either their size or length. If your cow's teats are too small to suit you, use a bull with large ones. If the teats on your cow are placed too close together, breed to a bull that will modify the fault. Use judgment and never forget that "like begets like," and do not be deceived by "gush."

I shall continue my observations in this direction, and hope others will let us know the result.—*Frank D. Hinkley, Milwaukee, Wis., in Jersey Bulletin.*

Plenty of whitewash should be used now, not only for the brighter appearance but also as a disinfectant. Hot whitewash on the inside of barns, stables, poultry houses, and pig quarters will aid in preventing vermin and insects.

The variety of grass now known as timothy, was first brought into notice about 150 years ago, by Timothy Hanson, of Maryland, and was known as Timothy Hanson's grass. The last name was finally dropped, and it has since been called timothy.

A New York farmer cleans phosphate barrels by building a fire of shavings or dry straw in them until they are charred all over inside; they are thus "purified as by fire," and fit to store potatoes in. Neglected beef barrels can be purified the same way; so can musty elder barrels by taking out one head.

A Great Battle

Is continually going on in the human system. The demon of impure blood strives to gain victory over the constitution, to ruin health, to drag victims to the grave. A good reliable medicine like Hood's Sarsaparilla is the weapon with which to defend one's self, drive the desperate enemy from the field, and restore peace and bodily health for many years. Try this peculiar medicine.

Chicago exporters of skimmed cheese complain bitterly of an adulterated or filled cheese, which they claim is made in the Elgin district. The effect of the adulterated article has been to practically destroy the demand in the English market for the genuine cheese. The adulteration is made with a filling of animal fat, cottonseed-oil, neutral lard, and other cheap substances. It is manufactured for less than half the cost of the genuine article, and is a fair imitation.—*Chicago Herald.*

You Can't Read This

Without wishing to investigate, if you are wise. Send your address to Hallett & Co., Portland, Maine, and you will receive, free, full information about work that you can do, and live at home, wherever you are located, at which you can earn from \$5 to \$25 and upwards daily. Some have earned over \$50 in a day. Capital not required; you are started free. All is new. Both sexes; all ages. Snug little fortunes await all workers.

WELLS, RICHARDSON & CO'S

IMPROVED
**Butter
Color.**

EXCELS IN { STRENGTH
PURITY
BRIGHTNESS

Always gives a bright natural color, never turns rancid. Will not color the Buttermilk. Used by thousands of the best Creameries and Dairies. Do not allow your dealer to convince you that some other kind is just as good. Tell him the BEST is what you want, and you must have Wells, Richardson & Co's Improved Butter Color. Three sizes, 25c, 50c, \$1.00. For sale everywhere.
WELLS, RICHARDSON & CO. Burlington, Vt.

(33 Colors.) **DIAMOND DYES**

are the Purest, Cheapest, Strongest, and most Durable Dyes ever made. One 10c. package will color 1 to 4 pounds of Dress Goods, Garments, Yarns, Rags, etc. Unequalled for Feathers, Ribbons, and all Fancy Dyeing. Also Diamond Paints, for Gilding, Bronzing, etc. Any color Dye or Paint, with full instructions and sample card mailed for 10 cents. At all Druggists.
WELLS, RICHARDSON & CO., BURLINGTON, VT.

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Correspondence.

Handling Broomcorn.

EDITOR KANSAS FARMER:—Being interested in broomcorn as a dealer, I read with much interest the articles in reference to its culture, care and preparation for market in your issues of recent date, and while the articles are very valuable for information contained therein, there are also in one or two important points very erroneous ideas advanced plainly, and might, if not corrected in your columns, lead to serious loss to the farmers whom the author of the articles evidently intended to benefit with his otherwise very desirable information. In article No. 5 he writes "Bale the crooked inside," etc.; and again, "Bales that weigh from 175 to 250 pounds are a good size to handle well." These ideas are, so far as our market (Chicago) is concerned, far from correct, and in your January 26 issue you credit this with being the market of the world for broomcorn.

The crooked should not be put into the bales of straight brush at all, nor should any inferior straight brush be put in out of sight, as it would very likely be detected before the grower could dispose of it, and reduce the value of the lot more than the total amount of the trash thus hidden away. Such baling now is considered dishonest generally by the purchaser. The crooked should be taken by the stalk at the crook and laid in handfuls on the ground, the butts all the same way, until enough in the pile warrants commencing to put in the bale; then put it into the press in small layers, the stalk end out; let the butts lie as they will. Keep the center well filled, same as you would in baling straight brush. It is very little work if done right, and when done in this way it will be considered well handled, and the first appearance will lead to attention and examination, when less careful baling would prove damaging. Crooked baled in a careless manner, thrown into the press like so much hay, is worth \$10 a ton less to any dealer or manufacturer than baled as I describe.

The straight should be baled fairly well, honestly, without seed corn or other of inferior grade stuck in to swindle a buyer, who, though an expert, might be deceived, for the chances are that the facts will be known to the buyer, and the trick, as it will be looked upon, if poor quality is mostly hidden by the good, will militate damagingly against the seller.

It is not necessary to be remarkably sleek about baling. It will not add to the value of well-baled brush. Again, the bales should be solid, well-pressed bales, which would weigh, according to the length of the brush baled, from 275 to 350 pounds, the size being by the ordinary press, about 26 inches by 32, and 45 inches long. Baled in this manner, it is worth \$5 per ton more than if it be in shaky bales, with the abortive attempt of holding it together with slats, or anything else; nothing will hold it together if it is not tightly baled.

Much importance attaches to the feature of baling; for a time it shrinks, and if the baling is not tight at first, it will loosen and perhaps require rebaling before it can be moved the second time, and it costs from \$3 to \$5 a ton to rebale it here. Bales weighing 175 to 250 pounds will not sell as readily, though well baled, as the regular size to which I refer.

It requires two men to handle a bale. They can handle a 350-pound bale as well and about as quickly as a lighter, and more weight can be put into the same space, either in car or warehouse, and piled up in much better shape than small bales, which is always desirable. Yours truly,
Chicago, Ill. J. L. STRANAHAN.

Growing Broken Horns on Again.

EDITOR KANSAS FARMER:—Some time ago I made the inquiry through your paper—could the shell or covering of a cow's horn be made to grow fast again after having been removed by accident. Your answer was, "We should say not. If such a healing was ever performed we do not know of it." I sent the paper to a friend in Indiana who claimed he had tried the experiment, and this is his answer: "I have placed back four and they staid there, but could not say they grew there." Josephus Martin says

he had a cow tied up, saw her knock the shell of her horn off, placed it back as soon as possible. The cow was 5 years old at the time; sold her at 13, and it was on just the same and had as many rings on as the other. I showed the paper to Dr. Arthur; he said he had replaced a great many and thought it no new thing; that he had pulled teeth and found them sound and placed them back and they grew fast. Please give authority in FARMER. JOHN H. WORICK.
Mankato, Jewell Co., Kas.

[These cases would seem to settle the matter. Nothing of the kind ever came under our own observation.—EDITOR.]

A Land Tax Comparison.

EDITOR KANSAS FARMER:—Mr. Sproul, in his article in the FARMER of May 17, presents the subject of taxing land from one standpoint. If it is not intruding, allow me to present it from another. We will suppose that A came to Kansas thirty years ago. According to Mr. Sproul's figures A's farm cost him \$1,736. If he had put that out at 10 per cent. it would have doubled every ten years and he would now have the sum of \$13,888. But he bought a farm and has labored thirty years and now has a farm worth \$3,000. I fail to see the fictitious value. A came to Kansas long before the railroads; his first salt cost \$7 per barrel at Lawrence, and he hauled it seventy-five miles by wagon; he has paid as high as \$ per cwt. for flour; he has taxed himself for school houses and court houses, bridges, roads and railroads, and for appropriations for a farm to support the poor, and expense of civil government, and helped pass a law exempting \$200 from taxation. A is now past the meridian of life, his thirty years in Kansas has tinged his head with gray; he has seen some of the privations of pioneer life.

After the development of this country, B, from Bohemia, arrives. He was very shiftless and fooled away his heritage. B wants to rent a strawberry patch, so he gets a bill passed discriminating against A's land so as to deprive A of the ownership and the title reverts to the government. Now, A and all Bohemia go into strawberry culture; we have plenty of strawberries; but since A's cow pasture is destroyed, cream is scarce.

After considering this question I believe that if the government should allow tramps to come in and deprive us of the ownership of our homes after we have developed this country, that we would soon lose faith in the government, and any radical change in law will surely hurt some one. If we ship in foreign goods we will ship out home money. So let us make our own goods and ourselves for them; let the great men in Congress that Mr. Sproul speaks of continue the duty if they think best; if there is any discrimination let it be against Bohemia.

E. D. MOSHER.

Hartford, Lyon Co., Kas.

Letter from Brown County.

EDITOR KANSAS FARMER:—Some time has elapsed since my last to the FARMER. It was not lack of interest, nor absence of topics, that caused silence, but too much to do in other directions. Besides, the FARMER has so many correspondents who do their work so well, in various parts of the State, that the older ones can leave the bulk of writing to them. We have a very rainy day to-day, so the KANSAS FARMER and other good papers are read more thoroughly than usual.

The fore part of the present month we had considerable rain and some very cool, overcoat weather, and two light frosts, nipping potato vines and other tender vegetation. Small grain, especially fall wheat, looks splendid; also rye. Spring wheat and oats promise a fair crop. Meadows and pastures are tardy, and grass short. Corn as a general thing is all up, forming a uniform stand, but the plants are small and delicate looking. The present rain and a few warm days will bring it out all right. The prospect for an apple crop is fair, but no cherries, and, of course, no peaches. Cattle and horses in fair condition. No hog cholera, no chinch bugs in our vicinity.

Our beautiful county seat, Hiawatha, has a boom; waterworks, electric lights, and an academy, all in a bunch. Your correspondent had the great pleasure of welcoming at his home our corresponding friend, Mr. J. C. H. Swann, and bought one of his books—"The Future By the Past." Mr. Swann cer-

tainly deserves credit for his persistent efforts. His book was born of adversity, and may yet rise to great usefulness and prominence. The first part of the motto of fair Kansas can truthfully be applied to the origin of this new book and to its author, viz.: "Through rough ways." May the other part, "To the stars," also become realized and utilized.

That new feature of the KANSAS FARMER, Prof. C. C. Blake's weather predictions, is an interesting department, indeed; and even if not correct in every particular, yet in the main they are very helpful, giving useful information and thoughts for study to the thinking minds. The FARMER deserves additional patronage and a large list of new subscribers as a proof of appreciation for this additional helpfulness to the tiller of the soil.

C. H. ISELY.

Fairview, Brown Co., Kas.

Letter from Mr. Swann.

EDITOR KANSAS FARMER:—From this point I speak concerning a few things. I will say that it is rather dry for oats and corn as a rule. Some pieces of wheat on upland and lying fair to the sun's early rays is being injured by the bugs; and some is headed out, while most fields are well along and quite tall. Corn is about all planted; some up and harrowed, cultivated, rolled, and smoothed off with a sort of drag.

I find the great mistake (in my opinion) on every hand that farmers make in these dry years, is in not putting in the oats crop by plowing under with the stirring plow and follow at evening each day's stirring with the harrow. And the same should be done when stirring for corn, and then let the two first workings the plants yet be done with the harrow, then cultivate once, and with one-horse harrows made specially for it with plenty of teeth, finish the work. Readers will bear in mind I am speaking for dry years, of which you will get enough this year for all country west of a line extending from Lake Superior to the Gulf of Mexico.

In my wanderings through Brown, Nemaha, Jefferson and Atchison counties, I find the lister the leader in planting corn, many farmers double-listing the land by first listing without subsoiling and then opening first work, using the subsoiler and following with a drill. This process literally dries the land, so far as I have examined, and I have done so in many cases as I go over the country. But I still have hope that the day is not far away when a few farmers will be found over the States who will farm understandingly.

I will ask what is the cause of failures if seed is good. Why, the season is your master and ever will be; yet it is within your power to learn what their character will be beforehand, and then by doing the right kind of work you can succeed in making one-third to one-half more oats and corn of seasons like the past two than you did. I will ask you to carefully consider the matter and go at your farm work as understandingly as a mechanic does his. Do not say it can't be done, as you will find yourself confronted with historic facts that you cannot set aside. Remember it is your duty to self and family to look up such facts and then do your own farming as far as lies within you; make it successful and you will make more money, if that is your object, than otherwise. Syndicates, trusts and monopolists have all combined to do the farmer up, for they well know what you have and how much the farmers as a community owe, and know that the products must be sold. Steer clear of debts, and having your own living, you can starve if need be the very class that are your present oppressors into terms of your own dictation.

Now, as to the nine or ten million floods that have gone off, or rather are going on, I will ask where all the water came from to cause such disaster if the drainage of the Mississippi valley caused the drouth and great heat of the entire country for the past two years, and especially last year. Settling the country, railroad building, tree planting, breaking sod, stirring land, and the extension of telegraph and other wire lines, will not be accepted as any solution of the matter; for be it understood that I have written of these things—drouths, floods and crops for the past seven to twenty years, telling that many years before they came to pass. Yes, the time has come that all drouths and floods can be foretold in time to save mil-

lions to the farmers of both classes of years.

Now, a few words about cultivating your corn the remainder of the season; cultivate with five to seven-toothed cultivators, or make one-horse harrows and continue to use until corn is silked out. Break and continue to break the crust and shut all the openings; do not stir up and dry out your land to the injury of your crop. Our summer will be numbered as a cool one.

J. C. H. SWANN.

Nortonville, Jefferson Co., Kas.

Gossip About Stock.

If any readers of this paper who have any wants, exchanges or sales of any kind to make would try our Two-cent Column, they would find it a profitable investment.

Notice the enlarged advertisement of the Select Herd of Berkshires, owned by G. W. Berry; also the new address of Berryton, which was recently located at his farm.

Remember that we can supply "Haaf's Practical Dehorner," the best book on the subject ever published, for only \$1.25, or we will send it and the KANSAS FARMER one year for only \$2.

On June 8, Alex McClintock, of Millersburg, Ky., will sell a nice draft of registered Jerseys at Kansas City. At the same time R. W. Owen will close out, in a lot, a carload of Jersey cows and heifers.

E. S. Shockey, of Topeka, proposes to offer a few long yearling bulls at prices which will take them quick. He needs pasture room and proposes to sell these bulls very low. See his notice in another place.

Breeders are especially reminded that by the KANSAS FARMER's absorption of *The Future's* list of subscribers, several thousand new readers will have an opportunity to do business. Send in your orders before rates are advanced.

W. H. Garrett, of St. Louis, Mo., sends a unique advertisement, in which he agrees to furnish Poland-China sows bred to bring pigs all of one sex, male or female, as may be desired. Mr. Garrett is endorsed by the editor of *Colman's Rural World*.

In our notice of the noted Holstein-Friesian bull, Chief of Maple Hill, owned by M. E. Moore, Cameron, Mo., we omitted to give the sworn butter record of the dam of this bull, which was 97 lbs. 5 oz. in 30 days, 11 lbs. 7 oz. in 3 days, an average of 3 lbs. 13 oz., one of the best records ever made.

The following are the prices of different classes of Texas cattle delivered on the Powder river in Montana: Cows, \$13; yearling heifers, \$10; yearling steers, \$12; two-year-old steers, \$14. Montana stock cattle, counted out, with calves thrown in, \$18. In quantities amounting to 10,000 head, as may be desired, \$17.50 per head.

Henson & Rathbone, breeders of Holstein-Friesian cattle, Council Grove, Kas., write: "Our herd is doing fine. Sales have been far beyond our expectations, and never before has the demand been so great for good animals backed by actual milk and butter records as this season. Future prospects for Holstein cattle are very flattering, indeed. The black and whites are bringing the farmer good returns now where all other classes of stock are a burden of expense."

W. S. Hanna, Ottawa, Kas., writes: "We are having such good luck with our spring and summer pigs that we have not yet been able to determine which are the finest. Though bred by five boars, they are extremely even. Have seven fall boars for service left. We expect to have sows farrow nearly every month in the year to keep up the supply, as Kansas is reported to have less than 40 per cent. of the number of hogs two years ago, and my own county only about 30 per cent."

Save your own Kentucky blue grass seed with one of King's Patent Hand Blue Grass Seed Strippers. Warranted to strip twenty bushels per day. Price, \$2.50. Sold on trial. Ask your dealer for one, or order direct from R. C. King, Carlisle, Ky.

Hardware for Farmers.

D. A. Mulvane & Co., 713 Kansas avenue, Topeka, always keep a full line of hardware, and especially desire the patronage of every farmer, who will find it to his interest to inspect our complete stock of hardware of every description, including the cheapest and best line of gasoline stoves, refrigerators, barb wire, screen doors, tinware, ladders, wheelbarrows, etc.

WEATHER PREDICTIONS.

By Prof. C. C. Blake, Topeka.

[Correspondence and remittances for the KANSAS FARMER on account of this Weather Department should be directed to C. C. Blake, Topeka, Kas. See advertisement of Blake's Almanac on another page.]

RAINFALL FOR WEEK ENDING JUNE 9.

Last week we stated what the temperature and precipitation will be for June. But it would be a great convenience if it were possible to calculate fine enough to predict what the rainfall will be in each county for each week, or in each township for each day. Take the present month of May for instance. While the rainfall has been abundant in the United States, taken as a whole, yet there have been many counties in various parts of the country that have had very little rain, the storms seeming to mysteriously avoid these spots as if in spite, while venting their spleen upon other spots with superabundance of rain. There have been spots of both kinds in Kansas and other States this month.

We cannot calculate close enough to show what the rainfall will be in each county; but in order to accommodate as many of our readers as possible, we have made extensive calculations to show how the precipitation will be distributed in each State for the week ending June 9, 1888. We think these weekly predictions, by States, will be approximately correct. We shall keep them up if results justify it.

For said week ending June 9, there will not be the usual amount of rain in the Province of Quebec or State of Maine; New Hampshire and Vermont will have the ordinary amount, while Massachusetts, Rhode Island and Connecticut will have a little excess. It will be normal in the State of New York; a slight deficiency in Pennsylvania, New Jersey, Delaware, Maryland and northern Virginia; a greater deficiency in West Virginia; but an excess in North and South Carolina, southeastern Virginia, Georgia and northern Florida, with less than usual in southern Florida. The rainfall will not be more than usual in the northern part of Alabama and Mississippi; but in the southern half of these States, in Louisiana and eastern Texas, as also in southern and western Arkansas, it will be greater than ordinarily for the time of year. Western Texas, and the western parts of Kentucky and Tennessee will have rather less than usual, with a little in excess in the eastern part of the two last-named States. Ohio and Indiana will average about normal. A little deficient in the southern part and a little excess in the northern part of Illinois.

Ontario, Michigan, Wisconsin, Minnesota, northeastern Iowa, Dakota and Montana will have an excess. The Indian Territory, southeastern Kansas and southwestern Missouri will have a slight excess. The rest of Kansas, Missouri, Iowa, Nebraska and eastern Colorado will not have quite as much rain as usual for that season. Washington Territory and Oregon will have an excess, but both northern and southern California will average less than normal.

PROFESSOR W. T. FOSTER, who has charge of the meteorological department of the Burlington (Iowa) Hawkeye, says in that paper of May 20:

Professor Blake, formerly editor of *The Future*, published at Richland, Kas., has moved to Topeka and is now connected with the KANSAS FARMER, an old and excellent agricultural journal. Professor Blake is one of the best informed meteorologists of our day and is the best authority in the world on precipitation. He has given the subject of rainfall and drought special attention and his forecasts are always valuable. While we have given more attention to the dates and movements of storms, Professor Blake has devoted his efforts to rainfall, and for this reason we have valued his efforts very highly. He now takes charge of the weather bureau of the KANSAS FARMER, and his forecasts will form an interesting feature of that already valuable paper. We predict success for Professor Blake in his new venture and additional success for the KANSAS FARMER.

While Professor Foster predicts the time when the various storms will pass certain meridians, we first calculate what the temperature will be in various parts of the world, and then what the precipitation will be. Nothing can be known about the rainfall till the temperature is first known.

KANSAS WEEKLY WEATHER REPORT.

Furnished by the Kansas Weather Service. Abstract for the week ending Thursday, May 24, 1888:

Rainfall.—There has been an excess of rain in the counties bordering the Missouri river,

and in Greenwood, Woodson, Wilson, Montgomery, Chautauqua, Elk, Cowley and Sumner counties. From Douglas to Ellsworth and from Marion to the north line of the State there has been a decided deficiency—most decided down the Republican valley and eastward into Shawnee county. The rest of the State has been well watered.

Temperature.—The week was ushered in cold, with a general and killing frost on the 19th, after which the temperature steadily rose until the 23d—somewhat cooler on the 23d and 24th.

Sunshine.—There has been an average amount of sunshine.

Results.—The hail storms in the western counties on the 21st and 22d, in the central and eastern counties on the 22d, and in the southern counties on the 23d, did much damage to the crops, but being young they will readily recuperate. The corn has improved in color all over the State and is making a good stand. Generally the late-planted corn is doing the best and is now reported at 100. Wheat and rye are heading out in the northern counties. Oats are fine. Chinch bugs are fast disappearing from all sections. Cut worms have done much damage in the central and southern counties, while ground squirrels are the pest in the west. Home cherries and potatoes are now being marketed in the extreme southern counties. The hail on the 22d in Osage county fell shoe-mouth deep. On the 23d, near Udall, Sumner county, it measured six and a fourth inches in circumference. A tornado on the 23d did much damage in Argonia.

TOPEKA REPORT.

For the week ending Saturday, May 26, 1888: Temperature.—Highest at 2 p. m., 83° Saturday the 26th; lowest at same hour, 76° Thursday the 24th. Highest recorded during the week, 86° on the 26th; lowest, 45° on the 20th. Rainfall.—Only a trace—on the 22d, 23d and 26th.

Inquiries Answered.

BLOOD SPAVIN.—Please give me a cure for blood spavin in your next issue. I have a valuable mule with the above blemish.

—Prof. James Law says of blood spavin:—"This is a dilatation of the vein which runs over the seats of *bog* and *bone spavins*, and being harmless, should not be interfered with."

JAPAN CLOVER.—Does Japan clover have to be sowed every spring? Will it answer for hogs and be as profitable as Red clover?

—Japan clover does its own seedling after it gets started, just as Red clover does. It is not as good food for hogs as Red clover, and in Kansas it is not regarded with favor for any kind of stock. It is a Southern plant, grows well on thin land, spreads rapidly and makes good pasture. It is mowed and cured for hay, also; but it is very tender, easily killed by frost.

GREEN BUG ON APPLE TREES.—Please give a remedy for a small green bug on apple trees. I have tried Paris green, but don't seem to do any good.

—After insects get to the "bug" or winged form, it is more difficult to destroy them. Had the Paris green application been made two or three weeks earlier, it would have been more effective. The foregoing description is very indefinite. Capture a few of the bugs, bottle them and send them to Prof. E. A. Popenoe, at the State Agricultural college, and he will tell you what is best to do. Call his attention to this note.

SCAB ON PONY'S LEG.—About a year ago my pony colt, a yearling at that time, cut her leg in the front of the hock joint. It was very slow about healing; at last it healed, but left a soft lump with a dry hard scab on it which keeps peeling off. I thought that in time the swelling would go down, but it does not. It does not seem sore or to hurt her. Please state through your valuable paper what is the matter with her and what I can do to remove it.

—If there is no soreness about the lump, keep the pony on grass a while and rub any good liniment into the lump and the region about it twice a day for two weeks. Rub with the naked hand; rub briskly until the skin is well warmed up and dry. After a month has passed, if there is no improvement, write again, telling just what you did and the result.

Farmers, Read This.

I have six long yearling thoroughbred Hereford bulls I will price specially low in order to sell at once. I need the pasture for cows. E. S. SHOCKEY, Topeka, Kas.

The Summer Normal Institute of the Lawrence (Kas.) Business College and Academy of English and Classics begins June 12. Send for circulars. Address E. L. McILRAVY, Lawrence, Kas.

CREAM OF A WEEK'S NEWS.

General Sheridan is dangerously ill.

Good crop reports come from Dakota.

Another revolution is threatened in Hayti.

A young farmer was fatally stung by bees.

Congressmen are debating civil service reform.

Titusville, Pa., was badly injured by a wind storm.

A band of moonshiners was captured near Hopkinsville, Ky.

Treasury surplus, the 25th inst., was reported to be \$101,000,000.

Seats for 248 newspaper reporters are reserved at the Democratic national convention.

Rain storms are reported in Ohio, Indiana, Illinois, Missouri and Nebraska, as well as in Kansas.

Preparations are about completed for the National Democratic convention at St. Louis next Tuesday.

United States courts are being adjourned because the appropriation for court expenses is exhausted.

The admission of women delegates to the Methodist general conference was a subject of earnest debate.

A figure like a man's hand appeared in the heavens at Findlay, Ohio, and was visible more than an hour.

The Northern and Southern wings of the Presbyterian church in the United States are about ready to unite.

A Quincy, Ill., dispatch of the 28th inst. states that the heaviest rainfall in years occurred at that place the night before.

The Senate agreed unanimously to leave the doors open during the discussion of the proposed fisheries treaty with Great Britain.

An Ohio balloonist was thrown from his fastenings to the earth and fatally injured. In descending, the balloon struck a house, the interruption throwing him out.

A monument to the Confederate soldiers is in process of erection at Jackson, Miss. The corner stone was laid on the 25th inst. with imposing ceremonies. Jefferson Davis was unable to be present because of the condition of his health.

Cincinnati liquor-sellers are trying to evade the Sunday law by employing a Justice of the Peace to have them arrested and brought before him, when they plead guilty and he fines them lightly. Forty-four of them were arrested Monday morning.

The Methodist general conference, in session at New York city, passed a resolution declaring the unalterable opposition of the Methodist church to the liquor traffic, and advising members to vote against any party managed in the interests of the rum power.

A water-spout is reported in Nebraska—Dawes county. Rain had fallen continuously twelve hours. Farmers all along the White and Lone Tree rivers have had to abandon their houses, a number of which have been washed away. The White river rose sixteen feet in forty minutes.

Governor Oglesby, of Illinois, pardoned one of the Chicago "boodlers" Commissioners. He was the only one of the boodlers who accepted his sentence, going to prison at once and paying his fine, while the others fought against their fate to the last quibble in the highest courts of the State.

The corner stone of the Divinity building of the new Catholic University of America was laid at Washington city the 24th inst. Cardinal Gibbons and Colonel and Madame Bonaparte were present from Baltimore, and the ceremonies were imposing. Many of the Archbishops of this country as well as other distinguished people were in attendance.

A Formidable Gunboat.

The William Crump & Sons' Ship and Engine Building Company has completed a dynamite cruiser gunboat called the Yorktown, designed for the United States navy. It carries four pneumatic guns for the hurling of dynamite projectiles, each with a range of at least a mile. The training of the guns is accomplished by steering the vessel, and the loading is all done by steam. The guns are of 15 inch caliber, and the shells, which can be fired with great accuracy twice a minute, will contain 600 pounds of explosive gelatine, equivalent to 852 pounds of

dynamite, or 943 pounds of gun cotton. It is claimed that this gun, properly handled, will be the most destructive engine of war yet invented, for the heaviest armored ships in the world will go all to pieces from the explosion of a shell much smaller than those thrown by the guns on the Yorktown. These guns are designed ordinarily to work on the under-water portion of the hulls of vessels, but if any inaccuracy in aim should be developed on account of the pitching of the ship, great damage can be inflicted upon the portion of the hull above water. A dynamite gun has just been made by the same concern for the Italians.

FOR THE NATIONAL CONVENTIONS.

The Chicago, Kansas & Nebraska Railway—"Rock Island Route"—will make a rate of ONE FARE FOR THE ROUND TRIP for everybody desirous of attending. Tickets for the DEMOCRATIC CONVENTION, at St. Louis, will be on sale June 2 to 5, inclusive, good for return June 6 to 11, inclusive; and for the REPUBLICAN CONVENTION, at Chicago, tickets will be on sale June 16 to 19, inclusive, good for return June 20 to 25, inclusive. Special trains, consisting of Pullman Sleeping Cars, and Free Reclining Chair Cars, will be run through to Chicago without change and on fast time, several hours in advance of other lines, arriving at Chicago in the magnificent passenger station of the Great Rock Island Route, located just opposite the new Board of Trade Building, and only five minutes walk from the Convention Hall, on Congress street, between Michigan and Wabash Avenues; no other line can land passengers so near the heart of Chicago. Patrons preferring to take our regular trains will be provided with the usual equipment, and will also reach Chicago in advance of trains on other lines.

Our trains connect at St. Joseph and Kansas City with trains by all lines to St. Louis, and ample accommodations will be provided for all. Take advantage of the low fare and "take in" the National Conventions. Remember, this is the only Chair Car line to Chicago.

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AMERICAN HOUSEKEEPING,
143 La Salle St., Chicago, Ill.

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.

Gradation.

Heaven is not reached by a single bound,
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to its summit round by round.

I count this thing to be grandly true;
That a noble deed is a step toward God,
Lifting the soul from the common clod
To a purer air and a broader view.

We rise by the things that are under feet;
By what we have mastered of good and gain;
By the pride deposed and the passion slain,
And the vanquished ills that we hourly meet.

We hope, we aspire, we resolve, we trust,
When the morning calls us to life and light;
But our hearts grow weary, and ere the night
Our lives are trailing the sordid dust.

We hope, we resolve, we aspire, we pray,
And we think that we mount the air on wings
Beyond the recall of sensual things,
While our feet still cling to the heavy clay.

Wings for the angels, but feet for men;
We may borrow the wings to find the way,
We may hope and resolve and aspire and pray,
But our feet must rise or we fall again.

Only in dreams is a ladder thrown
From the weary earth to the sapphire walls;
But the dreams depart and the vision falls,
And the sleeper wakes on a pillow of stone.

Heaven is not reached at a single bound,
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to its summit round by round.

—J. G. Holland.

The Gift of Seeing.

A proud and happy man is he,
All nature's secrets knowing,
Who reads God's truths on land and sea,
And reaps contentment's sowing;
Who knows the Lord inflicts no dearth
Without a blessing to it,
And that enjoyment of the earth
Depends on how you view it;
That nature's hieroglyphics traced
On heaven, and earth and ocean,
Are object-lessons teaching truth—
Interpreted in motion;
That all of these harmonious blend
With no truth disagreeing,
And each its message yields to those
Who have the gift of seeing.
So every true and perfect thing
Yields to his soul its sweetness;
A monarch he, and more than king,
Who knows the grand completeness,
—I. Edgar Jones, in *American Magazine*.

THE ELDEST DAUGHTER.

Six cabinet photographs, spread out in a row, from the thoughtful girl of 16 with her mother's brows and eyes, to the dimpled, laughing child of 3, whose mischievous face seemed to say she found it great fun to have her picture taken. Quite a family, in these degenerate days when babies are thought incumbrances, not blessings; and evidently an intelligent one, for the pictured faces were bright and interesting, and riant with life and hope. The face of the oldest girl attracted me particularly, it was such a womanly one, as if she had already tasted not alone of life's pleasures but also of its responsibilities. A few words of inquiring comment brought out the fact I had already guessed, that she was "mother's right hand," and the dependence of both father and mother. Kate could take charge of the house if her mother was ill for a few days; already her little brothers and sisters claimed her help over lessons and out of sundry juvenile scrapes. Baby Maude was "Kate's girl," and took her troubles to that sympathizer instead of her mother. I could well imagine what a comfort and blessing she must be to the mother, in a home where the income, not quite equal to the demands of a large, growing family, and a good social position, demanded some economies to keep the "best foot always foremost." Well, I thought, it is not amiss the eldest daughter should be her mother's stay and reliance, in such a family, if undue burdens, either in the way of responsibility or labor, are not laid upon her, nor all her young life absorbed by the demands of others. It develops womanliness and strength of character to have some duties to do for others' sakes; it teaches unselfishness to be sparing of a mother's toil, and self-restraint to control the whims and wants of younger children. It is not bad discipline—if it does not go so far as to rob youth of its lightness and spontaneity, and makes the girl old in

thought and action while yet young in years.

But who has not seen other eldest daughters who were bearing burdens far beyond their strength, either of mind or body, precociously developed in the school of poverty or necessity; upper servants without wages in their own homes? Who has not seen a slip of a girl not over a dozen years old, almost staggering under the weight of a fat lump of a baby that would weigh as much, almost, as she herself? Who has not seen the younger children gather round that patient eldest sister to be helped and comforted and mended and "done up," when the mother put them off with "Run to sister; don't you see I'm busy?" Too many times she is the patient little drudge, a modern Cinderella sitting in the domestic ashes, the one everybody appeals to if they want anything, and nobody ever thinks of thanking. Upstairs for a spool of thread, down cellar for a milk-pan, to the wheat field with a lunch for the men, in the orchard for apples for pies, generally with two or three satellites following her like the tail of a comet, always bidden to hurry and always asked "What made you so long?"—no one ever seems to think she can be tired, or that her work amounts to anything. Thoughtful and careful far beyond her years, she is yet child because she forgets or "didn't think." The fat baby makes her round-shouldered, and she outgrows her clothes so fast that she is never presentable, but makes the acquaintance of her mother's guests through the cracks in the parlor door; if you were to ask her what she was born for she would tell you, "To mind the baby." Truly, it is a great responsibility to be the eldest of a large family.

As she grows older, she usually finds her education in self-abnegation continues. Those younger sisters, who have all along been so accustomed to call upon her for assistance, and to prefer themselves before her, soon push her to one side, though still exacting the elder sister's offices from her. They are apt to be brighter and prettier and more vivacious than she, and remembering how her own youth was shortened and how its deprivations fretted her, she unselfishly tells you she "wants the girls to have a good time," and puts self aside to secure their good times, a sacrifice they seldom realize till maturity brings a clearer idea of all that was done for them, so cheerfully, so uncomplainingly. She supervises the tea-table if they have company, and tries not to have them mortified by domestic shortcomings. She manages to procure many little indulgences for them; if she earns money it is often less hers than theirs; they absorb her pocket money with their many wants, and she becomes in womanhood what she was in girlhood, the wheel-horse of the family, the one who really bears the burdens and shoulders the responsibilities, for the mother fails under her advancing years, and relies on her girl to "fill the gaps." Soon she is set aside as "the old maid sister," and left out of all plans and pleasures unless her labor makes her the machine by which they are to be executed. Her life is not unhappy, quite, since sacrifice for others' sake always brings a certain sort of content with it, but as the younger sisters marry and go away to homes of their own, returning to family reunions with husbands and children in whom they are selfishly absorbed, may she not be pardoned if she looks back upon her life feeling she has missed something—missed some development which might have rounded her life into more beautiful and perfect symmetry? All she has asked of those she has so patiently and faithfully served has been love and appreciation; and these, perhaps, are felt most strongly when the worn hands are quietly crossed for an eternal rest—it is only clouds falling upon a coffin-lid that can stir some hearts to tardy justice.

You think this an exaggerated, overdrawn picture? Not so; it is far too true to life in many instances. Not all mothers are so thoughtless or unjust as to permit such usurpation of the rights of one child by another; not all fathers are so unobservant as to permit it; but in nearly every neighborhood you may find some eldest daughter who is giving her youth to "the family," and of whose service little account is made.—*Beatrice, in Michigan Farmer*.

Mildew is easily removed by rubbing common yellow soap on the article, and then a little salt and starch on that. Rub all well on the article, and put in the sunshine.

The Cellar.

Although the clearing out of the cellar is not a part of the housewife's duties, yet many women have it to do. Where it can be afforded it is much the better plan to hire this work done by a man, but when this can not be done, and there is not a man around the house to do it, the housewife will have to call to her aid all the courage and patience she can muster together and advance to the attack. It is anything but pleasant work for a woman, and requires a good deal of courage for her to undertake it, but a good housewife knows full well that no matter how clean the rest of the house may be, if the cellar has not been cleaned, her spring work is not finished, and her house-cleaning is, in this respect, a failure, for a clean, sweet cellar is the pride of a good housewife.

It is of the utmost importance that the windows shall be opened frequently for ventilation. For two or three days before beginning to clean the cellar, if fine weather, have the windows open all day, but close at night, as at this season of the year the nights are very apt to grow chilly, and if a person has to enter a cellar that has had the windows open during the night, they run a great risk of catching a heavy cold, that may, perhaps, terminate in some other disease, for it is but a very short step from a heavy cold to pneumonia. If the weather is warm, a two or three days airing will have removed the close atmosphere that most cellars hold after being closed all winter, and, unless it is naturally damp, may be entered for the purpose of cleansing. If there is a preserve closet this should be attended to first. Take out all preserves that have not been opened, and put for the time in a cool, dark place. Remove the shelves if adjustable, dust, wash in ammonia water, and put aside to dry. With the brush end of the broom dust down the walls and ledges, wash all the woodwork and floor, if of boards, put in the shelves when dry, and close the closet, to keep out the dust of cleaning the rest of the cellar. See that all the vegetables in barrels, boxes, bags, etc., are assorted, and all decayed and bruised ones taken away, for nothing gives a cellar such a disagreeable odor as decayed vegetables or fruit. Look over all odds and ends, that are sure to be found in almost all cellars, and throw out what is of no especial use, and the remainder put aside. Before commencing sweeping, cover the hair and mouth as much as possible, breathing almost wholly through the nose, and the dust will not trouble you very much. Have the windows open, and never do this work on any but a warm, dry day. Brush down the walls and floor of one corner, and when clean put all odds and ends here, which will give the rest of the cellar clear to work in. Brush down the rest of the walls, and if the floor is of cement or wood, dampen well to lay the dust, and sweep thoroughly. Wash the windows clean and with a mop go over the whole floor if of wood. After washing the floor, leave the cellar as soon as possible, and do not enter it or allow any of the family to go in until the floor is perfectly dry. Before leaving, open the closet door so that this also may dry and air thoroughly. When perfectly dry, put back the preserves previously taken out, also all the clean empty jars, pickle bottles, etc., and when wanted in the fall they will need but a slight rinsing to be ready for use. If it can be done, it will add a good deal to the cleanliness and healthfulness of the cellar to have the walls whitewashed.

See that all leaks are stopped; if small, plaster of Paris, sand and water will make a good cement, but if very large, such as the giving away of a stone, to be sure, it will have to be done by a man understanding this work. Keep one window of the cellar open all the time during warm weather, with the exception of damp days, when it should be closed. Tack netting over the windows, to keep out the flies that will surely infest the place if there are any vegetables or an ice-chest in it. Keep a dish of charcoal in one corner to counteract any unpleasant odor. If a cellar is cleaned once a year thoroughly, an occasional brushing and picking up will keep it as nice and clean as most people would wish.—*American Cultivator*.

One of the latest attempts to harness the forces of nature for the service of man is the adaptation of a windmill for the turning of a dynamo, the electricity thus obtained being stored in suitable batteries, and afterward used in lighting beacons for the benefit

of the maritime interests. There is a station of this kind near the mouth of the Seine, and considerable success has been obtained.

Little Cheese Cakes.

Put into a stewpan three ounces of sugar, two of butter, a breakfast cupful of milk and a pinch of salt. Set them on the fire, and as soon as they begin to simmer gradually add three ounces of flour, stirring all the while with a wooden spoon; rub the rind of an orange on to a lump or two of sugar, crush them and add them to the above; wring the moisture from a quarter pound of cottage cheese, add it to the mixture, stir it in, and then, one after another, drop in three eggs, mixing well between each. When all are added it should be about the same consistency as the batter of a cake before baking. To make up, roll out a half pound of paste to about the thickness of a silver dollar piece, and, with a tin cutter about two inches across, stamp out the paste into circular pieces. Place these on a baking tin about an inch apart; on each of these put a good teaspoonful of the mixture, wet the edges and turn up the sides, pinching them together in the form of a three-cornered cocked hat; egg them over with a paste brush, and bake them until they are a light golden brown color. As soon as they are taken out of the oven, sift some finely-powdered sugar over them. They may be sent up either hot or cold.—*Philadelphia Ledger*.

Notes and Recipes.

Salt dissolved in alcohol will remove grease spots from cloth.

Vinegar, pepper and salt alone, heated, make good dressing to pour hot over cabbage.

White and pale shades of paint may be beautifully cleaned by using whiting in the water.

Bent whalebones can be restored and used again by simply soaking in water a few hours, then drying them.

Serve cold boiled ham with a dash of lemon juice as well as parsley; it is much improved by this garnish.

Mildew can be removed by soaking in buttermilk or putting lemon juice and salt upon it and exposing it to the hot sun.

To give a good oak color to a pine floor, wash in a solution of one pound of copperas dissolved in one gallon of strong lye.

To whiten the hands melt half an ounce of camphor gum, half an ounce of glycerine and one pound of mutton tallow, and apply every night.

Salt and water will prevent the hair from falling out, and causes new hair to grow. Do not use so strong as to leave white particles upon the hair when dry.

Corn Dodgers (old style).—To a light quart of meal mix one teaspoonful of soda, one-half teaspoonful of salt and one pint of fresh buttermilk. Bake in moderate oven.

Fashion Notes.

Lace trims or covers all dressy parasols.

Buttons are coming into favor for all sorts of dress decorations.

The coat sleeve has disappeared from all children's garments.

The large silk dust cloak is the rage in Paris at the moment.

A pink, a black and a white pearl make a fashionable combination in scarf and bonnet pins.

Leaf patterns in platinum and gold are much in favor for sleeve links among people of taste.

A four-leaved clover of seed pearls, with a turquoise stem, is a handsome design in bonnet pins.

Pretty hats for young girls and children have low crowns and brims, raised sharply at the back.

The popular width for sash ribbon is eleven inches, though the extreme width is fourteen inches.

The new Marseilles blue is to take the place of navy blue for summer gowns of linen, serge and flannel.

A pretty lace pin consists of a crescent of hammered gold, within which lies a spray of enameled forget-me-nots.

Wistaria is the name of a new shade which is between crushed strawberry and violet. Rosy lilac would better describe it.

The Italian sleeve is much used in artistic evening dress, and also in the making of picturesque gowns for children. Oriental effects also prevail in the creation of summer gowns for garden parties and other summer fetes.

Sutings, as they are termed, still show striped effects, fine hair lines and broad stripes being alike fashionably worn, and soft, light summer chevrons, with a dull surface in beige, gobelin blue, terra cotta, many shades of gray, golden brown and reseda, with lines or stripes of some different but harmonizing color, are used by ladies' tailors and dressmakers alike for walking and traveling gowns.

The Young Folks.

The Little King.

A little face to look at,
A little face to kiss,
Is there anything, I wonder,
That's half as sweet as this!

A little cheek to dimple
When smiles begin to grow,
A little mouth betraying
Which way the kisses go.

A slender little ringlet,
A rosy little ear,
A little chin to quiver
When falls the little tear.

A little hand so fragile,
All through the night to hold,
Two little feet so tender,
To tuck in from the cold.

Two eyes to watch the sunbeam
That with the shadow plays—
A darling little baby
To kiss and love always.

Education Thrown Away.

There was a magpie went to school,
He learned to read and write by rule;
His master taught
Him as he ought
That nought times noughty-nought were
nought,
That nothing from nothing leaves nothing at
all,
And nothing plus nothing is smaller than
small.

Addition, subtraction and multiplication,
While he was at school were his whole occu-
pation;
But, ah, ever since,
His every action,
Would seem to evince
His preferring subtraction!

POSTSCRIPT.

I've heard, since those last lines were penned,
The magpie's most untimely end.
Caught in a most outrageous theft,
He was of life at once bereft—
His head cut off with prompt decision,
He learned a sum in short division.

—Tom Hood.

The fame that a man wins himself is best;
That he may call his own; honors put on him
Make him no more a man than his clothes do
Which are as soon ta'en off.

—Middleton.

THE TALE OF A TADPOLE.

Mr. John Brown came home one evening lately, and being very thirsty, poured out for himself a tankard of water in a glass which he thought was empty. Imagine his surprise and consternation when his son Tommy, aged 8, came running in, just as his draught was finished and shrieked:

"Why, papa! you've swallowed my tad-
pole!"

"Wha-a-a-t!" shouted the alarmed father.
"You young idiot! run for the doctor!"

But the only medical man who could be got hold of at the moment was a Frenchman, visiting in the neighborhood. On the case being rather incoherently explained to him by the now thoroughly frightened family, he said:

"You must make heem swim."

"But my husband can't swim," replied poor Mrs. Brown, in tears.

"No, it is not ze man zat shall swim, it is ze leetle frog who shall swim, you know, *qu'il faut que le poisson nage*, so you fill him wiz ze vater to his teeth, zen ze leetle frog he vill swim up to ze mout of Monsieur, and ven he see ze light he vill shemp out, so."

And they gave him bucket after bucket of water till he became horribly sick, but no tadpole "shemped out."

By this time poor Brown was suffering agonies. The tadpole, or the large quantity of water, one or other, was causing great pain, added to which he himself was in a state of mortal and indefinable terror. Just then the family physician made his appearance and tried to allay their fears, but all to no purpose; something practical must be done. Thinking a little stimulant would do his patient good after the drenching he had had, he said:

"Now, I should recommend you, if you want that tadpole to jump, to give him a good dose of brandy; that will make him frisky, and perhaps he will then, under the influence of liquor, make his sudden appearance, and relieve you all."

The plan was tried on a most wholesale scale, but instead of making the tadpole frisky, it only made Mr. Brown somewhat tipsy, in which state he became what the Scotch call "greetin' fu." In a maudlin way he bade his weeping wife an affecting farewell and insisted on being put to bed to die.

The doctor, however, seeing that the poor man, as well as his family, was suffering agonies of mind about the unfortunate little

polliwig, determined to take active measures and bring matters to a satisfactory crisis by a little scheme of his own. He ordered Mr. Brown, who was now in bed, to be partially undressed, promising to return in an hour with his assistant, when he hoped to be able to relieve him permanently.

In the succeeding half hour the patient suffered all sorts of pain, real and imaginary, and was more than ever convinced of the activity of his unwelcome tenant.

The doctor, however, meanwhile, had offered half a dozen small boys a handsome price for the first tadpole they would bring him, and the fact being noised abroad his house soon resembled Pharaoh's palace during one of the plagues of Egypt. It was filled with frogs and froglings of all sizes and ages, causing great consternation to the medical household.

But long ere this the doctor and his assistant had started off to finally cure their patient. The doctor carried a healthy polliwig in a small bottle in his pocket, the assistant a powerful electric battery in a valise. Turning every one out of the room, the conspirators quietly hid the battery under the bed, after adjusting it to its utmost power. The new polliwig was then carefully placed on the pillow near the despairing man's head, one battery wire was arranged under his chin, and at a signal from the doctor the other, with the full power of the battery, was suddenly applied to his stomach. With a horrid yell the poor wretch suddenly sprang up in bed, and the doctor and his assistant both shouted: "Hurrah! he is out at last!" The unsuspecting family, hearing the yell, rushed in to see the startled Mr. Brown sitting up in bed, the poor little tadpole lying beside him. He was soon made aware of the change in the state of affairs, and warmly thanked the doctor, as did all the family.

"He gave me an awful spasm as he got out, though, but thank heaven it is now all over."

Just at that moment, however, the ever-unfortunate Tommy came rushing into the room with a glass in his hand, saying: "Why, papa! here is my tadpole! You never swallowed it after all!"

If a bombshell had burst in the room the consternation could not have been more complete. The father, now cured, suspected some trick, he did not exactly know what, but seeing the doctor and his assistant convulsed with laughter, he angrily requested their immediate withdrawal from his house, and they, nothing loath, were only too glad to escape into the open air. The story soon leaked out, and while the doctor was highly praised for his treatment, so much so that he was ever after called Dr. Tadpole, poor Mr. Brown had a hard time of it. He soon got so disgusted with being nick-named "Old Polliwig" that he left the country, and returned permanently to town, where no one ever knew of the bad time he had had when he swallowed the tadpole. — *Good Housekeeping*.

Interesting Items.

Women carpenters have appeared in London.

False men are not to be taken into confidence, nor fearful men into a post that requires resolution.

Navigation was natural to the Venetians, and they absorbed all commerce from the year A. D. 1000 to 1600 to 1700.

Let us live like those who expect to die, and then we shall find that we feared death only because we were unacquainted with it.

A little girl was to recite a verse of Scripture in Sunday school, but failed to remember it. Said she: "Mamma, what is my verse? Oh, I know now; 'Blessed are the dressmakers.'"

The loss of life by earthquakes has been as follows: 200,000 deaths in Japan, 1703; 100,000 in Sicily, 1693, and in Pekin, 1731; 60,000 in Cilicia, 1208; 80,000 in Schmak, 1667; 70,000 in Naples, 1626; 50,000 in Lisbon, 1755. Out of fifty other recorded shakes, accompanied by loss of life, fifteen have destroyed over 10,000 lives each.

A gentleman hunting for land in Dakota came across a boarded-up claim shanty with half a dozen boards across the door, upon which were the following touching inscriptions: "Four miles from a nayber. Sixty miles from a postoffice. Twenty-five miles from a raleroad. A hundred and atey from

timber. Two hundred and fifty feet from water. God bless our home."

A Hartford man has invented an apparatus for timing horses. A clock with three hands—minute, second and quarter second—is started by the official timer. When the winning horse touches the wire the clock is stopped by electricity. At the same instant the current opens a camera, which photographs the horse and the clock face.

A farmer near Chebanse, Ill., noticing that one of his oxen did not obey orders as readily as of yore, concluded it had become deaf. An ear-trumpet was tried with great success, and it is now fastened in place by wires around one of the horns. The animal shows signs of gratitude and eats heartily, whereas it had before lost its appetite.

Hood's Sarsaparilla

Combines, in a manner peculiar to itself, the best blood-purifying and strengthening remedies of the vegetable kingdom. You will find this wonderful remedy effective where other medicines have failed. Try it now. It will purify your blood, regulate the digestion, and give new life and vigor to the entire body.

"Hood's Sarsaparilla did me great good. I was tired out from overwork, and it toned me up." Mrs. G. E. SIMMONS, Cohoes, N. Y.
"I suffered three years from blood poison. I took Hood's Sarsaparilla and think I am cured." Mrs. M. J. DAVIS, Brockport, N. Y.

Purifies the Blood

Hood's Sarsaparilla is characterized by three peculiarities: 1st, the combination of remedial agents; 2d, the proportion; 3d, the process of securing the active medicinal qualities. The result is a medicine of unusual strength, effecting cures hitherto unknown. Send for book containing additional evidence.

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"Hood's Sarsaparilla beats all others, and is worth its weight in gold." J. BARRINGTON, 130 Bank Street, New York City.

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The condition of growing crops in Kansas is generally good.

Washburn college commencement exercises continue to June 15.

Commencement at the Agricultural college begins Sunday, June 3.

At least one-half the State had good rains during the week just passed.

The sixth annual State Fair of Kansas, September 17 to 22, 1888, at Topeka.

Exercises at the State University commencement extend over two weeks, holding to June 7.

Several hail storms are reported in different parts of the State, injuring wheat and oats some.

The Grange is one of the best educational agencies we have in this country; it is a school for farmers and their families.

A correspondent at Bird City, (Cheyenne county) says wheat, oats and rye are in "splendid condition" in that region. The frost of the 17th did some damage to potato tops and garden vegetables.

Mr. Whitehead, lecturer for the National Grange, says the Grange is "engaged in preventing the Chicago cattle ring from capturing the right arm of the Agricultural Department by getting control of the Bureau of Animal Industry." Our good friends of the Grange will have an army of outsiders to assist them.

According to the *Farmers' Review*, the striped squash bug may be handled this way: "We take quick lime and apply just water enough to cause it to slack out dry and fine, and dust this fine lime dust freely over the young vines, repeating the operation as often as the putting out of new leaves or the washing of it off by rains renders it necessary."

HOW THE DRESSED BEEF MONOPOLY AFFECTS FARMERS.

An intelligent farmer and stock-raiser was in this office a few days ago and said, among other interesting things, that farmers are slow to investigate, bearing rather than blaming; and that, as to this dressed beef business, they do not understand how the monopoly operates to their disadvantage. They know that prices of beef animals have fallen, but they have not studied out what the dressed beef has to do with that.

By way of introducing the subject, we give here a paragraph which appeared a few days ago in a New York paper—*The Butcher*.

During the present week one train load of fifteen cars of refrigerated meats passed over the Atlantic & Pacific railroad en route for southern California from Kansas City. Less than a month ago a similar train load passed over the road, sent by the same shippers, who then stated that the first train load was merely an experiment to test the feasibility of shipping dressed beef from the Eastern meat centers to the Pacific coast. Evidently the first experiment was a success or the second would not have been sent, and it is now in order to ask how long it will be before these shipments of refrigerated beef become regular occurrences. Slowly but surely the issue, being forced on the stockmen of Arizona and western New Mexico, is, whether or not they shall ship their beef cattle on the hoof to Kansas City or Chicago to have them converted into cold meat and then reshipped across the continent to California, or whether they will butcher their cattle at home and ship their dressed beef direct to the "Golden State."

Similar experiments have been made in Oregon and Nevada. The reader understands that all the cattle which are slaughtered at Chicago and Kansas City are gathered there from farms and ranges, and that a very large proportion of them were raised and fed in Kansas. When a Kansas farmer learns that his cattle, after being shipped east to Kansas City or Chicago, are slaughtered and dressed there and then sent West again right by that farmer's door and sent on a thousand miles still farther west, he can easily see that a great deal of hauling over railroads is being done at his expense; that is to say, the price which he receives for his animal is a good deal less than it would be if it were shipped directly to the place of consumption, instead of first going east five hundred or a thousand miles, then west over the same route to where it was produced and as much farther west. That being understood, let us come nearer home. Farmers living near any of the towns which are now receiving dressed meat from Kansas City, feel the effects directly. Take Topeka and Atchison as examples. At these places butchers are now receiving their meat direct from the Kansas City packing houses, and hence do not purchase animals from farmers in the vicinity, as they did in past years. The effect is to change the farmers' cattle market from their home town where there are many butchers, to a distant town—Kansas City, say, where there is only one butcher—the dressed meat monopoly. They had competition at home where there were many buyers, but they must take the one price offered at the great slaughter market. There are fifty-five meat markets in Topeka. If every one of them prepared its own meat, the farmers of Shawnee county would have fifty-five buyers of cattle, sheep and hogs to deal with, and could avail themselves always of the benefits incident to such active competition. Besides, they would have a direct market at home. It would not cost a cent more to drive an animal to a slaughter house in Topeka than to drive it to the railroad stock yards there; and all the expense of loading on the cars, hauling to Kansas City, unloading there and feeding while in the yards, the commission for selling, and the hauling of the dressed carcass back to Topeka

would be saved to the farmer. The local butcher would get the same profit on slaughter that the packing house gets; his profits for cutting and selling to purchasers he gets in increased prices for his cuts; but the consumer does not get his steak or roast or boil any cheaper now than he did when his butcher bought animals direct from the farmers. At least three of every four Topeka butchers, as we are informed, now deal in dressed meat altogether, receiving carcasses from Kansas City. Thus our farmers lose the market they are entitled to and are compelled to send their animals to Kansas City for slaughtering and return, they, the farmers, paying all the expenses.

How happens all this, do you ask? A Kansas butcher, the other day, went to Kansas City to purchase some sheep and failed, though there were sheep on sale. He was informed by the commission merchant that the packers wanted the sheep. "But," said the butcher, "I will pay as much as the packers, and more." "Can't help it," the commission man replied; "we have to do what the packers want done or they will crush us." The same Kansas butcher has been a cattle dealer a long time. Recently he was in Chicago and visited the places where he met hundreds of buyers in former years; he found the business of buying cattle had drifted into the hands of a few rich companies, and that they, the packers, were buying nearly all the meat animals and slaughtering them and distributing the carcasses to local butchers all over the country, east, south, west and north.

This shearing of the farmers operates to the detriment of business generally by lessening the amount of money which circulates in the community. It is not possible to estimate exactly the loss occasioned by this change of markets, but it is very great. Take an average steer, 1400 pounds weight, raised by an average farmer who has only two or three to sell at one time, and the cost of getting that steer from Topeka to Kansas City will be about \$2. Add to that the yard charges, feed, commissions, etc., and another \$2 charge for shipping the dressed carcass back to Topeka, and we have a total of about \$5 on every such steer for this wholly unnecessary work of taking one animal from a Shawnee county farm all the way around by Kansas City to get to Topeka, which was in sight of the farm where the steer was raised.

Topeka now has a population of at least 45,000 persons, each requiring an average of half a pound fresh meat daily. Allowing one-half of that to be beef, it requires at least ten thousand pounds of beef to supply the city one day. Rating the average beef carcass at 800 pounds, it would require twelve and one-half carcasses every day, eighty-seven and one-half every week, and 4,550 carcasses every year. If \$5 be lost on every one of the 4,550 animals needed for the beef supply of Topeka one year, the aggregate is \$22,750, and that is only one-half the loss—the beef account only, saying nothing about pork and mutton, to which the same rules apply. Including all classes of meat produced on the farm and subject to the influence of the meat monopoly, we have at least \$45,000 lost every year to the farmers about Topeka, and gained by railroad companies, stockyard men and meat packers interested at Kansas City and other points. That loss falls primarily upon the farmers themselves, but it does not stop there; it operates injuriously on all departments of trade in Topeka. The farmers have that much less money to use in their business; the loss affects the extent of their purchases, it shows it-

self in all their dealings. Merchants, professional men, mechanics, laborers—all classes of citizens are dependent upon the farmers; whatever impoverishes farmers, hurts the entire community. The total number of cattle received at the Kansas City stock yards, in the year 1887 was 669,224. What proportion of that number were subject to the charges herein discussed, it is impossible to state; but it is not at all unreasonable to believe that most of them were slaughtered at the great packing houses of Kansas City or Chicago, and the average loss to farmers was not less than \$8 on every animal so slaughtered. The dressed beef men control the entire cattle market. Twelve million dollars annually on cattle, only will not more than cover the aggregate loss to farmers in the West on account of this dressed meat business, and it is lost to trade in general, as well as to farmers individually.

The Inter-State Commerce Law.

Mr. Stone, Secretary of the Chicago Board of Trade, in his report, just issued, covering the year 1887, referring to the inter-State commerce law and its effects on trade says: "Those who anticipated failure in the application of this law to the changing phases of transportation confess to surprise and gratification; its remarkable and rapid success attests the pressing need which existed for such an enactment, and the righteousness of its provisions. It was indeed fortunate that it was placed in the hands of able expounders who, to legal acumen, added a studious familiarity with the intricate subject of transportation in its manifold relations to the whole range of mercantile activities. It is proven that the law is as beneficial to railway corporations as to merchants, guaranteeing to both protection under the 'common law doctrine of equality of treatment, with certain special provisions as to publicity and stability of rates which aid in securing such equality.' The evasion of this doctrine by railway agents, brought about partly by the absence of an independent legal assurance of the inviolability of established rates, and partly by a pressure of competition, was almost inevitable, and was fraught with disadvantages even to those who were apparently benefited thereby. The correction of this evil has been of incalculable benefit to stockholder, manager, and merchant; it has steadied one of the chief conditions of trade, and played no small part in maintaining commercial safety.

"The 'short-haul' clause elicited far more discussion and was more difficult of application than any other provision of the law. The prohibition of a greater aggregate charge to or from an intermediate point than for the whole through route under substantially similar circumstances and conditions, has been wisely interpreted, and numerous decisions of the commission form a valuable contribution to the equitable determination of questions which will arise under this section of the law.

"The practice of underbilling renders it advisable to amend the law by imposing a penalty upon shippers who, by misrepresentation regarding weights, classification, billing, or by any other devices, secure transportation of their property at less than regular rates. The law is fully and securely incorporated in the jurisprudence of the country.

A manuscript entitled "Boys, Don't Follow Your Folks," was forwarded to this office some days ago with request for publication in the *KANSAS FARMER*. The thoughts are good, and the author is on the right road to usefulness, but as a poem, the work would not look well in print.

SHALL STATE TAXATION BE REDUCED?

Taxation in Kansas is too high. The average rate of taxation in the State for all purposes is about 3½ per cent. That includes all classes of taxes—State, county, city, township, school and road taxes for railroad, bridge and other bonds. Our State taxes are not high, only about 40 cents on a hundred dollars valuation. Local taxes, for county purposes for schools, bonds, etc., bear most heavily on the people. In 1886 the general average was 3.58 per cent. on the assessment; of this .415 per cent. was for State purposes, and 3.165 per cent. for local. The rate of valuation is not high, not more than 25 to 30 per cent. of the real value of the property; but that does not in any way affect the amount of money to be raised by taxation. If \$1,000 assessed valuation is taxed \$35.80 the same property would be taxed the same amount under any other valuation if the amount to be raised is the same. It is the amount we are writing about now, not the rate of valuation or assessment.

When one thinks of the amount of money paid out by the people in other ways which seem to be quite as reasonable and necessary as taxes, for religious purposes, for social enjoyment, for amusement, etc., the aggregate is very large—more than legal interest in some parts of the world. And there is no doubt that with many citizens there is much that men and women are prevented from enjoying by the heavy and regular drafts upon them for taxes. Is there any way to reduce taxation, so that the people need not pay out so much of their substance? If not, is there no way to get more property on the tax rolls? Is there not a great deal of property now escaping taxation altogether? If we can increase the amount of property, that will operate to reduce rate of assessment, and that will reduce taxation proportionately. If the amount to be raised by taxation is \$1,000, and the assessment is \$100,000, the rate would be 1 per cent. If the amount of property be increased, (the amount of money to be raised remaining the same) the rate would decrease proportionately, and thus make it lighter on the people. If \$1,000 are raised on \$100,000 valuation at 1 per cent., the same amount would be produced from \$200,000 valuation at one-half of 1 per cent.

Now, can we not find some way to increase the amount of our taxable property? or, what will be the same thing in effect, can we not bring more property under taxation, and can we not increase the rate of valuation on some that is now listed too low?

It has seemed to us that the public business is costing the people too much. Although the the State tax does not amount to much for each individual tax-payer, yet more than a million dollars goes into the State treasury every year from that source, and more than three times as much is collected for local objects. One per cent. on the valuation is allowed for county administration. Take an average county—say Mitchell, with a valuation in 1886 of \$3,096,668. One per cent. on that would give \$30,966. Is not that a very large amount of money to expend on one county administration? It would pay for the services of thirty good men one year at a thousand dollars apiece. The average farmer does not get that much. Are we not employing more persons than are really necessary to perform the work that is to be done? And are we not paying them more than a reasonable compensation? Men teach school at an average salary of \$42 per month six months in the year, and do earn as much the rest of the time.

But suppose they taught twelve months at that rate, the year's wages would amount to \$504. The average teacher is fully competent to discharge the duties of any county office except that of county attorney. If all the county records were placed in charge of one man authorized to employ necessary assistance at wages usually paid for work of the kind to be done, one-half the money now paid to county officers would be saved.

There is a great deal of property which ought to bear its proper proportion of taxation but which under one system escapes. This applies to money, bank shares and corporation shares generally, to live stock and some other articles which will suggest themselves to the reader's mind. And then, by our low rates of valuation, a great deal of property escapes under the \$200 exemption rule. It requires a good deal of crowding sometimes to get a man's property within the \$200 limit, and in all such cases if property were listed at its real value, these men would appear more favorably on the tax rolls.

The KANSAS FARMER believes that if the Legislature would employ one competent man a year to investigate this subject and collect facts for future legislation, it would result in saving millions to the people in the way of taxes.

Agricultural Depression in France.

It is said that "misery loves company." If there is any consolation to American farmers in the fact that farmers of other countries are having hard times, there ought to be a good deal of relief on that account; for it is true that agriculture is depressed in all parts of the world.

In special issue No. 15, of Consular Reports issued from the State Department at Washington under date May 23, 1888, Consul Frank H. Mason reports on the "causes of depression in France." He says the question of the hour in France, the all important subject which most engages the attention of thoughtful men, is the extreme depression which has fallen upon agricultural interests in that country and the steadily increasing embarrassments which now weigh upon proprietors and cultivators of the soil. He says the vintage of 1887 was not only the smallest that had been gathered for many years, but the prices at which the new wine was sold were from 30 to 50 per cent. below those of the preceding year. In the values of all domestic animals there has been a decline estimated at from 45 to 50 per cent. during the past six years. In presence of a constantly increasing product of foreign wheat and a declining market, the increased duties on cereals imported into France have simply augmented the revenues of the government, without more than slightly enhancing the local prices of breadstuffs. Wheat-growing in France no longer yields a profit to the farmer, whose situation has become so embarrassing that some of the more radical French economists now declare that the only possible means of salvation for the agriculture of central Europe will be for France, Germany, Austria, and Italy to sink all political antipathies and jealousies and form an international customs union to exclude all food products from Russia, India, Australia, and America.

The *Western Rural* says "the work of forming a trust among farmers is such a colossal and intricate job that it must appal any thoughtful person. It would take ten years' time and the expenditure of a million dollars to accomplish it, and in the end it would be but a partial success. But a trust does not

reach the bottom of our difficulty at all, and besides the farmers are perhaps more nearly a unit in the determination to smash all trusts than they are upon any other point. A trust is an unlawful combination, as we have frequently pointed out.

Wants to Come to Kansas.

A young man in New York with two hundred dollars available wants to come to Kansas and get a home. He is not a farmer, but would like to get a little land and learn to farm in a small way. He wants advice as to what part of the State he ought to locate in, what route to come, etc.

In a case like this it would be better to get as close as possible to a large town where small farming would be profitable. Kansas is peculiarly an agricultural State. At least 75 per cent. of the people are engaged in farming, and the farms average large. Small farms—five to ten acres are found only close to cities and our cities are not large. Topeka, containing about 46,000 population, is the largest city in the State. Ordinary farming land five to ten miles out from towns sells at ten to fifty dollars per acre according to location and surroundings. A young man of vigor, industry and pluck, one who is ready to learn as he goes along and is willing to undergo hardships a few years, can take two hundred dollars to one of our western counties, and do well. Our advice would tend in that direction, rather than to the small farm idea. There is yet a good deal of government land in some of the counties. It may be that the best is all taken; but a young man of good behavior, with nerve and energy, can go out among the settlers there and they will show him the best of what is left. If it be found impracticable to get good government land, a man of the kind we suggest can get hold of enough land to make a good farm—forty acres upward—by using two hundred dollars and good judgment combined. Our advice to any young man, other things being equal, would be to go to the country rather than the city; to the farm rather than the shop.

There are excursion parties coming to Kansas from the Eastern States every two or three weeks, and all of the great railroad lines east are authorized to sell tickets for those dates at excursion rates.

By addressing the Register of the Land Office at Garden City, Kas., inclosing stamp for reply, any inquirer can learn what counties still have government land.

A Dakota farmer is practicing on mixed feed. In a letter to the *Northwestern Farmer* (Fargo) he says he mixed four bushels of barley, two bushels of wheat, and seventeen bushels of oats, and sowed the mixture on nine acres of land (two and one-half bushels per acre) in May, 1887. He cut the crop "when green, as soon as the barley was ripe," tied in small sheaves, shocked and stored away in the barn. He says he had never better feed, and he and his neighbors will adopt that plan this year, for he says, "hay is scarce in these parts."

Senator Stewart, of Nevada, in a speech the other day in the Senate, charged that the Secretary of the Treasury has loaned \$6,000,000 of the public money to favored national banks "without interest or reward to the government." This is not a new practice, but the Senator charges that it is growing, and that the amount now out is much larger than ever before. He says it is done under forced construction of the law. Such a practice is dangerous and ought to be stopped. States have frequently lost money lending it to banks. It ought to be plainly prohibited.

Special Displays at the State Fair.

EDITOR KANSAS FARMER:—I desire to announce to the different county organizations, granges and agricultural societies of Kansas, to call their attention to the fact concerning the display in both the agricultural and horticultural departments to be exhibited at the Kansas State Fair, to be held September 17 to 22, 1888.

In view of the fact that Shawnee county occupies a position that many think redounds to her especial benefit in making county displays, our association has determined to make the following offer to all counties of the State, Shawnee excepted, for 1888: Largest and best county display in agriculture—first premium, \$250; second best, \$150; third best, \$100. Horticultural display—largest and best—first premium, \$150; second, \$100; third, \$50.

In consideration of the above fact we extend to each and every county of the State in joining in competing for these valuable premiums, and assist us in making the Kansas State Fair the leading fair of the West.

Our premium list will soon be out, and will be sent to all upon application to

E. G. MOON, Secretary.

How to Destroy Chinch Bugs.

A Wisconsin farmer as reported in the *Mankato (Kas.) Review*, says his neighbors beat the chinch bugs in this way: "Take one and one-half bushels of lime, pour just enough water on it to slack it into a powder or a fine condition, and then add to it one and one-half bushel of common stock salt, and sow broadcast over the ground just as the small grain is sown, and he says it has never been known to fail. He further says if one fears the ravages of the bugs, that the time to sow the compound is after the crop has been planted and just before it is ready to come up."

It may be added that this preparation is a good fertilizer, so that if it destroys bugs or prevents their ravages, it serves a double purpose.

Commencement season is at hand. We are in receipt of several invitations.

Book Notices.

FORUM.—Among the living topics of the day discussed in the *Forum* for June are: "The Pending Tariff Discussion," by the Hon. W. D. Kelley, who makes a review of American tariff legislation during the last hundred years to show what disastrous effects the passage of the Mills bill would have; "The Negro in Politics," by Senator Wade Hampton, of South Carolina, who reviews the reconstruction period of politics in his State to show the effects that Negro supremacy had there; "Railway Problems," by Senator J. F. Wilson, who discusses the government regulation of railways, and by Prof. Arthur T. Hadley, who shows that the remedy for railway strikes is to be found in the development of railway managers, who are great leaders of men as well as great makers of dollars; "Labor Troubles," by W. H. Mallock, the distinguished English essayist, who makes a plea for the universal study of the principles of political economy; "Family Economics," by Mrs. Julia Ward Howe, who discusses the pecuniary obligations of a man to his wife and daughters. The *Forum* is now published from its new offices at 253 Fifth avenue, N. Y.

Some years ago the late Horace Mann delivered an address at the opening of an institution for boys, during which he remarked that if only one boy was saved from ruin it would pay for all the cost and care and labor of establishing such an institution as that in any part of the land.

After the exercises had closed a gentleman rallied Mr. Mann upon his statement, and said:

"Did you not color that a little when you said that all the expenses and labor would be repaid if it saved only one boy?"

"Not if it was my boy," was the solemn and convincing reply.

Regular subscription price of the KANSAS FARMER is now \$1 a year, within reach of all.

Horticulture.

Hunting the Curculio.

The curculio season will begin as soon as the young fruit is formed, and it may be well to note some of the effective ways of dealing with them.

First of all, it should be remembered by every fruit-grower, that the curculio is a winged insect, and moves about the orchard in warm weather with about as much facility as a house-fly or a honey-bee. Second, no fruit is eaten by it, but instead, is punctured by the female in order to make a place to deposit a nit or "egg," from which, in a few days of pleasant weather, a grub hatches, and immediately bores its way to the pit of the fruit—if it has a pit. Stone fruits are always preferred, though pears are quite frequently attacked, and apples occasionally. Nectarines, apricots, plums, cherries and peaches, are usually preferred in the order named, but as the first two do not succeed well in the Northern States, the work of the insects is there limited to the others. Plums are almost sure to suffer immensely, peaches seriously, cherries very often. The injury to pears is comparatively slight, the fruit not being often killed, though much disfigured and made rough and lumpy.

Now, being a winged insect, and never eating either fruit or leaves, why should it be supposed that fowls under fruit trees, or bottles of sweetened water placed in the crotches, or a bad smell made from burning offensive matter under them, will have the effect to exterminate the insects or drive them away? And yet all these "remedies," and many more, are annually brought out, and some sort of an endorsement given them. It has also been stated that to place tubs of water under the trees, or to plant the trees so that they will lean over a stream or a lake, will keep the curculio away, because as it is alleged, instinct teaches it that if the fruit containing the grub falls into water, it is death to the progeny! Experiments, however, have shown that the curculio instinct does not extend beyond depositing its egg in the fruit it finds. The number of fruit-growers who ever saw a curculio is quite small, and the number is still less of those who, having seen it, are enterprising enough to try to protect their fruit by rational means.

The process of protection has been often published and explained, but undoubtedly must be published still oftener in order that it may be generally known, and also that quack remedies may be abandoned, because the latter cost something in spite of their worthlessness. The one effective remedy is, in brief, to jar the tree once or twice a day, after placing a white sheet on the ground under them, when the insect, being alarmed at the jar, draws up its feet and drops on the sheet, feigning death, when it should be mashed at once. If left on the sheet a few minutes it abandons its simulation of death, gets up on its feet and crawls or flies away. It is very small, and it takes a trained eye to detect it, as it looks at first almost exactly like a small, withered bud. Every beginner should bottle up his first catch, at least, in order to study their appearance. When they resume active life in the bottle, it will be seen that they have a good supply of feet, wings hidden under things that look like scales, as other winged beetles have, and a proboscis as large in proportion to the body as an elephant's trunk. This implement is the one used in making the crescent-shaped incision in the fruit.

The sheet should be large enough to

cover all the space under a tree of moderate size. It is picked up, carried and spread by means of a light piece of wood nailed at the ends to the sheet, a single piece on the end and two pieces at the other, so that it can be passed about the trunk of the tree. Two persons can handle it, though three—two children and one grown person—are most effective in performing rapid work. The children carry and spread the sheet and watch for the insects, while the adult jars the tree and supervises. The jarring is done with a padded mallet, in case the tree is struck, while if there is a spike to strike on or a branch sawn off, a nail hammer can be used. I have generally used a rubber cylinder, such as is sometimes placed between wagon or car springs to stop jolting. The blow should be sharp, yet not so as to injure the tree. Blunt spikes are sometimes recommended as a permanent part of the tree, on which to strike, but they create wounds and make peach trees gummy. The padded mallet is better. Some growers fasten the sheet to a frame and mount it on a wheelbarrow, and arrange it so that they can run the barrow against the tree, bring down the beetles by the jar, destroy or pick them in a standing position, and then move on rapidly. When much work is required this is doubtless the best way.

The best possible time for curculio-catching is just at daylight. The insects are at work then, but are not so apt to fly away as when the heat is considerable. The wind is also apt to be quiet at that hour, which is very important. The work cannot be performed on a windy or rainy morning with any satisfaction. As long as insects are plentiful, do it every fair morning until the pits of the fruit become hard, or even after that. Of course it costs something to grow fruit in this way, but less, after all, than would be supposed at first thought, and it is annually practiced by some growers who are determined to sell fruit every year.—*Cor. N. Y. Examiner.*

About Grafting.

A correspondent inquires "What is the difference in the root-graft, the crown-graft, and budding just above the ground in apple trees, and which is the best to sit?"

A root-graft is where the scion is set into a root; a crown-graft is where a scion is set in a tree-stem cut off at the crown—just above where the roots form into the stem; budding is a kind of side-grafting, a bud with a little wood and bark inserted under the bark of the stem, all of the old tree above the bud being removed the next year.

Nursery men differ as to the comparative merits of the two kinds of grafting, but the root-graft is commonly practiced. When the work is well done, which shows for itself on examination, either method is reliable. When it is not convenient to purchase trees from a home nursery and from an acquaintance, or one on whom we do not hesitate to rely, the only safe rule is to examine the trees and see that the operation of grafting did not leave open places. If the parts have united completely and the bark about the union has a healthy look, it matters nothing about the method of grafting.

And there is no better rule than that to apply as to budded trees. We have planted both with good results. In setting budded trees, however, care should be taken to place the side on which the bud was grown to the south, on account of our summer winds.

Where it is at all convenient, trees ought to be purchased from home nurseries, grown by Kansas men who are engaged in the business regularly, and then rely on what they say about it.

Grape Grafting.

As regular as the season comes round I am asked to describe the mode. By the time this gets before our readers some who are in a hurry may have already done the work. After many years of experience, doing the work at all times, from the time the frost was out of the ground, until the vines have made shoots a foot long, with varied success. I have come to the conclusion that the best time is when the vines have started to grow, the grafts being kept in a cool, shady place so that they were a little behind the stock in starting. To keep them entirely dormant in an ice-house, as some recommend, is wrong. I have had the buds on the grafts swollen ready to burst when inserted that started to grow in a week after. Clear the ground away from the root three or four inches deep, saw off a smooth place at the bottom. If no smooth place can be found, saw into the stump instead of splitting, as usual. A thick, wide-set saw I prefer to the knife, even in a straight stump. Shave your graft to fit the cut with a shoulder, tie if the stock is less than an inch in diameter, then fill in the earth carefully, press firmly, but do not move graft. Hill up to the upper bud, stick a peg one inch from each graft on one side, always on the same, so you can tell exactly where the graft is. Then cover the eye over with a handful of sawdust; throw a little mulch on and leave it until the grafts begin to grow. I use two-eyed grafts, unless the wood is long-jointed and thick, when one eye will answer. When the grafts begin to grow the suckers must be kept off. As soon as the graft begins to grow it must be tied up to a stake to keep the wind from blowing it down. In this way I nearly always get fruit a little sooner than when I buy a small vine. Have now strong vines of Empire State that were set in spring of 1886; bore fruit last year, while three vines planted the year before that cost me \$6, have not borne a bunch of fruit yet, and not much show of doing it the coming season. I cannot see the policy of digging worthless vines up and planting others in their place. Graft them with something better.

Grafting Wax.—How to make this is often asked, and while there are many receipts given, the one that I like best after forty years of experience is made as follows: Use one pint linseed oil, four pounds resin, one pound beeswax. Melt all over a slow fire; stir well and pour on water; when cool enough to work, grease the hands well and work it like shoemaker's wax or taffy. Then roll balls of convenient size for putting into the vessel used when grafting. It should be heated over a moderate fire and put on the grafts thin, but not too hot. This wax will not crack in cold weather, nor run, even if the weather gets up to 100 deg. in the shade.—*Samuel Miller, in Popular Gardening.*

How Trees Grow.

In explaining the process of tree-growth it is of the first importance to keep in view the function of the "cambian layer." This is the soft layer between the wood and the bark. It is not, as might be guessed at first sight, a mass of pulpy material, but is a tissue of cells. These cells, which are visible under the microscope, are, as thus observed, apparently all alike. Yet they are divisible into two classes, according to the functions which they have to perform. Those cells lying nearest the bark contribute a permanent accretion to the bark and thicken it for the better protection of the tree as its growth increases. The cells nearest the wood of the tree contribute in a like way to

the permanent fibre of the wood, which is distinct in characteristics from the fibre of the bark.

This cambian layer is in its most juicy and succulent state in the early part of the growing season, as is well known, even to the school boy, so far as the willow tree is concerned. At this time by slight effort, the bark can be disengaged from the wood, and it is the time for making willow whistles. But other tree growths are in like condition at the same period as respects the cambian layer. As the layer becomes more advanced in its annual progress, it ceases to have this suppleness and goes more and more into fibre, either for increasing the thickness of the wood or that of the bark.

When the cambian layer wholly ceases its functions for the year, the result is manifest in the ring which has been formed on the outside of the wood of the tree. Substantially it is true that one ring is produced each year, but now and then occurs a year when the process of formation has been arrested by canker worms or by extreme drought, and no ring is formed, or it is so blended with the ring of the preceding or succeeding year as not to be discernible except under the microscope. The variation of the thickness in the rings is explained by the occurrence of conditions more or less favorable to the growth in different years.—*G. L. G., in Farming World.*

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The Poultry Yard.

Practical Talk on Poultry-Keeping.

A correspondent of the *American Cultivator* recently wrote to that paper the following practical suggestions:

Perhaps the foremost question among farmers who are interested in poultry at the present time, is how and when to set hens. The present season has been very backward in the poultry yard, and much business and cleaning up which should have been accomplished a month ago still remains undone.

Before attempting to set a hen, every precaution should be taken that the bird should be thoroughly sulphurized and dusted. The best manner in which to do this is to take the hen by the two legs, allowing her head to drop down. In this position her feathers are all open, and the sulphur dust can be thoroughly blown through.

In my seven years experience I have found that about every man who sets a hen has his own way of doing it, but every man who first sets a hen does not always have the best of luck. There is just as much in arranging a nest in which to place a hen as there is in feeding cows or looking after hogs. The best place to set a hen is on the ground out of doors. All the hens on my own place at this time of the year are placed in barrels which lie on the ground. About one inch of damp loam is placed in the bottom of the barrel, and on the top of that a sprinkling of fine cut hay or dried grass. After the grass is put in, a form should be moulded out to fit the hen's body. For a run, a common coop, 5x4 feet, is placed in front of the opening of the barrel, where a hen can take her exercise unmolested by her neighbors.

When the barrel and nest are in shape, the hen should be taken at night time and placed on the nest, with three or four china eggs under her. This precaution of placing the china eggs on the nest first is one which should be observed, because if an uneasy hen is placed on a setting of eggs that cost \$5, the experiment is likely to prove expensive for the owner. If the hen takes readily to the nest, on the second night she should be moved, the china eggs taken out, and the regular eggs placed in the nest. Between that time and the twenty-first day the hen should be left almost entirely alone, though every third day, when she is off the nest, the eggs should be looked at to see that none are broken. The moment an egg is broken it is very essential that the remaining ones, if soiled, should be carefully removed and washed in lukewarm water, and then replaced in the nest.

On the nineteenth day, when the hen is on the nest, she should be carefully sprinkled with sulphur as a precaution against the appearance of lice, which are fatal to young chickens. Right here I would say for the benefit of the novice, that, should he follow out this sprinkling operation and then find the eggs covered with yellow, and become scared lest he had ruined them, he need not give himself any anxiety on that subject. If, on the twenty-first day there are no signs of chickens, it is not well to disturb the hen for two or three days afterwards, as for some reason the eggs are often liable to hatch late. In two or three cases last summer, eggs which were set on my form did not hatch until the twenty-fifth day. Of course if two or three chickens hatch on the twenty-first or twenty-second day, and there is any possibility of the

rest hatching later, the two or three chicks should be removed from the nest and fed, and the belated eggs put under another hen.

Young chickens do not need to be fed until twenty-four hours old, and some breeders do not give them anything to eat until two days have passed. It is not a good plan to give the young chicks any water for the first two or three weeks. Milk is good for them, but if it cannot be conveniently used, soaked bread crumbs will do as well. For two or three weeks after the chicks are hatched they should be fed on soaked bread crumbs and a small sprinkling of buckwheat.

Do not be in a hurry to separate the old mother hen from her chickens, especially should the weather be cool and rainy. Even if she does become uneasy during the day, she furnishes a good covering for the little ones during the night. When chickens are two months old, they should all be placed in the same coop, care being taken that the weaker ones are not crushed or crowded by the older and stronger chicks. In order to distinguish the chickens when three or four broods are placed together, I would advise stamping the toes of each separate brood. By so doing reference can be made to a book, where the hatches can be readily discovered.

In conclusion, I would say a word about breaking up broody hens. It is perfectly natural for a hen after she has laid her litter of eggs to become broody and want to sit. Of course if allowed to remain in the hen-house, she will stay on the nest most of the time and be a continual nuisance. The best plan I know is to remove the broody hen to a small coop, and place her with two or three vigorous cockerels, who will do more towards breaking her up in a day than any other method which can be mentioned. But if the above suggestion cannot be followed, do not by any means be cruel enough to duck her in cold water.—*Marie, Dorchester, Mass.*

Eggs at Two Cents Per Dozen.

Before I hit on the plan of paying our little boy and girl two cents for every dozen of eggs they bring to the house, what a wearing, drumming time I had to get our hens properly fed and provided with dust-boxes, and the eggs gathered each night! I always save the table scraps and a kettle of skimmed milk for them, thickening the mess with meal or shorts, and have it hot on the stove each morning, ready for the men folks or children to carry to the hens in the early forenoon; but the men folks would be sure to forget it, and the children would often be off to their play or to school before I would remember to have them feed the biddies; and there that kettle would stand and stew and scorch, cluttering my stove half the forenoon, and then grow chill cold when carried away from it, the hens often getting their breakfast just as they were flying upon their roosts at their early bedtime. And after school every day of the week, I must remember to tell the children to hunt the eggs, and not having a bit of interest in the matter, they sometimes forgot, and sometimes half of the nests were not looked after, and it was all up-hill work for me, this having the care of the hens, which were in a building so far from the house I could not tend them myself.

But paying the children for their work has changed all this. Without

any telling or reminding, the kettle of scalded milk and meal is promptly lifted on their little wagon as soon as I have it ready after breakfast, and is hauled to the hen-house. I am besieged for boiled potatoes and meat scraps and extra pans of milk, and the hens lay as they never laid before on these premises. Boxes for grain, lime, ashes, burnt bones, and pounded crockery, they have added to the institution, and keep replenished, and one of the cattle troughs they have wheeled of their father, for the hen's daily allowance of skimmed milk. I have not seen a frozen egg all winter, but every night I have seen two little round, rosy faces, brimful of eager delight and expectancy, looking in through a crack of the sitting-room door, hiding behind them a heaped hatful of eggs, while, with shining eyes they asked, "Guess mamma; guess how many eggs to-night?" And sometimes, though I guess way up in the thirties, they gleefully count out still more from the old felt hat that is their egg-basket.—*Clarissa Potter, in American Agriculturist.*



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Sweet Potato Cultivation.

The sweet potato is almost an unknown luxury among Northern farmers, yet it can easily be raised anywhere that a good crop of corn can be grown. Not as a field crop, but as a garden vegetable. In its native country it is one of the hardiest of vegetables, where it is often found growing luxuriantly in its wild state. In Georgia, Alabama, and the Carolinas, it forms quite a staple article of food for the negro laborers, but is raised to very little extent for exporting. This causes the cultivation to become very much neglected, as they only aim to supply their own wants.

They very seldom manure the land for this crop, giving their best lands and care to the cotton and corn crops. The tubers are planted there, the same as the Irish potato is planted North, and they are given nearly the same care in the way of cultivation, excepting that the vines of the sweet potato must be loosened up occasionally, to keep them from taking root, where the joints of the vines rest in the mellow earth.

Of course our cultivation of this plant must vary somewhat from its native treatment. Our seasons are not long enough to admit of planting the tubers when the crop is to be raised, even supposing that they did not rot in the ground, which would generally be the case if planted at all early.

One hundred plants, well attended to, will produce several bushels of tubers. This number of plants can be started from the seed tubers in a box two and one-half feet square; the box should be about a foot deep, and nearly filled with rich loam. The tubers should be planted about three inches below the surface, and the box kept in a moderately warm room, where the sun can shine upon the earth and plants a portion of the time. They need not be planted in the box before the 15th of April, for it will not be safe to put the plants out before the 1st of June. This number of plants may be obtained at a small cost from a green-house if there should be one in the vicinity. If it is desired to grow them on a larger scale, a hot-bed may be constructed for the purpose of starting the plants. A warm sandy soil is the most desirable location for the plants, if it is made sufficiently rich. They will do very well on black loam if it is dry and mellow. The plants are hardy, and will bear transplanting as well as cabbage plants. In hoeing, draw the earth up around the plants until there is a hill twelve or fourteen inches high. This will give the vines the benefit of the sun and air. They are luxuriant growers and sometimes cover the ground completely.

Loosening up the vines occasionally should not be neglected, as they will, if undisturbed, strike root at the joints, and thus draw nourishment away from the main root of the plant.

They will continue to grow until the frost touches them, when they should be gathered at once, as a little freezing destroys the flavor. They should be housed and kept in a cool, dry place until consumed. There are many ways of packing them, but in fine chaff is good. —Exchange.

Keeping toads out of wells is a difficult matter with some. The surface around the well should be cemented for a space equal to a circumference of fifty feet. This would compel the toads to enter at a distance too great to reach the well. It seems almost impossible to keep them out by closing the entrance only, as they find their way in lower down.

Prof. Samuel Johnson, of the Michigan Agricultural college, says: "I believe if farmers would expend a little of the effort and money used in hunting and testing new

varieties of oats, in the securing of clean seed, of first grade quality, of the same variety they have grown and know is adapted to their locality, but grown on a different soil and in a more northern latitude, and leave the testing of new varieties to the experimental stations, until trials for successive years have proven the adaptation and value of the new sort, it would be greatly to their profit."

KANSAS FAIRS.

A complete list of the fairs to be held in Kansas this year:

Kansas State Fair Association—Topeka, September 17-22.

Western National Fair Association—Lawrence, September 8-8.

Anderson County Fair Association—Garnett, August 28-31.

Bourbon County Fair Association—Fort Scott, September 11-14.

Brown County Exposition Association—Hiawatha, September 4-7.

Chase County Agricultural Society—(Cottonwood Falls), Elmdale, September 26-28.

Cherokee County Agricultural and Stock Association—Columbus, October 11-14.

Cheyenne County Agricultural Association—Wano, September 15-18.

Clay County Fair Association—Clay Center, September 4-7.

Coffey County Fair Association—Burlington, September 10-14.

Cowley County Fair and Driving Park Association—Winfield, September 3-7.

Kansas Central Agricultural Society—Junction City, September 21-23.

Ellis County Agricultural Society—Hays City, October 2-4.

Franklin County Agricultural Society—Ottawa, September 17-21.

Harvey County Fair Association—Newton, September 11-14.

Jefferson County Agricultural and Mechanical Association—Oskaloosa, September 11-14.

Jewell County Agricultural and Industrial Society—Mankato, September 18-21.

LaCygne District Fair Association—LaCygne, September 4-7.

Linn County Fair Association—Mound City, September 17-21.

Pleasanton Fair Association—Pleasanton, September 18-21.

Marion County Agricultural Society—Peabody, September 5-7.

Montgomery County Agricultural Society—Independence, September 4-8.

Morris County Exposition Company—Council Grove, September 25-28.

Nemaha Fair Association—Seneca, September 18-21.

Sabetha District Fair Association—Sabetha, August 28-31.

Osage County Fair Association—Burlingame, September 11-14.

Osborne County Fair Association—Osborne, September 11-14.

Ottawa County Fair Association and Mechanics' Institute—Minneapolis, September 25-28.

Phillips County Agricultural and Mechanical Association—Phillipsburg, September 18-21.

Pratt County Agricultural Society—Pratt City, September 4-7.

Hutchinson Fair Association—Hutchinson, October 2-5.

Blue and Kansas Valley Agricultural Society—Manhattan, September 18-21.

Plainville Fair Association—Plainville, September 25-28.

Rush County Industrial Fair Association—LaCrosse, September 19-21.

Saline County Agricultural, Horticultural and Mechanical Association—Salina, September 11-14.

Smith County Agricultural Society—Smith Center, September 19-21.

Washington County Live Stock, Agricultural and Mechanical Association—Greenleaf, September 12-14.

Neosho Valley District Fair Association—Neosho Falls, September 24-28.

To the Deaf.

A person cured of deafness and noises in the head of twenty-three years standing by a simple remedy. Will send a description of it free to any person who applies to Nicholson, 177 Macdougall St., New York city.

To Nervous Men.

If you will send us your address, we will mail you our illustrated pamphlet explaining all about Dr. Dye's Celebrated Electro-Voltaic Belt and Appliances, and their charming effects upon the nervous debilitated system, and how they will quickly restore you to vigor, manhood and health. If you are thus afflicted, we will send you a Belt and Appliances on trial.

VOLTAIC BELT CO., Marshall, Mich.

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 P. O. Address. Respectfully, T. A. Slocum, M. C. 181 Pearl St., New York.

Consumption Cured.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested his wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellow-men. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 149 Power's Block, Rochester, N. Y.

Every copy of this paper is well worth the price asked for fifty-two copies—a year's subscription.

Thirty Miles Disappear.

Thirty miles of journey is a big thing to disappear, but this distance has been dropped out between Kansas City and Chicago. How it happened is thus figured: The Chicago, Santa Fe & California railway is completed between Kansas City and Chicago, and the distance between the two cities is only 458 miles, measuring from Union Depot, Kansas City, to Dearborn Station, Chicago. This is exactly thirty miles less than by any of the old lines, so you have to travel thirty miles less, your freight has to be hauled thirty miles less, and practically the Santa Fe has made thirty miles disappear. A few years at this rate and Kansas will be in New England.

This paper is now a twenty-page weekly and only costs \$1 a year. Compare it with any farm journal in America.

Teachers can enter Campbell Normal University (Holton, Kas.) any week.

Remember the FARMER is now \$1 a year.

Agricultural Books.

The following valuable books will be supplied to any of our readers by the publishers of the KANSAS FARMER. Any one or more of these standard books will be sent postage paid on receipt of the publisher's price, which is named against each book. The books are bound in handsome cloth, excepting those indicated thus—(paper):

FARM AND GARDEN.	
Allen's New American Farm Book.....	\$2.50
Berry's Fruit Garden.....	2.00
Broomcorn and Brooms.....	.50
Flax Culture (paper).....	.30
Fitz's Sweet Potato Culture.....	.60
Henderson's Gardening for Profit.....	2.00
Hop Culture (paper).....	.30
Owens: How to Raise Them Profitably (paper).....	.20
Silos and Ensilage.....	.50
Stewart's Irrigation for the Farm, Garden and Orchard.....	1.50
Tobacco Culture; Full Practical Details.....	.25
FRUITS AND FLOWERS.	
Elliott's Hand-Book for Fruit-Growers.....	1.00
Every Woman Her Own Flower Gardener.....	1.00
Fuller's Small Fruit Culturist.....	1.50
Fuller's Grape Culturist.....	1.50
Henderson's Practical Floriculture.....	1.50
Parsons on the Rose.....	1.50
HORSES.	
Dadd's Modern Horse Doctor.....	1.50
Jennings' Horse Training Made Easy.....	1.00
Horse-Breeding (Sanders).....	2.00
Law's Veterinary Adviser.....	3.00
Miles on the Horse's Foot.....	.75
Woodruff's Trotting Horse of America.....	2.50
Yount & Spooner on the Horse.....	1.50
CATTLE, SHEEP AND SWINE.	
Allen's American Cattle.....	2.50
Coburn's Swine Husbandry.....	1.75
Dadd's American Cattle Doctor.....	1.50
Harris on the Pig.....	1.50
Jennings' Cattle and Their Diseases.....	1.25
Jennings' Sheep, Swine and Poultry.....	1.25
Randall's Sheep Husbandry.....	1.50
Stewart's Shepherd's Manual.....	1.50
The Breeds of Live Stock (Sanders).....	3.00
Feeding Animals (Stewart).....	2.00
MISCELLANEOUS.	
American Standard of Excellence in Poultry.....	1.00
Wright's Practical Poultry-Keeper.....	2.00
American Bird Fancier.....	.50
Quincy's New Bee-Keeping.....	1.50
Dogs (by Richardson).....	.60
Atwood's Country Houses.....	1.50
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Arnold's American Dairying.....	1.50
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Fuller's Forest Tree Culturist.....	1.00
Willard's Practical Butter Book.....	1.00
Willard's Practical Dairy Husbandry.....	3.00
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Warrington's Chemistry of the Farm.....	1.00
Williams' Window Gardening.....	1.50
Farm Talk (paper).....	.50
American Bird Fancier (paper).....	.50
Wheat Culture (paper).....	.50
Gregory's Onions—What Kind to Raise (paper).....	.20
Gregory's Cabbages—How to Grow Them (paper).....	.30
Our Farm of Four Acres (paper).....	.30
Cooked and Cooking Foods for Animals (paper).....	.20
The Future by the Past, by J. C. H. Swann.....	1.00

Address KANSAS FARMER CO., TOPEKA, KANSAS.

JERSEYS AT AUCTION!



TERMS:—Cash or bankable paper. Catalogues at sale. H. D. SMITHSON, Auctioneer.

Too Late to Classify.

MURRAY HILL HERD HOLSTEIN CATTLE — Last call this spring. Few Young Bulls (good ones) left, ready for service. Also few Heifers, bred. Sales good. Sold every buyer who saw our herd. First order takes them at low figures and easy terms. Write us for what you want. Henson & Rathbone, Council Grove, Kas.

FOR SALE—Percheron Colt, fourteen months old, weight 1,400 pounds. Sire imported. H. S. Fillmore, Lawrence, Kas.

STRAYED OR STOLEN — Light bay horse, 16½ hands high, small white star in forehead, black mane and tail; weighs about 1,100 pounds; knot about size of a walnut, caused by barb wire cut, on inside of right front foot; carries head high. Information leading to his recovery will be suitably rewarded. Address W. H. Baker, 612 Kansas avenue, Topeka, or H. D. Fisher, Marysville, Kas.

FOR SALE—Great bargains in Boynton's addition to Topeka. Parties are doubling their money buying lots in this addition. The cotton factory is going up fast. Call on D. S. Boynton, 626 Kansas avenue, room 5.

FOR SALE—A five-room house at slaughter prices, for half what it is worth. If you wish to make money, call on D. J. Boynton, 626 Kansas avenue, room 5.

CHOICE LOTS—In Boynton's addition to Topeka to exchange for a farm. West Side circle railway runs through the addition. Convenient to cotton factory, sugar mill and creamery. D. J. Boynton, 626 Kansas avenue, room 5, Topeka.

Sex Controlled.

To prove it, will ship to any one, from stock farm, Poland-China sow, bred to bring pigs all one sex, for \$16; boar, \$14. Half with order, balance C. O. D. My plan is a mechanical contrivance, absolutely accurate in results—cannot fail. Plan offered after proving. Result of ten years trial. See Bible—Genesis, chapter 30, verses 38-39. My plan controls sex. For character, refer to Editor *Columbian Rural World*. Address W. H. GARRETT, Box 553, St. Louis, Mo.

Kansas Box and Basket Co.,

MANUFACTURERS OF Grape Baskets, Egg Cases, Berry Boxes and Crates, Peach Boxes, Tree Wrappers, Veneering, and Packing Boxes. (Telephone 1,068.) WYANDOTTE, KAS.

Consolidated Barb Wire COMPANY,

MANUFACTURERS OF

BARB WIRE

Fencing Staples, ETC.

Sold more largely in Kansas than all other kinds together, because it is the

MOST POPULAR, COMMON-SENSE, EVERY-DAY WIRE MADE.

Ask your dealer for Lawrence Wire. Every spool warranted.

OFFICE AND WORKS: Lawrence, Kansas.

Early Dawn,

FOWLER'S RANCH, MAPLE HILL, KANSAS, Auction Sale

—OF—

IMP. HEREFORD BULLS

JUNE 13, 1888.

JACK HUNGATE, J. SCOTT ROBERTSON, Auctioneer, Manager.

WILL offer at public auction, at Sparks Bros.' stable, Sixteenth and Walnut Sts.,

KANSAS CITY, MO.,

Friday, June 8, 1888,

a choice lot of Registered Cattle Club Jerseys. All females and fresh in milk, with calves at foot, or soon due to calve. Also one bull calf, 75 per cent. St. Lambert.

These cattle are the pick of some of the best herds in Kentucky, all young, good individuals, and good color.

ALEX. MCCLINTOCK, Millersburg, Kentucky.

The Busy Bee.

Experiments With Bees.

Mr. C. H. Debbern, bee editor of *Western Plowman*, writing of his experiments, says:

While I am writing of experiments, I will say that my ideas have not always proved so successful. Many years ago, when I used surplus boxes holding twenty pounds without bottoms, I was greatly puzzled as to how I should take them off without getting stung. I did not then understand the best use to make of smoke, and a good smoker was unknown. Often I would pry off the box and then try to blow smoke on the bees from a roll of rags, but often just at the critical time the fire would go out and the bees would make it so hot for me that I was glad to let them alone, honey and all. Finally an idea struck me that if I would take two sheets of tin I could slip it under the box double and then divide between the sheets, and remove the box of honey by holding on the tin bottom to keep the bees in and leave the other sheet on the hive to keep those in the hive down. This worked very well, till I tried to lift the box off, when the tin warped letting out a horde of infuriated bees, who immediately commenced a tour of conquest up my shirt sleeves, causing me to beat an inglorious retreat to the house. The bees in the main hive were soon "on their ear" as well as those in the box, and it was not till dark that any of us dared to venture out of the house. Even the chickens and dogs had to "climb" when they came too near the hive. After dark I managed somehow to carry the hive to the cellar, allowing the bees to fly out through an open window afterwards. It was quite a while, however, before I could go anywhere near that colony without them "going for me" and they "bummed" around the house for a week. Another experiment I tried about the same time was a "new method" of hiving swarms that lit high up on a tall tree. I had such a tree that was the pest of my life. Every time a swarm would issue they would go right for the top branches of that tree, and perhaps before I could secure them three or four swarms would cluster in the same branch. It took some time to climb the tree, saw off limbs and let down the bees and it was usually hot and tiresome work. Finally the idea struck me that by getting a light pole some twenty feet long and nailing on a hook and muslin bag, I could secure most of these swarms by giving the branch on which they might hang a sharp rap with the end of the pole and catching the bees in my sack, then gently let them down and shake them into my hive. How strange I had not thought of that before! Now I fondly imagined that all my trouble, on this point at least, was at end. A trial of my great invention, however, soon shattered my hopes, when I found that the first rap on the limb with my swarm-catcher landed a half dozen bees inside of my shirt collar, and oh! how hot they felt. The climax was reached, however, when the weight of the bees brought down the whole affair with a crash and killing many bees. This made them furious, and the way they "went for me" compelled me to seek shelter in a neighboring shed. Even there they tried to get through knot-holes to get at me. It was a long time before I got that colony settled in a hive. It is needless to say that I have ever since regarded any pole arrangement with suspicion. At any rate a great coolness soon settled over that invention, and I have never since been seen going around the apiary with a long pole with a bag at the end.

THE MARKETS.

By Telegraph, May 28, 1888.

LIVE STOCK MARKETS.

St. Louis.

CATTLE—Receipts 3,400, shipments 800. Market firm. Choice heavy native steers \$4 40a 4 90, fair to good native steers \$4 10a 4 60, medium to prime butchers' steers \$3 20a 2 25, fair to good stockers and feeders \$2 20a 3 30, ordinary to good rangiers \$2 30a 4 25.

HOGS—Receipts 4,500, shipments 1,400. Market lower. Choice heavy and butchers' selections \$5 50a 5 60, medium to choice packing \$5 40a 5 55, ordinary to best light grades \$5 20a 5 40.

SHEEP—Receipts 6,100, shipments 2,300. Market dull and lower. Fair to choice, \$3 30a 5 40.

Chicago.

The Drovers' Journal reports:

CATTLE—Receipts 8,000, shipments 4,000. Market steady and 5a10c higher. Steers, \$4 00a 5 50; stockers and feeders, \$2 90a 4 15; cows, bulls and mixed, \$1 75a 3 60; Texas cattle, \$1 35a 5 10.

HOGS—Receipts 35,000, shipments 6,000. Market slow and 10c lower. Mixed, \$5 30a 5 55; heavy, \$5 45a 5 70; light, \$5 30a 5 50; skips, \$4 00a 5 10.

SHEEP—Receipts 8,000, shipments 1,000. Market dull, 5c lower. Natives and Westerns, shorn, \$4 00a 5 25; inferior to fair, \$3 00a 3 50; Texas, \$1 75a 2 30; lambs, 50c to \$3 00 per head.

Kansas City.

CATTLE—Receipts since Saturday 2,925. About 800 to 1,000 of these were southern Texas, too thin for this market. The market was strong on fat corn-fed cattle. Grassers slow sale. Dressed beef, shipping and butchers' steers 5a10c higher. Sales at \$4 15a 4 45 for dressed beef and shipping steers.

HOGS—Receipts since Saturday 3,626. The market was slow and weak; prices were full 5a10c lower than Saturday. Extreme range of sales \$4 80a 5 50, bulk at \$5 25a 5 40.

SHEEP—Receipts since Saturday 3,270. Market dull and weak.

PRODUCE MARKETS.

New York.

WHEAT—Easier. No. 2 red, 93½a 94½c elevator, 95½a 96½c delivered.

CORN—Dull but heavy and a shade lower. No. 2, 64a 64½c elevator, 65½a 66c delivered.

St. Louis.

FLOUR—Very dull.

WHEAT—Very unsettled. No. 2 red, cash, 90½a 90¾c.

CORN—Firm and a little higher. Cash, 54½c.

OATS—Lower. Cash, 34½c.

RYE—Nothing doing.

BARLEY—Nominal.

HAY—Firm. Prime timothy, \$13 00a 20 00; prairie, \$9 00a 13 00.

BUTTER—Firm. Creamery, 20a 22c; dairy, 16a 20c.

EGGS—12½c.

PROVISIONS—Easier. Pork, \$14 75; lard, 88 12½.

Chicago.

Cash quotations were as follows:

FLOUR—Dull and unchanged.

WHEAT—No. 2 spring, 85½a 85¾c; No. 3 spring,; No. 2 red, 89c.

CORN—No. 2, 56½c.

OATS—No. 2, 36½a 36¾c.

RYE—No. 2, 68a 68½c.

BARLEY—No. 2, 69c.

FLAXSEED—No. 1, \$1 31.

TIMOTHY—Prime, \$2 55.

PORK—\$14 00a 14 05.

LARD—\$8 42½a 8 45.

SUGARS—Granulated, 07c, standard A 06½c.

BUTTER—Demoralized. Creamery, 15a 17c; dairy, 14a 16c.

EGGS—Firm at 13a 13½.

Kansas City.

WHEAT—Receipts at regular elevators since last report, 660 bushels; withdrawals, bushels, leaving stock in store as reported to the Board of Trade to-day, 44,881 bushels.

There was about a steady market on 'change to-day, with no sales on the call either for cash or future delivery of any of the different grades. On track by sample: No. 2 soft, cash, 85c.

CORN—Receipts at regular elevators since last report, 10,199 bushels; withdrawals, 402 bushels, leaving stock in store as reported to the Board of Trade to-day, 34,045 bushels.

On track by sample: No. 2 mixed, cash, 51c; No. 2 white, cash, 52c.

OATS—On track by sample: No. 2 mixed, cash, 32½c; No. 2 white, cash, 36c.

RYE—No. 2 cash, no bids nor offerings.

HAY—Receipts 17 cars. Market firm; fancy, \$11 00 for small baled; large baled, \$10 50; wire-bound 50c less; medium, \$8 00a 8 50; poor stock, \$4 00a 5 00.

SEEDS—We quote: Flaxseed, \$1 10 per bu. on a basis of pure; castor beans, \$1 00 for prime.

OIL-CAKE—Per 100 lbs. sacked, f. o. b., \$1 25; \$11 00 per 1,000 lbs.; \$21 00 per ton; car lots, \$20 00 per ton.

FLOUR—Quiet. Sales: 1 car Minnesota pat-

ent at \$2 45. Quotations are for unestablished brands in car lots, per ½ bbl. in sacks, as follows: XX, 95c; XXX, \$1 05a 1 10; family, \$1 20a 1 30; choice, \$1 55a 1 65; fancy, \$1 70a 1 75; extra fancy, \$1 80a 1 85; patent, \$2 10a 2 15; rye, \$1 40a 1 60. From city mills, 25c higher.

BUTTER—Receipts large and market lower, owing to break in Eastern markets. We quote: Creamery, fancy, 17c; good, 15c; dairy, 11a 12c; storepacked, choice, 10c.

CHEESE—We quote: Full cream, twins, 11c; full cream, Young America, 12½c.

EGGS—Receipts fair and market weak at 11c per dozen for strictly fresh. Goose eggs no sale.

POTATOES—Irish, home-grown, 75c per bus.; Colorado and Utah, 90c per bus.

BROOMCORN—Dull and weak. We quote: Green self-working, 4c; green hurl, 4c; green inside and covers, 2½a 3c; red-tipped and common self-working, 2c; crooked, 1c.

PROVISIONS—Following quotations are for round lots. Job lots usually ½c higher. Sugar-cured meats (canned or plain): Ham, 11c; breakfast bacon 10c, dried beef 9c. Dry salt meats: clear rib sides \$7 50, long clear sides \$7 40, shoulders \$5 75, short clear sides \$7 00.

Smoked meats: clear rib sides \$8 15, long clear sides \$8 05, shoulders \$6 50, short clear sides \$5 55. Barrel meats: mess pork \$14 50. Choice tierce lard, \$7 50.

Topeka Markets.

PRODUCE AND PROVISIONS—Corrected weekly by W. W. Manspeaker & Co., 711 Kansas avenue. (Wholesale price).

Butter, per lb.	12½a 15
Eggs (fresh) per doz.	11
Beans, white navy, H. P., per bus	2 65
Potatoes	90a 1 30
Beets	40a

HAGEY & WILHELM,

WOOL COMMISSION MERCHANTS

ST. LOUIS, MO.

REFERENCES:—KANSAS FARMER CO., Topeka, Kas.; Boatmen's Bank, St. Louis; Dunn's Mercantile Reporter, St. Louis; First National Bank, Beloit, Kas.

GENERAL AGENTS FOR COOPER'S SHEEP DIP.

We guarantee sale and full returns inside of TEN DAYS from receipt of shipment.

ATTENTION, FARMERS!

You no doubt are aware of the fact that the dairy business is the most remunerative part of farming, and that there is no reason in the world why Kansas should not rank foremost in the creamery interests.

Kansas Creamery Butter

to-day is selling at the highest market prices in Denver and the West, but there is not enough butter made in Kansas to supply this great Western demand. Colorado has to buy her creamery butter in Iowa and Illinois, and these States are getting all of this good money that should go to our

KANSAS FARMERS.

Every town of six hundred inhabitants and upwards should have a CREAMERY, which they can procure at a VERY SMALL COST.

We are so situated that we can furnish all necessary Machinery and Apparatus, and give full instructions for erecting the building, which we will be glad to do at any time.

Let some enterprising farmer take hold of this, and work up a small stock company, and correspond with us.

We will be very glad to hear from anybody regarding this great industry.

OUR CATALOGUE FOR 1888 is now out. Send 2-cent stamp for same.

Respectfully,

Creamery Package Mf'g. Co.

KANSAS CITY, MO.

RIVERVIEW

The Prettiest Young City of the Smoky Valley.

Beautiful Springs, Lake, and also, what the name implies,

RIVER VIEW.

Buy a home in or farm adjoining Riverview. Call on or address

THOS. E. FULGHUM,
Hays City, Kansas.

10,000 AGENTS WANTED TO SELL OUR CAMPAIGN BIOGRAPHIES

Will be first out. BEST, CHEAPEST, and go like wildfire. Secure territory at once. Address HUBBARD BROS., Kansas City, Mo.

ON 30 DAYS' TRIAL.

EGGLESTON'S ELASTIC TRUSS
Has a Pad different from all others, is cups, de, with self-adjusting Ball, center, adapts itself to all positions of the body while the Ball in the cup presses back the intestines just as a person does with the finger. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free. HUBBARD BROS. CO., Chicago, Ill.

The Veterinarian.

[The paragraphs in this department are gathered from our exchanges.—ED. FARMER.]

LUMP ON JAW.—One of my cows has a lump on her upper jaw on the right, a little above and forward of the corner of the mouth, as large as a goose egg. It broke once; did not run much, is hard, not like an ordinary boil. [Apply golden blister, and if it softens, make a good-sized opening into it so that you can freely insert your finger, then write and say what it feels like inside. It is possible that the bone is injured.]

DISEASED FEET.—I would ask what is the best to do for my mare's front feet. After coming off pasture and putting on the stable floor, her feet seemed to get hard and dry. The frog seems to be natural, but rather smaller than usual, and hard. The mare raised a colt last year, and is with foal again. She is not lame, only a little when on hard, frozen ground. Color, bay; a very valuable mare. [Would advise you to foment the feet in hot water at least twice a week, one hour each time, as long as it seems necessary. Apply after each treatment the following ointment: Pinetar, 4 oz.; beeswax, 4 oz.; honey, 4 oz.; lard, 1½ pounds; glycerine, 4 oz. Melt the lard and wax together, then stir in the other ingredients until cold.]

LUMP IN UDDER.—My heifer dropped her first calf February 27. Her udder was large and the hind quarters gave indication of caking the day before she calved, but this was promptly attended to, and they have been all right up to this time. Two weeks ago front quarter, right side, seemed larger than the left one, protruding forward and to the right. When handled, cow flinched. She was milked, and towards the last, two or three drops of blood came from this quarter, and I found a lump as large as my fist about the center, but a little forward of this quarter, very hard. Have used a liniment twice daily. The lump has decreased in size, and there has been no more blood. Cow still flinches when quarter is handled. [Give tablespoonful of the following powder three times a day in feed: Powdered iodide of potass., 5 oz.; powdered nitrate of potass., 8 oz.; mix. Paint the skin over lump once a day with Squibbs' oleate of mercury and morphine. About a teaspoonful will be sufficient each time, and rub it in gently.]

CARBOLIC ACID—PARASITES IN SWINE.—(1) What proportion of carbolic acid (in fluid ounce) and of water in quarts or gallons should be mixed to kill lice on cattle? We have the crystals as put up in pound bottles by the Mallinckrodt Chemical Works of St. Louis. (2) A part of our October pigs have not been doing well, and two of them, after whooping for two or three days, died. The intestines of one that was opened were congested into a solid mass, and when cut discharged a black, watery fluid. There was also pus in the cavity under the castrating scar, but no visible swelling there. Can you enlighten me as to the cause of the trouble? They had been fed oats and corn half and half, and warm milk and water. [(1) To liquidize the acid, place the bottle in warm water and it will melt readily at 95 degrees Fahrenheit. When melted add 50 per cent. of water; it will thereby remain liquid and be in a convenient form and ready for use. For external use one part of the acid should be dissolved in 85 parts of water, and then filtered before using. For internal use one part of the acid to 200 parts of water. The latter is often used as a gargle. When used for sponging an animal to kill lice it should not be stronger than 1 to 75, and even

CHICAGO.

KANSAS CITY.

ST. LOUIS.

JAMES H. CAMPBELL & CO., Live Stock Commission Merchants, FOR THE SALE OF CATTLE, HOGS AND SHEEP.

Rooms 23 and 24, Exchange Building,
KANSAS CITY STOCK YARDS.

Unequaled facilities for handling consignments of Stock in either of the above cities. Correspondence invited. Market reports furnished free. Refer to Publishers KANSAS FARMER.

then used with care. (2) We deem the disease due to parasites and would recommend the following powders to be given in slop or as a drench: Powdered sulphur, ½ pound; powdered ginger, ½ pound; common salt, 4 ounces; phosphate of lime, ½ pound; powdered charcoal, 1 pound; mix well together. Give two tablespoonfuls three to four times per day. The animals should have comfortable, roomy quarters and be kept by themselves. Allow plenty of pure water.]

The common white clover grows wherever our red clover is found. Where bees are kept it is invaluable, as it furnishes a large amount of honey of excellent quality.

Rural New Yorker says: One thing seems to have been quite well demonstrated, that a larger quantity of potatoes, as well as potatoes of a better quality, can be raised with chemical fertilizers than with manure.

PICKETT, LOUISIANA, Nov. 11, 1887.
MESSRS. A. T. SHALENBARGER & Co.,
Rochester, Pa.—Gents:—The sample bottle of pills you sent me last April I gave to a neighbor lady, and it cured her of a very obstinate case of third-day chills, which every other remedy failed to do. Truly yours,
JOHN PICKETT.

IF YOU HAVE
MALARIA OR PILES,
SICK HEADACHE, DUMB AGUE, CONSTIPATION, BOWELS, SOUR STOMACH and BELCHING: if your food does not assimilate and you have no appetite,

Tutt's Pills

will cure these troubles. Try them; you have nothing to lose, but will gain a vigorous body. Price, 25c. per box.
Sold Everywhere.

Maple Grove Duroc-Jerseys.

We use only the choicest animals of the most approved pedigree, hence our herd is bred to a very high state of perfection. Pigs in pairs not akin. Stock of all ages and sows bred for sale at all seasons. Prices reasonable and quality of stock second to none.

J. M. BROWNING, Perry, Pike Co., Ill.

POLAND - CHINA PIGS!

135 FOR SALE.



Sired by six first-class boars, for season's trade. My herd is headed by STEM WINDER 791.

Address F. M. LAIL, Marshall, Mo.
[Mention KANSAS FARMER.]

LANEY & PFAFF,
GREEN RIDGE, MISSOURI.

THOROUGHBORED
POLAND - CHINA HOGS

FOR SALE.

No poor pigs sent out. [Mention KANSAS FARMER.]

THE GOLDEN BELT HERD OF
Thoroughbred Poland-Chinas



This herd comprises the richest blood to be found in the United States, and in uniformity and style has no superior in this country. Choice animals of all ages and either sex for sale. Stock shipped from here over either the A. T. & S. F., Mo. Pacific or St. Louis & San Francisco R. R. All breeders registered in American P.-C. Record. Pedigree with each sale.
F. W. TRUEDELL, Lyons, Kas.

OTTAWA HERD

OF POLAND - CHINA and DUROC-JERSEY Hogs. Twenty head of first-class boars from four to nine months old. Also seventy-five head of sows of same age, sired by Bruce 4695, C. R., Leek's Gilt Edge 2887, C. R., Whipple's Stemwinder 4701, Daisy's Corwin 4697. Dams—Mazy 2d 6214, Zeldia 3d 8250, Maggie's Perfection 8210, Vone's Perfection 9424, Fay's Gold Drop 11676, Jay's Dimple 12172, Eureka Mayo 12176, and many other equally as well bred, and fine as can be produced by any one. Part of sows bred to gilt-edge boars of the most popular strains. Will sell at prices to suit the times. Never had any cholera in the herd. Write for prices.

I. L. WHIPPLE, Box 270, Ottawa, Kas.

Poland-Chinas

100 PIGS FOR SALE!

NEW BOARS:—Young America 3811, C. R., noted show hog and breeder; nine sweepstakes; sire of sweepstakes hog at Chicago fat stock show. Lord Corwin 4th, 1951; daisy show hog, of the highest premium blood. Lampe's Tom Corwin 6207; gilt-edge premium pedigree. SOWS:—Black Rosas, Gold Dust, Double Corwins, Black Bess, Black Beautys, Buckeyes, Dimples, Stemwinders, etc. Royal blood, gilt-edge pedigrees. Shipped to fifteen States and thirty-three counties in Kansas.

W. S. HANNA, OTTAWA, KANSAS.

MAINS' HERD OF POLAND-CHINAS.



Jas. Mains, Oskaloosa, (Jefferson Co.), Kas., is located two and a half miles southeast of Oskaloosa, on Maple Hill Stock Farm. All hogs eligible to Ohio Poland-China Record. A fine lot of spring pigs now ready, for sale at prices that will suit the times. Also some fall sows now ready to breed or will be bred if desired. Personal inspection solicited.

Gold Dust Herd of Poland-Chinas.



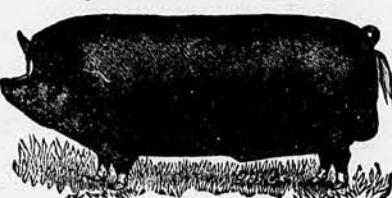
J. M. MOKEE, WELLINGTON, KANSAS.

Tom Corwin 3d 5293 A. P. C. R. at head of herd. Strains representing Model, Give or Take, Gold Dust, Black Bess and Black Beauty. Have some choice male pigs for sale. Also eggs of P. Rock, Brown Leghorn and Light Brahmas, \$1.25 per 18; Toulouse Geese, 15c.; Pekin Duck 10c. each. Write; no catalogue.

For Berkshire Swine and Southdown Sheep that are first-class, or money refunded, call on or address J. M. & F. A. SCOTT, Box 11, Huntsville, Mo.
[Mention KANSAS FARMER.]

ORDERS TAKEN NOW

For SPRING PIGS sired by



ROYAL GRANITE 10105,

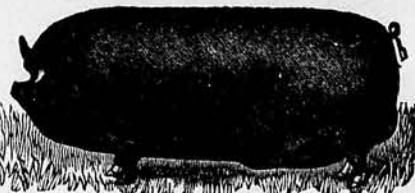
The best BERKSHIRE boar ever owned at "HAW HILL," and several other first-class sires. Enclose stamp for catalogue and prices.
SPRINGER BROS., Springfield, Ill.

PLEASANT VALLEY HERD OF Pure-bred Berkshire Swine.



I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars, headed by the splendid prizewinner Plantagenet 2919, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for pigs of either sex not akin, or for matured animals. Prices reasonable. Satisfaction guaranteed. Send for catalogue and price list, free.
S. McCULLOUGH,
Ottawa, Kansas.

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THE WELLINGTON HERD consists of twenty matured brood sows of the best families of home-bred and imported stock, headed by the celebrated HOPEFUL JOE 4889, and has no superior in size and quality nor in strain of Berkshire blood. Also Plymouth Rock Chickens. Your patronage solicited. Write. [Mention this paper.]

M. B. KEAGY, Wellington, Kas.

P. S.—Yearling sows, already bred, for sale.

LOCUST GROVE HERD



Nothing sent out but what is a credit to Locust Grove Herd. Individual excellence combined with purity of breeding, is my motto. Prices to suit the quality of stock offered. Correspondence and inspection solicited. Orders booked now for spring pigs. Address as below, or better, come and see.

JAMES HOUK, Prop'r,
Hartwell, Henry Co., Missouri.

SELECT HERD OF LARGE BERKSHIRES!

G. W. BERRY, PROP'R, TOPEKA, KAS.

My sows represent the Royal Duchess, Sallie, Hillside Belle, Charmer, Stumpy, and other families. These Swanwick and Humfrey families are larger, thicker-fleshed, set on shorter legs, and possess finer qualities than other hogs. Herd headed by British Champion III, 13481 and Dauntless 17417. My aim is to produce a type of Berkshires honorable to the Select Herd and the breed. Correspondence in regard to spring pigs invited.

ELY'S
CREAM BALM
IS
SURE
TO
CURE
Cold in Head
QUICKLY.
EASY TO USE.

CATARRH



A particle is applied into each nostril and is agreeable. Price 50 cents at Druggists; by mail, registered, 60 cts. ELY BROS., 56 Warren St., New York.

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Suffering from the effects of youthful errors, early decay, wasting weakness, lost manhood, etc., I will send a valuable treatise (sealed) containing full particulars for home cure, FREE of charge. A splendid medical work; should be read by every man who is nervous and debilitated. Address,
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OPIUM Morphine Habit Cured in 10 to 20 days. No pay till cured. Dr. J. Stephens, Lebanon, Ohio.

Devon Cattle! LINWOOD SHORT-HORNS

We are the largest breeders of this hardy, easy-keeping breed, one of the best for the West. Stock for sale singly or car lots.

RUMSEY BROS. & CO.,
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JOHN T. VOSS, GIRARD, KAS.,
BREEDER OF

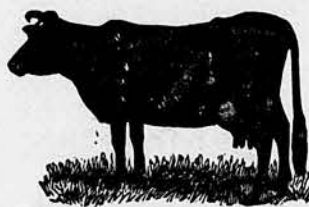
THOROUGHbred SHORT-HORN AND JERSEY CATTLE.

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Breeders of
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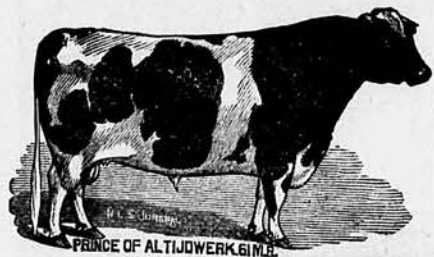
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CATTLE.

The herd
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Hugo Duke bull, St. Valentine's Day 1874, and the Coomassie bull, Happy Gold Coast 14718. Sons and daughters by above bulls, out of highly-bred cows, for sale for next ten days. SHERWOOD & ROHRER.

Holstein - Friesian Cattle

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PRINCE OF ALTIJWERKLEIN

The sweepstakes bull PRINCE OF ALTIJWERK (61 M. R.) at head of herd, has no superior. Cows and heifers in this herd with weekly butter records from 14 pounds to 19 pounds 10 1/2 ounces; milk records, 50 to 80 pounds daily. The sweepstakes herd. Write for catalogue. M. E. MOORE, Cameron, Mo. [Mention this paper.]

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Breeds and has for sale Bates and Bates-topped

SHORT-HORNS

Including representatives of

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The Grand Bates Bulls,

8th Duke of Kirklevington No. 41708, Waterloo Duke of Shannon Hill No. 89879, At head of herd.

Fifteen choice young Bulls for sale now.

Correspondence and inspection of herd solicited, as we have just what you want and at fair prices. Address

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Brothers



Hartford, Ks. Fred Barnaby (5011)8448

We have a choice collection of Imported Clydesdale and Percheron Stallions that for style, action and quality, combined with choice Pedigrees, defy competition. All good colors, two to six years old. Each Stallion guaranteed a breeder.

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Substance, flesh, early maturity and good feeding quality the objects sought. The largest herd of Scotch Short-horns in the West, consisting of *Cruickshank Victorias, Lavenders, Vilets, Secrets, Brawith Buds, Kinellar Golden Drops*, etc., headed by Imp. Baron Victor 42824, a prize-winner and sire of prize-winners.
LINWOOD—Is twenty-seven miles from Kansas City, on Kansas Division Union Pacific R. R. Farm joins station. Inspection invited. Catalogue on application.

Kansas Hereford Cattle Co.,

(PAID IN CAPITAL \$100,000.)

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—BREEDING HERD AT GROVE PARK,—

2 1-2 Miles Northeast of Lawrence, Kas., on U. P. R. R.
Known as the "Gibb Farm."



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CLYDESDALE, PERCHERON, CLEVELAND BAY

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French Coach Horses.

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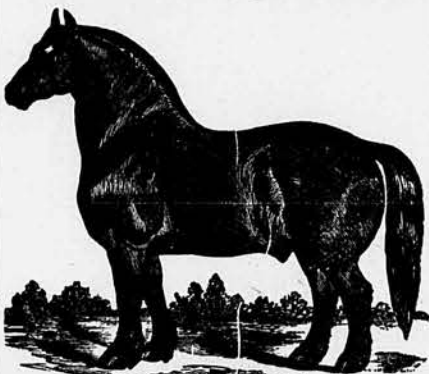
We have on hand a very choice collection, including a recent importation of horses, several of which have won many prizes in England, which is a special guarantee of their soundness and superiority of form and action. Our stock is selected with great care by G. M. SEXTON, Auctioneer to the Shire Horse Society of England. Prices low and terms easy. Send for catalogues to

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The Imported CLYDESDALE Stallion

KNIGHT OF HARRIS 995

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The property of H. W. McAFEE, will make the season at Prospect Farm, three miles west of Topeka, Sixth street road.

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The Breeder's Gazette, price \$3.00—both.....\$3.00
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"Rock Island Route"

Most Direct, Safest, Best, and Most Convenient

Means of inter-communication between all points in the States of KANSAS and NEBRASKA.

This great system presents the most comprehensive grouping of Central Lines in the United States, touching all principal localities in KANSAS, NEBRASKA, ILLINOIS, IOWA, MISSOURI, MINNESOTA and DAKOTA.

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Joins the GREAT ROCK ISLAND ROUTE at KANSAS CITY and ST. JOSEPH FOR CHICAGO, and points EAST, and makes close connection with all the leading Railway Lines for ST. LOUIS and points EAST, SOUTH and SOUTHEAST; and with the famous ALBERT LEA ROUTE to ST. PAUL, MINNEAPOLIS, and points in the NORTHWEST.

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It is a line of modern construction, with the latest and best improvements, and traverses the most important portions of the States of KANSAS and NEBRASKA, where there are opportunities not found elsewhere for the Farmer, the Merchant, the Mechanic, the Laborer, the Professional Man, and all classes of business and industrial pursuits.

For tickets, maps, folders and other information, apply to your nearest Ticket Agent, or to

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Memphis Route,

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Offers you the most pleasant and desirable route to Kansas City and all points East, North and West; to Memphis and all points South.

At Kansas City, connections are made at Union Depot with all through trains for Chicago, St. Louis and the East; to St. Paul, Denver, San Francisco, Portland, and the West and Northwest. Via this line, entire train with Free Reclining Chair Car and Pullman Buffet Sleeping Car runs through to Memphis, Tenn.; through coach Kansas City to Bristol via Chattanooga and Knoxville. There is no other direct route from the West to Jacksonville, Pensacola, Nashville, Chattanooga, and all Southern cities.

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Write for large map and time-tables, showing through connections.

Before purchasing your ticket, call upon a ticket agent of this Company, or write to the undersigned for rates. Special rates and arrangements for parties and their movables, going South to locate.

Send for a copy of the *Missouri and Kansas Farmer*, giving full information relative to the cheap lands of Southwest Missouri. Mailed free.

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Of nearly 6,000 miles of steel rail, well-ballasted, with iron and steel bridges, an equipment unexcelled with over 300 passenger trains daily, traversing the great States of Missouri, Illinois, Nebraska, Iowa, Kansas, Colorado, Minnesota and the Territories, with trains made up of Pullman Palace Sleeping Cars, the Burlington's Celebrated Dining Cars, and Improved Modern Free Chair Cars, is unquestionably the Route for travelers to take going East, West or North.

Three Daily Fast Trains between Kansas City, St. Joseph, Atchison, Leavenworth and Quincy, Burlington, Peoria and Chicago without change.

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The line carrying the government fast mail between the East and far West. Any ticket agent can give you maps and time table of this well-known route, or you can address H. C. ORR,

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Take care of your Horses and Cattle by using Dr. S. P. Cregar's

STOCK CAKE & ANTI-WORM REMEDY,

a cathartic stimulant for HORSES, CATTLE and other LIVE STOCK. This Stock Cake removes worms, purifies the blood and water, loosens the hide, acts upon the kidneys, regulates the system and puts the animals in healthy, thriving condition. Also is a Preventive Against Pleuro-Pneumonia in Cattle. Price 15 cents per cake.

Dr. S. P. Cregar, 1464 Wabash Ave., Chicago.

THE STRAY LIST.

HOW TO POST A STRAY.

THE FEES, FINES AND PENALTIES FOR NOT POSTING.

BY AN ACT of the Legislature, approved February 27, 1886, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice. And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper, free of cost, to every County Clerk in the State, to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5.00 to \$50.00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

Broken animals can be taken up at any time in the year.

Unbroken animals can only be taken up between the first day of November and the first day of April, except when found in the lawful enclosure of the taker-up.

No persons, except citizens and householders, can take up a stray.

If an animal liable to be taken up, shall come upon the premises of any person, and he fails for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same.

Any person taking up an estray, must immediately advertise the same by posting three written notices in as many places in the township giving a correct description of such stray, and he must at the same time deliver a copy of said notice to the County Clerk of his county, who shall post the same on a bill-board in his office thirty days.

If such stray is not proven up at the expiration of ten days, the taker-up shall go before any Justice of the Peace of the township, and file an affidavit stating that such stray was taken up on his premises, that he did not drive nor cause it to be driven there, that he has advertised it for ten days, that the marks and brands have not been altered; also he shall give a full description of the same and its cash value. He shall also give a bond to the State of double the value of such stray.

The Justice of the Peace shall within twenty days from the time such stray was taken up (ten days after posting), make out and return to the County Clerk, a certified copy of the description and value of such stray.

If such stray shall be valued at more than ten dollars, it shall be advertised in the KANSAS FARMER in three successive numbers.

The owner of any stray may, within twelve months from the time of taking up, prove the same by evidence before any Justice of the Peace of the county, having first notified the taker-up of the time when, and the Justice before whom proof will be offered. The stray shall be delivered to the owner, on the order of the Justice, and upon the payment of all charges and costs.

If the owner of a stray fails to prove ownership within twelve months after the time of taking, a complete title shall vest in the taker-up.

At the end of a year after a stray is taken up, the Justice of the Peace shall issue a summons to three householders to appear and appraise such stray, summons to be served by the taker-up; said appraisers, or two of them, shall in all respects describe and truly value said stray, and make a sworn return of the same to the Justice.

They shall also determine the cost of keeping, and the benefits the taker-up may have had, and report the same on their appraisal.

In all cases where the title vests in the taker-up, he shall pay into the County Treasury, deducting all costs of taking up, posting and taking care of the stray, one-half of the remainder of the value of such stray.

Any person who shall sell or dispose of a stray, or take the same out of the State before the title shall have vested in him, shall be guilty of a misdemeanor and shall forfeit double the value of such stray and be subject to a fine of twenty dollars.

FOR WEEK ENDING MAY 17, 1888.

Stevens county—Chas. Moore, clerk.

HORSE—Taken up by S. P. Galloway, in Center, Lincoln tp., March 24, 1888, one bay horse, marked HD; valued at \$20.

Shawnee county—D. N. Burdge, clerk.

HOGS—Taken up by N. H. Brosius, (P. O. Topeka), May 7, 1888, two black sows and one pig, round hole in left ear of each; valued at \$7.50 each.

Wilson county—D. N. Willits, clerk.

MARE—Taken up by John F. Spellman, in Talleyrand tp., May 5, 1888, one dun mare, about 14 hands high, 4 or 5 years old, saddle or harness marks; valued at \$15.

Osage county—R. H. McClair, clerk.

MARE—Taken up by John Hooper, in Valley Brook tp., (P. O. Lyndon), December 31, 1887, one bay mare, branded D. L. S. on left hip and S. M. S. on right shoulder.

MARE AND COLT—By same, one bay mare with sucking colt, branded D. L. S. on left hip; all of the value of \$50.

Russell county—J. B. Himes, clerk.

2 COLTS—Taken up by Jasper M. Boston, in Fairfield, April 28, 1888, one sorrel colt, 2 years old, blaze face, and one sorrel colt, 1 year old, blaze face, no marks or brands; valued at \$60.

Morris county—G. E. Irvin, clerk.

2 HORSES—Taken up by E. C. Hannah, of Warren tp., April 28, 1888, two bay horses, supposed to be about 4 years old, marked as follows: One has small star in forehead and white snip on nose; the other has white left hind foot; neither has harness marks, and are about 16 hands high.

FOR WEEK ENDING MAY 24, 1888.

Neosho county—T. B. Limbocker, clerk.

MARE—Taken up by John Meade, in Grant tp., April 21, 1888, one dark brown-roan mare, 16 hands high, 12 years old, right hind foot white, saddle and collar marks, heavy with foal, (P. O. address of taker-up Stark); valued at \$75.

PONY—Taken up by Wm. Watt, in Canville tp., April 24, 1888, one dark bay mare pony, 7 or 8 years old, 4 feet 8 inches high, heavy black mane and tail, hind feet white, small figure 7 branded on left shoulder, small white spot in forehead, (P. O. address of taker-up Earleton); valued at \$15.

Washington county—John E. Pickard, clerk.

MARE—Taken up by George F. Dunnock, in Franklin tp., (P. O. Hollenberg), one roan mare, 12 or 15 years of age, small scar on right shoulder, right hind foot white, white stripe in face.

Mitchell county—A. D. Moon, clerk.

PONY—Taken up by Peter Halferty, (P. O. Beloit), April 1, 1888, one bay mare, 7 years old, 13 hands high, branded T H on left hip, two white hind feet, small spot in forehead, halter on with strap.

Cherokee county—J. C. Atkinson, clerk.

COLT—Taken up by W. H. Steates, in Shawnee tp., (P. O. Smithfield), April 25, 1888, one sorrel horse colt,

2 years old, both left feet white, white stripe in face; valued at \$20.

FILLY—By same, one sorrel filly, 2 years old, bald face, four white feet, silver mane and tail; valued at \$25.

PONY—Taken up by M. Biggam, in Pleasant View tp., April 25, 1888, one small black mare pony, branded O. W. on left shoulder, had on web halter; valued at \$10.

HORSE—Taken up by B. F. Heagler, in Shawnee tp., May 7, 1888, one sorrel gelding, 15½ hands high, three white feet, blaze face, collar marks, branded D F on left shoulder, shod all round; valued at \$60.

FOR WEEK ENDING MAY 31, 1888.

Leavenworth county—J. W. Niehaus, clerk.

COLT—Taken up by L. M. Thompson, in Sherman tp., May 8, 1888, one dark bay colt, 4 years old, 14½ hands high, some white hairs under mane; valued at \$65.

Butler county—T. O. Castle, clerk.

PONY—Taken up by J. A. Duncan, in Augusta tp., May 9, 1888, one bay pony mare, about 14 hands high, 6 years of age, branded on left shoulder and hip; valued at \$15.

Hamilton county—T. H. Ford, clerk.

COW—Taken up by J. A. Claypole, in Syracuse tp., one red cow, 7 years old, smooth crop off right ear, smooth crop off left ear with under-slope; valued at \$15.

CALF—By same, one red calf, 6 months old.

Montgomery county—G. W. Fulmer, clerk.

MARE—Taken up by John Bowersock, in Caney tp., one bay mare, 3 years old, white spot in forehead and white spot on left hind foot; valued at \$20.

Harvey county—R. H. Farr, clerk.

MARE—Taken up by Isalah Hobbie (P. O. Sedgwick), one sorrel mare, blind in right eye, 15 years old, 14½ hands high, left feet white, branded I on hip, branded A S A on left shoulder.

Brown county—N. E. Chapman, clerk.

MARE—Taken up by B. A. Williams, in Washington tp., one dun mare, age unknown, no marks or brands; valued at \$10.

COLT—By same, one bay stud colt, 2 years old, blaze in face, hind feet white half way up to hock; valued at \$40.

HEREFORDS AND LAND FOR SALE.

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BLAKE'S ALMANAC

—OF—

Weather Predictions,

From June 1, 1888, to June 1, 1889,

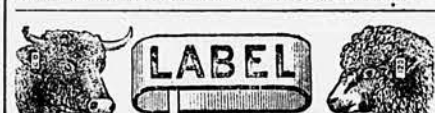
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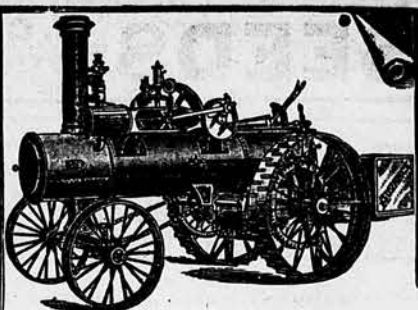
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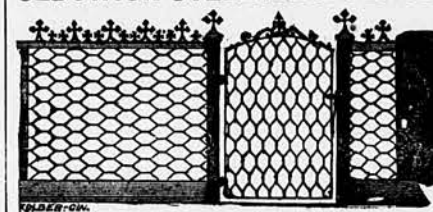
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THE BUCKEYE BINDER has a wood frame, and is manufactured by
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(Continued from page 1.)

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Dealers and Nurserymen supplied at lowest wholesale rates.

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We have Apple, Peach, Pear, Plum, Cherry and Evergreen Trees. Grape Vines in all varieties, and FOREST TREES a specialty. Osage Hedge Plants and Russian Mulberry in any quantity.

Write for Prices.
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TEN MILLION FOREST TREE SEEDLINGS.

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ONE HUNDRED THOUSAND TWO-YEAR APPLE TREES—Grown from whole root grafts.

FIVE THOUSAND IRISH JUNIPERS—Two-feet, SPLENDID WALNUTS, and other forest tree seeds and nuts, prime and fresh.

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