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Kansas This Spring.

From the quarterly report of the State Board of Agriculture for the quarter ending March 31, 1885, we extract what follows. [The report is prepared by Hon. Wm. Sims, Topeka, Secretary of the Board.]

WINTER WHEAT.

The winter wheat area sown in the fall of 1884 is less than that of the preceding year by about 27 per cent., and is about equal in extent to that sown in the fall of 1882. This decrease was uniform throughout the State, but two counties, of small wheat areas, Ness and Washington, maintaining their acreage of 1884. The one principal cause for this decline was the unsatisfactory prices received for wheat after the harvest of 1884, there being many instances where the amount received for the crop failed to reimburse the grower for expenses paid in its production and marketing. In the western half of the State, a territory including many of the prominent wheat counties, the period of wheat seeding was unusually deficient in rainfall, causing many farmers to sow a small area late in the season, when they had contemplated a larger acreage. The encouragement received in the cultivation of Indian corn, in the section last named, in 1884, also had the effect of lessening the wheat area, farmers reserving a larger proportion of their land for the cultivation of corn.

Owing to the lack of moisture, as noted before, the larger proportion of the crop in the western half of the State was put in very late, and had but poor start before the winter set in. The average date of seeding was much earlier in the eastern half, and as the rainfall was more abundant in this section, the plant had a fine growth before the beginning of winter, and aside from other conditions, the crop would have presented a fine prospect at that time. The Hessian fly made its appearance last fall in nearly every county in the eastern half of the State, being particularly numerous along the eastern border and in the counties lying along the valley of the Kansas river. It is difficult to estimate the damage done by this insect pest before the beginning of winter, owing to the heavy damage sustained by the crop during the months of February and March from the alternate freezing and thawing. It is believed by many correspondents of the Board that the injury from the "fly" would prove to have been slight if an opportunity had been given this spring to determine its extent. The heavy loss sustained from freezing, however, leaves it still an open question. The appearance of the Hessian fly is noted in several of the western counties, but it is not claimed that the crop in this section received any serious damage from its depredations. The variable temperature of February and March obtained in all sections of the State, and correspondents agree that the largest per cent. of damage occurred from this cause.

While the decrease in the wheat area was 27 per cent., the loss from Hessian fly and freezing was also 27 per cent., leaving a little more than 1,000,000 acres to be harvested this year if favorable conditions obtain hereafter. The late sown wheat in the west is just beginning to grow, the season being at least two weeks late as compared with last year, and for this reason its condition is difficult to judge. All wheat sown in corn-stalk fields and in fields otherwise sheltered or protected is in fair condition, and now promises a good yield. That sown on new ground did not suffer as severely as that sown on old ground, and this area, even in exposed fields, will make a fair crop. The condition of the living plants is 76 as compared with last year. The 27 per cent. winter-killed is being plowed up and the area put to spring crops. The indications now are that the product of 1885 will not exceed 44 per cent. of the crop of 1884.

Eighteen per cent. of the crop of 1884 is still in the counties where grown, awaiting a better condition of the market. The average price offered on March 25 for wheat in local markets was 51 cents.

CORN.

Twenty-three per cent. of the corn crop of

1884 still remains in the counties in which it was raised; the average price of this grain in local markets, March 25, being 27 cents. But a small per cent. of the corn held by farmers is on the market, it being retained in most instances for home use.

RYE.

The rye area has decreased, as compared with last year. Being a much harder plant than wheat, it did not suffer so severely from the hard freezing. About 10 per cent. of the area was winter-killed, and the remainder now shows a condition of 89 per cent. as compared with that of last year. It is very backward, and is not affording the usual spring pasture. Possibly three-fourths of the acreage is to be found in the northwestern counties.

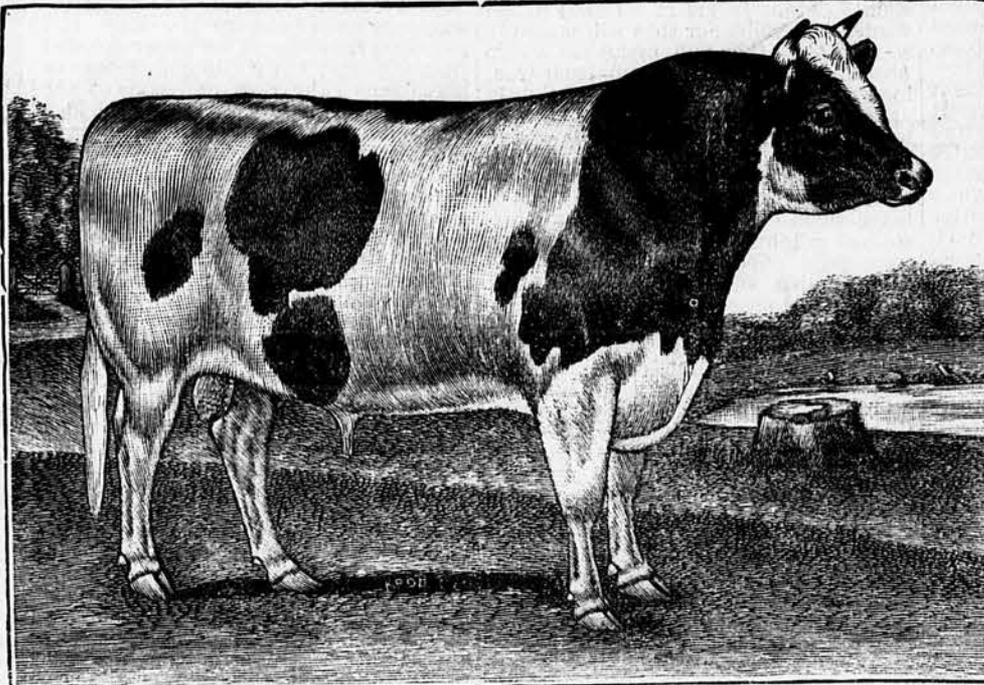
LIVE STOCK.

Horses came through the winter in fair condition, being somewhat thin in flesh, owing to the extreme cold, and in some instances to insufficient food. The usual number of cases of distemper, pink-eye, etc., are mentioned, but no serious epidemics have been met with. Glanders is not mentioned

ally alive and promising a fair crop of fruit. Peach buds were killed by the severe cold in all portions of the State, except in the south central, where the promise for a full crop is encouraging. Pears and cherries promise an average yield, except in the extreme northern counties, where they were damaged considerably during the winter. Blackberries and raspberries suffered from freezing and will not make an average crop. The harder varieties of grapes promise an abundant yield in all sections, while strawberries will make about a half crop. The prospect for a fruit crop is much more encouraging than was anticipated.

The Illustration.

Our illustration this week presents Karl 2d, whose ancestors, Third Dutchman (46), Second Dutchman (37) and Dutchman (7) on side of sire, and Maggie (375), Midwoud 6th (29) and Zuider Zee 2d (57) on side of dam, represent some of the most popular families of Holsteins in America. Mr. Gardner, his



KARL 2d 699, H. H. B.--Property of WM. A. GARDNER, Oregon, Mo.

by correspondents so frequently as in former years; this disease, under good management, having decreased largely. Horses and mules are in good condition for spring work.

There have been during the fall and winter, heavy losses on cattle. There is hardly a county in the State that does not report serious loss from turning cattle into stalk fields, where an insufficient amount of water and salt was provided. In the western counties, "range cattle" suffered a heavy loss from exposure and lack of feed, probably the largest for several years, owing to the unusual severity of the winter. Cattle were particularly free from disease during the past winter, the only loss being from bad management, as above stated. They are in fair condition, although unusually thin in flesh, resulting from the severity of the winter and the lack of sufficient food and shelter.

Sheep, on the western ranges, are in poor condition, owing to insufficient food and shelter. A very large per cent. of lambs were lost from exposure. The "scab" has not been as serious as in former years, but a slight loss being reported from this cause.

Nearly every county in the eastern two-thirds of the State reports more or less cholera among hogs. In nearly every instance the cause of this disease is traced directly to importation from the stock yards along our eastern border. Twenty per cent. of young pigs died from the effects of the extreme cold.

FRUIT.

Correspondents report apple buds gener-

ally alive and promising a fair crop of fruit. present owner, is the pioneer breeder of Holsteins in northwest Missouri, and now has a fine lot of bulls and heifers he is offering at low-down "prices at which farmers can live."

Notes and Queries--Russell County.

Kansas Farmer:

As the spring has been so backward I have have waited a little to see what the outlook really is, and yet we cannot well decide, for for everything is at least two weeks behind any ordinary season. Stock is considerably mixed; some herds of cattle are in fine condition without any loss worth mentioning and others show heavy losses, some as high as 40 per cent. Of course good care and plenty of feed show in the looks of the stock now. There is no grass yet to amount to much. Sheep, take the county over, look better than cattle. Horses, except a few late fall arrivals from Texas, are looking exceptionally well. Wheat that was put in well last fall is in fair condition, a good deal of it looks well; but there is a small acreage compared with last year. Rye, which is mostly volunteer, looks well. The rye that was cut in bloom and put up for hay came through bright and is excellent feed. There

is a larger acreage than ever before put in to oats and spring wheat; some of it is put in late. It is too early yet to tell how it looks. There will be a larger acreage of corn put out this spring than ever before in this county. Sorghum will occupy the front rank for winter feed. The farmers are generally in good spirits and improving considerably in the shape of fences, buildings, tree planting, etc.

There has been a large influx of immigration to this county this spring, and it is not through yet. The number of school districts that have a summer term of school is twice as large as ordinary. There seems to be some dissatisfaction with the new liquor law. How does it operate generally throughout the State? I think the Legislature failed in doing its duty in one respect: we ought to have a general road and bridge tax; for with the present poll tax we cannot keep the roads in decent condition, and as for bridges I think we are behind the middle ages except in counties where they have been helped by special legislation.

I would like to ask if tobacco is not dangerous to stock if applied strong all over the body? Also, what will cure a sore on the joints of a creature, caused by freezing? We have tried ordinary methods and failed thus far.

I would like to give a word of praise to Rev. L. Sternberg for his paper read at Ellsworth before the Farmers' Institute; also to some one for the recipe for keeping tools from rusting. There has been a good deal written about farmers wasting so much by letting machinery stand out of doors.

Now, I would like to give a little of my experience out here on the border (or was the border when I came here). Among the first to get a self-binder was an energetic man from the East (where they house their machinery), and as it cost him a good deal, he went to work and made a place to put it and covered it with straw as the only thing he could get (for lumber was high and wheat was low and only a small crop.)

In passing I saw his machine and commended his care. I did the same with what few things I had, covering them up between two hay stacks. In the spring, early in April or the last of March, there came a prairie fire accompanied by one of our Kansas zephyrs, and nearly everything that was not on plowed ground, the self binder included, went with it. Since then I have thought that it was better to risk the rust than the fire as long as we had to use straw for cover.

RUSSELL COUNTY FARMER.

Among the devices used in the old war of independence for obstructing the progress of cavalry was an ugly, sharp, four-pronged piece of iron, so arranged that whatever way it might fall upon the ground, one of the sharp prongs would be erect to penetrate the foot pressed upon it. These were scattered over the ground in the direction of the approach of the enemy's cavalry to attack.

The curious toleration of the French for horseflesh as an article of food would probably disappear before a large importation of American beef. Meantime, the fifty-eight horse butchers in Paris have distributed to the population of that city 9,271 horses, asses and mules during the past year, against 6,865 of these animals slaughtered in 1883.

There are only three counties in Illinois and only one in Pennsylvania that are not penetrated by lines of railroad.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.

April 29—Geary Bros., Aberdeen-Angus, Kansas City, Mo.
 May 1—Pettis County Short-horn Breeders, Sedalia, Mo.
 May 5—Cass County Short-horn Breeders, Pleasant Hill, Mo.
 May 6—T. W. Harvey, Polled-Angus, Kansas City, Mo.
 May 8—Miller & Roddick, Herefords and Polls, Kansas City, Mo.
 May 13, 14, 15—Jackson County Short-horn Breeders, Kansas City, Mo.
 May 18 and 19—Jas. Richardson, Short-horns, Kansas City, Mo.
 May 20—Fowells & Bennett, Short-horns, Independence, Mo.
 May 22 and 23—Jas. E. Richardson, Kansas City, Mo., Short-horns.
 May 28—Leavenworth Short-horn Breeders' Association.
 June 3—Col. W. A. Harris and the Giffords, Short-horns, Manhattan.

Ewes and Lambs.

This is a good time to think about the care of lambs because we see them every day and we may both observe and experiment. A very competent New York farmer, F. D. Curtis, gives his experience and some excellent suggestions on the subject in an article which we clipped from the *Country Gentleman*:

Before lambing is the most critical time for the feeding of breeding ewes. If they have had no grain, it must now be given to them, and gradually, or there will be trouble. It is best to begin with only a gill of oats, and in a few days add not more than a fourth of a gill of corn. Oil meal is excellent, but it also must be given to the ewes with care. It should be fed regularly, and not more than half a gill at a feeding. For a good-sized sheep it would be safer, after feeding oats for a week, to add a gill of corn and oil meal, equally divided. And this amount, together with the oats, will make a good grain ration twice a day. If nothing but clear oats are fed, by a gradual increase, the amount can be increased in two weeks to two quarts a day. I do not think it is best to crowd ewes, unused to it, with grain just before lambing. It creates fever, and this condition produces inflammation of the udders, as it also increases the secretion of milk. It is better to avoid these extremes, and simply put the ewe in a more thrifty and vigorous condition. This is always the best condition for bearing young with any kind of animals, and far better than a fleshy or stimulated state. Such feeding will be likely to cause the wool to become loosened and to fall out. Whenever this is the case, neither sheep nor lambs do well. Sometimes the lamb of such a ewe will pine away and barely walk around, and at last die. The fault is with the ewe. Her blood has been made feverish and unhealthy by overfeeding, and the poor little lamb is poisoned by its mother's milk, and becomes a victim to the want of judgment of its careless owner. Such lambs should be taken from their mothers.

In my unfortunate experience last year, feeding so much clover to my ewes, I had several ewes cast their wool, and lost some lambs in the way I have described; one of them lingered till summer and then died. I am satisfied that when a sheep becomes so feverish as to cause its wool to drop off, it never recovers from it, and will always be a poor sheep. It is impossible to fatten such a sheep. When sheep are put to fatten, there must be a gradual change to grain, or more harm than good will be done by its feeding. A little grain goes farther with sheep than any other stock. Some of my sheep which were overfed last winter with corn, are not doing well this year. One would suppose that the feeding all summer, on grass, would take from the system all the injurious effects of the fever; but it is not so. A fever which causes the wool to drop off in bunches must be a severe one, and it is my opinion that its evil effects can never be eradicated. Such small things change sheep from profit to loss, and one can hardly be too particular in their care. It is said that feeding roots to ewes in cold weather will chill the fetus, and cause the ewe to abort.

No doubt it would be risky to begin to feed ewes with a large mess of roots at first, but, after they had become accustomed to them, there would not be any more harm in feeding them roots, than in allowing ewes to have all the ice water they will drink. The effect cannot produce so much of a shock, as the water is taken into the stomach rapidly, and in a quantity often to make quite a degree of cold—enough to cause the animal to shiver. Such is the case

with cattle and horses, and it must be the same with sheep, although not perceptible on account of the wool. When roots are eaten, they are masticated in the mouth, and warmed before swallowing, and each swallow is additionally warmed in the stomach before another reaches it. The roots are not so cold either, as the ice water, or at least they need not be, if kept in a cellar. This is a delusion, and no farmer need refrain from giving his ewes roots for fear of abortion, if he will begin in moderation. Roots are always laxative, and a big feed the first time might produce trouble in this direction, with which the fetus would be in sympathy. Roots for breeding ewes are almost a necessity, and in their absence oil meal should be given. A farmer will be surprised at the difference in the looks and development of his sheep, and the growth and health of the lambs on such a diet, if he is not acquainted with the difference. These little extras turn the scale upward, and make the balance on one side. They must be studied and practiced on the present footing of sheep husbandry, to make any profit.

As I have said before, if only one kind of grain is available, then it should be oats. Pushing and crowding must be avoided, or there will be abortions. Rams or wethers should not be left in the flocks with the ewes. They are liable to strike them with their heads, and if they do not do this, they push them aside, and thus injure them. The weaklings should be taken out, and put by themselves. When this is done, they will soon begin to gain, which is surely the case when left with the flock.

A hospital is as much of a necessity where there are a large number of sheep, as the main feeding place. Here all of the underlings, and weak and sick ones, should be placed, and food given to each one suited to its wants. A few neglected sheep, which eventually reach the dung pile, will take away the entire profits of the year; and yet how often the farmer's indifference to the flock brings about this result? The ticks should be gotten rid of as early in the winter as possible, or they will multiply so fast that they will make the sheep poor and cause them to rub their wool loose, giving the flock a very unsightly appearance. If the sheep are allowed to go without salt for a few days, and then given salt mixed one-third with powdered sulphur, they will eat the sulphur, and it is said to cause the ticks to leave them. I have, in severe cases, rubbed sulphur all through the wool, with good effect, to kill the ticks, and also applied snuff in the same way. The last is a speedy cure, and so is dipping the sheep in a strong decoction of tobacco stems, or the patent sheep dips. Dipping is not practicable in cold weather, or while the sheep have their fleeces on them. They should receive this treatment as soon as they are shorn, if they are infested with any sort of vermin.

I have spoken of regularity in feeding. By this, I mean not only feeding a given quantity, so that the stomach will not be overloaded and deranged, but to feed at stated times, so that the same extreme may be avoided, and the stomach have ample time to digest the food and gain rest. This is the way to maintain a vigorous appetite. Roots always help to make appetite, and they always aid in the digestion of food; and last, but not least, they are food of the best kind, and of greater value than any chemical table ever demonstrated. They help to moisten and soften other food, and, by this succulent union, to cause it to digest more fully, and to be more thoroughly assimilated. They add to the other food the properties required to make it more soluble, or complete nourishment; and in the double capacity, as it were, of chemist and chemist, they do double or triple duty. A sheep-man should always have them, and especially since turnips, so well suited to sheep, can be grown at a cost of not more than five cents per bushel, and all the way to three cents. A bushel will feed a sheep of the larger breeds four days, and of the smaller, eight days. Let the farmer remember these facts (impressed now when the roots are needed) in the latter part of summer, when the seed should be sown.

Little or no profit can be expected from old fowls—those in excess of two years. Very valuable hen-mothers may sometimes be retained several years longer for chicken-raising, but the rest should be got rid of. The most profitable fowls are pullets.

If your horses have sore shoulders, scratches, cuts or open sores of any kind, use Stewart's Healing Powder.

Changes in Sheep Husbandry.

The changes that are taking place in sheep husbandry all over the world are very radical, in the opinion of the *Sheep Breeder and Wool Grower*, and in the course of five years, that paper thinks, many of the conditions that now exist will doubtless have been superseded. It says:

In America, even in the localities where sheep-growing has been carried on the longest, there has yet been no real permanent basis of work established for the shepherd. It may be said of the breeders of Vermont, that they have surely found a fixed basis of operation, in providing fine wool breeding stock for all sections of the country that can pay the prices. But this is not so from the fact, that, laying aside all questions of the probable or possible changes in the demands of the trade, the very base of supplies must ever be shifting. Every car load of fine Merino breeding animals sent out from the East tends that much to build up the balance of the western and central States and make their flocks independent of the original home folds.

The time was not long ago when the hog raising belt of the country was so narrow that Buffalo was the chief packing point of the country, and we all are able to remember the time when the "Queen city of the West," Cincinnati, was dubbed the Porkopolis, from the fact that she was the chief hog-packing point of the whole country. But gradually, as the corn and hog belts, which are almost, if not quite, synonymous, extended on the western border, the center of packing operations came to Chicago. Some are inclined to think that the great center of supplies has not yet been reached, and that Chicago will have to yield much of her greatness to some point in the future, nearer the center of production. This does not seem at all probable to the majority of thinking men because it would be difficult, if not impossible, to find a distributing gateway between the East and the West that would be better located than Chicago; but we do not propose to here discuss the pros and cons of the question, the main point being the idea of the natural shifting of the center of the base of supplies from the East to the West until there shall be a sufficient distribution of blooded sheep all over the country to make each section almost independent of the others. Even to-day, it is probable that there are more buyers of breeding sheep who go to Michigan and Missouri than to old Vermont. Changes are natural, and we must not only be prepared to meet them but to anticipate them. It is very difficult to establish a permanent line of work, because if we do not change our methods of supplies, the demands will alter and those who can be quickest to meet them will reap the profits of their alertness and we will reap the profits of our moss-backed inclination to say that what was good enough for our grandfathers is good enough for us.

Look at the sheep-men of the plains, particularly the southwest. They thought, up to within a year or two, that it was not at all necessary to pay any attention to the mutton qualities of their sheep; that wool was all there was any profit in raising in the far West, and that they would leave mutton-growing to the shepherds in the East, who were raising sheep on costly lands and were compelled of necessity to make the very most of every possible resource at hand. The southwestern man urged a great many reasons for devoting his entire attention to raising wool; the mutton breeds would not do well in large herds or flocks, with a small number of herders; there was no way to make them properly fat so as to compete with the corn-fed stock of the eastern States, and last but not least, they had no double deck cars in which to ship their sheep and had almost to pay double as much for shipping ten thousand pounds of mutton as their neighbors had to pay for shipping that many pounds of beef.

But when the duty on wool was lowered, and there were threats of taking it off altogether; when the price of wool declined so much that there was a general wail from the wool-growing fraternity about the lack of profit in their business, our friends of the southwest, as well as other sections, began to be stir themselves, and see what could be done about utilizing all of the resources of the sheep-raiser. They asked for double deck cars and have now secured a law in the Texas Legislature which will give them this mode of transporta-

tion, if they can prevent the railroads from making the law become a dead letter.

Even now as our sheep-men are fairly beginning to stir themselves about the mutton possibilities of their flocks, they find that new demands will be made upon them. It will not do to simply fatten the low grade sheep. Competition is growing strong in the mutton markets of the world and the watch-cry must be improve, improve, improve! If we think our average sheep, if fat, would be good enough, let us look at some of the cargoes of frozen mutton which New Zealand is pouring into London; we find them almost invariably to be selected wethers, and in many cases averaging as high as 75 lbs. to the dressed carcass. Compare, or rather contrast these with the average shipments of mutton sheep from our American range country.

Only a short time ago there was no outlet for these vast flocks of the far South, except through the tallow kettles and pelt dealers—the mutton being almost thrown away. This is not one of the least changes that has come about lately. There is not likely to be another so radical very soon. It is safe to say that the sheep business was never in a more unsettled state than it has been during the past five years. But affairs will surely adjust themselves; America will always be a leading sheep-raising country, and plucky, enterprising sheep-raisers will reap rich rewards for their faith and zeal.

Do not be afraid to mix sulphur and red pepper with a mess of warm feed for your chickens twice or three times a week. It tends to keep them in good health.

Standard pear trees one year from the bud are safer to buy than those of greater age and size. Every element of cost is less, and the trees suffer less from transplanting.

By the use of BOSTROM AUTOMATIC LEVEL, every farmer can now do his own terracing. It is constructed on scientific principles, and is so very simple any one can use it. It will not get out of order. See advertisement.

Vitality of Great Men

Is not always innate or born with them, but many instances are known where it has been acquired by the persistent and judicious use of Dr. Harter's Iron Tonic.

Ohio's maple trees are not an insignificant figure in her crop statistics. She has 2,800,000 trees, which produced sugar to the amount of 1,968,000 pounds and 564,198 gallons of syrup, worth in round numbers about \$800,000.

BERKSHIRE HOGS.

My herd now numbers about Forty Breeding Sows and Four Boars, including representatives of the best families of the day, and also prize-winners at the leading shows of this country, Canada and England. I have now in use in my herd sows that won in England in 1883, 1882 and 1881, and descendants of noted prize-winners previous to that time. The principal sow in use in my herd at present is "Duke of Monmouth" 11861, who won in 1883 the first prize at four leading shows in England, including first at the Royal Show, and also first prize at two leading shows in Canada. He thus won six continuous first prizes without being beaten, a like record I believe never atained by any other sow. I paid \$400 for "Duke of Monmouth." He is a splendid breeder, an animal of great constitution and comes from the same family as my old sow, "Lord Liverpool" 221, for whom I paid \$700, and who is now almost eleven years old and still alive. I have now a splendid lot of pigs from three to six months old, the bulk of which are got by "Duke of Monmouth." I would also spare a few of my sows, young or old, when in pig, and part of my breeding boars. I do not advertise prices as low as the lowest, for I cannot afford to sell as low as those who bought a cheaper class of stock to start with, but my prices are reasonable and within the reach of all who know the value of first-class stock. My herd of Berkshires show as much size as hogs of any breed, and I am sure I can show more quality, activity, constitution and size than is combined in any other breed of hogs. Almost if not every prominent herd of Berkshires in the West contains representatives from my herd, and this alone, considered in connection with the many prizes I have won for ten years past at our largest shows, proves beyond a doubt the quality of stock I am producing from year to year. No breeder of any kind of hogs in the United States or Canada has for several years past bought and retained in his herd so many valuable animals at an equal cost as I have. I have issued a new catalogue this season containing the pedigrees in full of my herd and a limited description of each animal, together with a complete list of prizes won for several years past. This catalogue I will mail free to all who feel interested enough to write for it.

I am also breeding High-grade Short-horn Cattle and Merino Sheep. Have now about 100 good young rams for sale.

I have reduced rates for shipping.

All parties visiting from a distance will be met at the train, if notice is given in time.

For prices or any further information, address

N. H. GENTRY,
Sedalia, Mo.

The Driving Horse.

No youth should be permitted to have, own or drive a good horse for pleasure, until he understands how to care for it properly, and does so. The only way to keep a good horse so, is by care. If you do not have to do the work yourself, it is necessary to know how, so you can intelligently direct the labors of others. Before starting for a long drive, do not, as some foolishly do, give your horse an extra heavy feed; but give him only his regular feed, and leave the extra for him when he comes back. Drive moderately for the first few miles, until your horse gets settled, then you can go faster without injury. Many a fine horse has been spoiled by feeding heavily, harnessing at once, and then putting him down to his speed from the start. When returning, slow up and walk your horse, or only jog him, for a mile or so from home, if you have had a long or a spirited drive, so as to cool him off. It does not hurt a horse to water him while enroute, even if he is warm, unless he is much over-heated, if you do not give him too much, and do not stop longer than to have him watered. The perspiring workers in the harvest field drink liberally of water and keep on with their work without injury. It is only the extremes that work injury to man and beast. If the horse is warm when brought in, sponge out his mouth with cool water, and rub him down briskly with wisps of straw until he is dry, and walk him around, if he is very warm, to cool off gradually. If the weather is hot put him in the stable, let him remain unblanketed (unless he has been clipped) and out of draft. If the weather is cold, put on a light cover until he cools off and dries, and afterward blanket or not, as has been the custom. Have the shoes reset once a month. Use plain shoes, with the heels a little thickened—not calked or toed, and five nails will generally be enough, if properly put in. In times of ice and sleet, when the roads are slippery, use frost nails, renewed as often as necessary, and you will have no trouble from slipping. Keep him on the ground floor, in the stall. If the feet become dry and hard do not use oil or grease, but clean out the feet, soak them in salt water, putting one foot at a time in a bucket, and then chafe briskly until thoroughly dry. After this at night fill the foot with fresh cow dung, well pressed in, letting it remain in over night, and cleaning out next morning, and washing and chafing as before. Two or three applications of this simple remedy will generally effect a cure. For a puller or lugger use a large leather or rubber-covered bit, not a twisted or curb bit. We cured one of the worst luggers we ever owned by adopting just such a bit. The former is humane and effective, while the latter is cruel in the extreme and makes the horse much more desperate and dangerous. A little linseed meal, given occasionally, will help to keep the coat bright and glossy. If the horse has been out to grass and "slobbers" badly, just before you are ready to start give him a head of cabbage—one which is not hard enough for use or sale will do—and it will remedy the unpleasant habit. In grain, oats—good, bright and clean—should be the principal food, with an occasional mess of cut feed roots, etc., to break up the monotony. Bright, sweet timothy hay only, or bright and well cured corn-blade should be the only hay given. Clover is not fit for a driving horse, though it may do for work horses.—Country Home.

Facts Relating to the Draft Horses of France.

While some people in America call all horses imported from France Normans, it is a fact that there is no breed in France called by that name by the French people; the name Norman, therefore, is purely American. The principal breeds of France are known as Percherons and Boullonais. The Percheron are the most highly prized of all French races, and all departments of France go to the Perche for stallions to improve their local breeds. The Percheron Stud Book of France is published under the authority of the French Government and admits only animals of pure Percheron origin and birth, established by their pedigrees and the pedigrees of their ancestors for generations. The fact that no recorded pedigrees can be furnished with any of the more common breeds of France, explains the eagerness of many importers in insisting that all horses imported from France are alike, and that pedigrees are useless. It is a well known fact that what a man gives for a horse over from \$500 to \$800—the price of a good grade—is paid for purity of blood; and where the seller is not able to

give the recorded pedigree of the animal sold as evidence of additional value, he has no right to ask it. With these facts before him no intelligent man will buy a horse imported from France unless he is recorded with his pedigree in full in the Stud Book in France, and the importer furnishes with his bill of sale the French certificate of registration, as this is his only guarantee of safety, a large number of horses of unknown blood being imported to this country and sold as pure-bred.

Fix the roosts so that the hens won't have to roost in a draft. It gives them a cold that ends in roup.

Eggs will hatch much more readily under a hen than in an incubator if they are much over a week old.

Eggs packed in well-dried ashes, and so as not to touch each other, have been kept perfectly sweet for twelve months.

Chip dirt from the side of the wood pile and old ashes are recommended as one of the best possible dressings to put around fruit trees.

The bark of the pear tree is thinner than that of the apple, hence it suffers more severely from exposure of its trunk to the heat of the summer sun, and should be protected.

An English gardener, who has great success in raising radishes, makes his radish beds with nearly or quite one-half soft coal ashes and soot. Under this plan his beds are not infested by worms.

As o'er the glacier's frozen sheet Breathes soft the Alpine rose, So, through life's desert springing sweet, The flower of friendship grows. —Holmes.

Wants the Facts Known.

MR. EDITOR: I and my neighbors have been led so many times into buying different things for the liver, kidneys and blood that have done us more harm than good, I feel it due your readers to advise them, when an honest and good medicine like Dr. Harter's Iron Tonic can be had. Very truly, AN OLD SUBSCRIBER.

Surface-manuring in fruit culture is also mulching in a measure, and all mulching benefits the soil. The losses from evaporation are not great, but all manures should be well composted before applying.

With Ely's Cream Balm a child can be treated without pain or dread, and with perfect safety. Try the remedy. It cures Catarrh, Hay Fever and Colds in the Head. It is easily applied with the finger and gives relief from the first application. Price 50 cts., at druggists, 60 cts. by mail. Ely Bros., Owego, N. Y.

The bottle of Ely's Cream Balm that I obtained of you last summer has entirely cured my little boy of a severe attack of catarrh.—Mrs. Sallie Davis, Green Postoffice, Ala.

One of my children, a girl about 9 years old had a very bad discharge from her head and nose of a thick yellowish matter, and was growing worse. We had two different physicians prescribe for her, but without benefit. We tried Ely's Cream Balm, and much to our surprise in three days there was a marked improvement. We continued using the Balm and in a short time the discharge was apparently cured.—O. A. Cary, Corning, N. Y.

Mt. Pleasant stock farm, Colony, Anderson Co., Kansas.

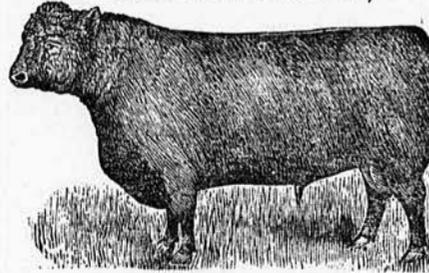


J. S. HAWES Importer and Breeder of HEREFORD Cattle.

I have one of the largest herds of these famous cattle in the country, numbering about 200 head. Many are from the noted English breeders, T. J. Cardwaine, J. B. Green, B. Rogers, W. S. Powell, Warren Evans and P. Turner. The bulls in service are "FORTUNE," sweepstakes bull with five of us get at Kansas State Fair 1882 and 1883; Imp. "Lord Wilton" bull "SIR EVELYN," own brother to "Sir Bartle Frere;" Imp. "DAUPHIN 18th," half brother to T. L. Miller Co.'s "Dauphin 18th;" and "THE GROVE 4th," by "The Grove 3d."

To parties wishing to start a Herd I will give very low figures. Write or come.

F. McHARDY,



Breeder and Importer of GALLOWAY CATTLE, Emporia, : : : Kansas.

My herd numbers over one hundred head, consisting of the best and purest strains of blood. It is composed of animals bred by the most noted breeders of Scotland—the Duke of Buccleuch, the Earl of Galloway, Thos. Biggar & Sons, Cunningham Graham, and others. I have three head of young bulls, fit for service, bred by the noted bull MacLeod of Dunbar; also thirty high grade females of different ages that I will sell reasonably. Time given to suit purchaser, if desired.

BREEDERS' DIRECTORY.

Cards of three lines or less, will be inserted in the Breeder's Directory for \$10.00 per year, or \$5.00 for six months; each additional line, \$2.00 per year. A copy of the paper will be sent the advertiser during the continuance of the card.

CATTLE.

SARCOXIE HEREFORD HERD. J. Gordon Gibb, Lawrence, Kas., importer and breeder of Hereford Cattle. Stock for sale.

OAK WOOD HERD. C. S. Eichholtz, Wichita, Kas. Live Stock Auctioneer and breeder of Thoroughbred Short-horn Cattle.

J. W. LILLARD, Nevada, Mo., Breeder of Thoroughbred Short-horns. A Young Mary bull at head of herd. Young Stock for sale. Satisfaction guaranteed.

A. HAMILTON, Butler, Mo., Thoroughbred Galloway cattle, and calves out of Short-horn cows by Galloway bulls, for sale.

WALNUT PARK FARM. Frank Playter, Prop'r. Walnut, Crawford Co., Kas. The largest herd of short-horn cattle in Southern Kansas. Stock for sale. Correspondence invited.

W. A. POWELL, Lee's Summit, Mo., breeder of the Poverty Hill Herd of Thoroughbred Short-horn Cattle. Inspection and correspondence solicited.

POWELL BROS., Lee's Summit (Jackson Co.), Mo., breeders of Short-horn Cattle and pure-bred Poland-China Swine and Plymouth Rock Fowls. Stock for sale. Mention this paper.

U. P. BENNETT & SON, Lee's Summit, Mo., breeders of THOROUGHBRED SHORT-HORN CATTLE, Cotswold sheep, Berkshire swine, Bronze turkeys and Plymouth Rock chickens. Inspection invited.

ALTAHAM HERD. W. H. H. Cundiff, Pleasant Hill, Cass Co., Mo., has fashionable-bred Short-horn Bulls for sale. Among them are two Rose of Sharon and one aged show bull. None but the very best allowed to go out from this herd; all others are castrated.

BROAD LAWN HERD of Short-horns. Robt. Patton, Hamlin, Kas., Prop'r. Herd numbers about 120 head. Bulls and Cows for sale.

T. M. MARCY & SON, Wakarusa, Shawnee county, Kas. We now have 116 head of recorded Short-horns. If you wish a young bull or Short-horn cows do yourself the justice to come and see or write us.

CEDAR-CROFT HERD SHORT-HORNS.—E. C. Evans & Son, Prop'r's, Sedalia, Mo. Youngsters of the most popular families for sale. Also Bronze Turkeys and Plymouth Rock Chickens. Write or call at office of Dr. E. C. Evans, in city.

W. M. D. WARREN & CO. Maple Hill, Kas., importers and breeders of Red Poll Cattle. Stock for sale. Correspondence solicited. R. R. station, St. Marys, Kas.

DEXTER SEVEY & SONS, Leiland, Ill., breeders of Thoroughbred Holstein Cattle. Choice stock for sale, both sexes. Correspondence invited.

JOHNSON & WILLIAMS, Silver Lake, Kas., breeders of Thoroughbred Short-horn Cattle. The herd numbers thirty head, with a Rose of Sharon bull at head.

CATTLE AND SWINE.

H. S. FILLMORE, Green Lawn Fruit and Stock Farm, Place Lawrence, Kas., breeder of Jersey Cattle, Poland-China and Berkshire swine. Stock for sale.

I HAVE 10 young pure bred Short horn Bulls, 10 Cows and Heifers a few choice Poland-China Boars and Sows—the latter bred for sale. send for new catalogue H. B. Scott, Sedalia, Mo.

GLENVIEW FARM. G. A. Laude, Humboldt, Kas., breeds Short-horn Cattle and Poland-China Swine. Also Saddle and Harness Horses.

SHORT-HORN PARK, containing 2,000 acres, for sale. Also, short-horn Cattle and Registered Poland-China. Young stock for sale. Address B. F. Dole, Canton, McPherson Co., Kas.

WOODSIDE STOCK FARM. F. M. Neal, Pleasant Run, Pottawatomie Co., Kas., breeder of Thoroughbred Short-horn cattle, Cotswold sheep, Poland-China and Berkshire hogs. Young stock for sale.

DR. A. M. EIDSON, Reading, Lyon Co., Kas., makes a specialty of the breeding and sale of thoroughbred and high-grade Short-horn Cattle, Hambletonian Horses of the most fashionable strain, pure-bred Jersey Red Hogs and Jersey Cattle.

COTTONWOOD FARM HERDS, J. J. Malls, Manhattan, Kansas, Breeder and shipper of SHORT-HORN CATTLE and BERKSHIRE SWINE. Orders promptly filled by express. The farm is four miles east of Manhattan, north of the Kansas river.

SHEEP.

E. COPLAND & SON, DOUGLASS, KANSAS, Breeders of Improved American Merino Sheep. The flock is remarkable for size, constitution and length of staple. Buck a specialty.

Registered Merino Sheep, Bronze Turkeys, Light Ermine and Plymouth Rock fowls. Eggs for hatch in U. S. Mail, free. K. T. McCulley & Bro., Lee's Summit, Mo.

C. F. HARDICK & SON, Louisville, Kansas, breeders of REGISTERED AMERICAN MERINO SHEEP, Having good constitution and an even fleece of fine, dense wool. Fine wool a specialty. Come and see our flocks or write us.

A. F. WILLMARTH & CO., Ellsworth, Kas., breeder of Registered Spanish Merino Sheep. "Woolly Head" 95 at head of flock. Choice rams for sale. Satisfaction guaranteed.

SWINE.

A. J. CARPENTER, Milford, Kansas, breeder of Thoroughbred Poland-China Swine. Stock for sale. Inspection and correspondence invited.

F. M. BOOKS & CO., Burlingame, Kas., importer and breeder of Recorded Poland-China and Large Berkshire Swine. Breeding stock chosen from the best herds in seven States. I have special rates by express. Write.

SWINE.

J. A. DAVIDSON, Richmond, Franklin Co., Kas., breeder of POLAND-CHINA Swine. 170 head in herd. Recorded in A. and O. P.-C. R. Mail or write.

CATALPA GROVE STOCK FARM. J. W. Arnold, Louisville, Kansas, breeds Recorded POLAND-CHINA SWINE and MERINO SHEEP.

The swine are of the GIVE or TAKE, Perfection, and other fashionable strains. Stock for sale in pairs not related. Invite correspondence or inspection of stock.

ROBERT COOK, Iola, Allen county, Kansas, importer and breeder of Poland-China Hogs. Pigs warranted first-class. Write.

POULTRY.

GEO. H. HUGHES, North Topeka, Kas., 14 first prizes (Felch and Pierce, judges,) on W. F. B. Spanish. Eggs, \$3 for 13; 26 for \$5. Prepared shell, 100 lbs. \$3. 12 egg baskets, 90 cts. Poultry Monthly, \$1.

PLYMOUTH ROCK CHICKENS. Eggs for hatching, from the finest breeding pens in the United States. Fowls have taken first premium wherever shown. Eggs safely packed for shipment. Setting of 13, \$2.60. Fowls for sale in the fall. Address E. W. Stevens, Sedalia, Missouri.

FAIRVIEW POULTRY YARDS. Write postal for price list of fowls and eggs. Six varieties. Mrs. GEO. TAGGART, Parsons, Kansas. Lock box 764.

J. M. ANDERSON, Salina, Kas. Bronze Turkeys, Plymouth Rocks, Pekin Ducks, Shepherd Puppies and Jersey Cows and Heifers. Write for prices.

EGGS FOR SALE—From Light Brahmas, Buff Orpingtons and Plymouth Rocks, 13 for \$1.75; 26 for \$3. Also Pekin Duck eggs, 11 for \$1.75; 22 for \$3. Also Emden Geese eggs, 6 for \$2; and Bronze Turkey eggs, 12 for \$3. W. J. McColm, Waveland, Shawnee Co., Kas.

BRONZE TURKEY EGGS—\$3.50 per 12. Our Tom weighs over 40 pounds. Plymouth Rock eggs, \$1.50 per 13. H. V. Fuglesy, Plattsburg, Mo.

W. M. WIGHTMAN, Ottawa, Kansas, breeder of high-class poultry—White and Brown Leghorns and Buff Cochins. Eggs, \$2.00 for thirteen.

N. R. NYE, breeder of the leading varieties of Choice Poultry, Leavenworth, Kansas. Send for circular.

NEOSHO VALLEY POULTRY YARDS.—Established 1870. Pure-bred Light Brahmans, Partridge Cochins, Plymouth Rocks, Eggs in season. Stock in fall. Write for prices. Wm. Hammond, box 190, Emporia, Kas.

ONE DOLLAR per thirteen for eggs from choice Plymouth Rock fowls or Pekin Ducks. Plymouth Rock cockerels \$2 each. Mark S. Salisbury, Box 981, Kansas City, Mo.

S. R. EDWARDS & BRO., Emporia, Kas., breeders of high-class Plymouth Rocks and Partridge Cochins. Eggs, \$2 per 13. Correspondence cheerfully answered.

RIVERSIDE POULTRY YARDS.—Plymouth Rock and Partridge Cochins for sale, and eggs during the hatching season. Watson Randolph, Emporia, Kansas.

GROUND OYSTER SHELLS FOR SALE. Five pounds, 5 cents per pound; 25 pounds, 4 cents per pound; 200 pounds, 3 1/2 cents per pound. It is the best egg-producer known. Give it a trial and be convinced of its merits. See Pure Plymouth Rock Eggs for sale—\$2 for 13; \$3.50 for 26. G. H. Flintman, 71 Kaine avenue, Topeka, Kas.

MISCELLANEOUS

THE PATENT NEST, Eggs, Chicks, etc. Safe against weather, vermin, etc. Guaranteed. Endorsed. Incubators. \$10. Eggs pure & fresh. Circulars. POULTRY SUPPLY CO., WOLCOTT, IND.

MERINO SHEEP, Berkshire hogs and fifteen varieties of high-class poultry of the best strains. Bucks a specialty. Harry McCullough, Fayette, Mo.

REPUBLICAN VALLEY STOCK FARM.—Henry R. Avery, Wakefield, Clay Co., Kas., breeder of Percheron horses. Stock for sale. Send for catalogue.

S. A. SAWYER, Manhattan, Kas., Live Stock Auctioneer. Sales made in all the States and Canada. Good reference. Have full sets of Herd Books. Compiles catalogues.

BUTTER AND CHEESE making apparatus and supplies of every description. D. H. ROE & CO., 253 and 255 Kinzie St., Chicago, Ill.

Agricultural Books,

At Publishers' Prices, Postage Paid. T. J. KELLAM, 183 Kansas Ave., Topeka, Kansas.

THE LINWOOD HERD

SHORT-HORN CATTLE



IMP. BARON VICTOR W. A. HARRIS, Linwood, Kansas.

The herd is composed of VICTORIAS, VIOLETS, LAVENDERS, BRAWTH BIDS, SECRETS, and others from the celebrated herd of A. Cruickshank, Stritton, Aberdeenshire, Scotland. GOLDEN DROPS, and TRYS, descended from the renowned herd of S. Campbell Kinellar, Aberdeenshire, Scotland. Also YOUNG MARYS, YOUNG PHYLISES, LADY ELIZABETHS, etc. Imp. BARON VICTOR 42824, bred by Cruickshank, and Imp. DOUBLE GLOSTER head the herd. Linwood, Leavenworth Co., Kas., is on the U. P. R. R., 27 miles west of Kansas City. Farm joins station. Catalogues on application. Inspection invited.

PATENT obtained by Louis Bigger & Co., Attorneys, Washington, D. C. Established 1864. Advice free.

Gossip About Stock.

Look up the ad. of S. H. Sawyer & Son, of Iowa. They propose to sell their entire herd of Short-horns, which is unquestionably one of the best in that State.

Equinox 2758, the sweepstakes bull at the State Fair in 1883 and owned by W. E. Campbell, Caldwell, Kas., sold at public sale at Kansas City the 16th inst. for \$580, to J. T. Shoemaker, Perrin, Mo.

Kansas breeders will have a chance to buy 300 Short-horns at the Central Missouri Series of sales April 28 to May 1, and Geary Brothers' sale of forty-five Aberdeen-Angus cattle also takes place at Kansas City April 29.

The old reliable Jackson County (Mo.) Short-horn Breeders' this week announce their tenth annual public sale, consisting of 160 recorded Short-horn cattle, which will be held at Kansas City May 13 and 14. Send for catalogue.

The Leavenworth County Short-horn Breeders' make their first annual public sale of choice breeding cattle at Leavenworth May 28. This will be one of the "gilt-edge" sales of the season. Send to J. C. Stone, Jr., Leavenworth, for one of their catalogues.

H. C. Reeder, Burrton, Kas., is one of the enterprising flockmasters of southwestern Kansas. He has recently bought over 3,000 sheep, increasing his flock to 5,000 head. He advises experienced sheepmen to buy sheep now while they are cheap, so confident is he of better times for sheepmen in the near future.

We have received the catalogue of Short-horns to be sold by W. T. Hearne, of Lee's Summit, Mo., May 21. He is one of the oldest Short horn breeders and offers an unusually fine lot, including the most of his breeding herd, which he is compelled to sell on account of ill health. Send for his catalogue.

The Giffords, of Milford, Kas., and Col. W. A. Harris, of Linwood, announce in our columns this week their forthcoming Short-horn sale to be held at Manhattan June 3. No breeders in the United States have deservedly better reputations than these gentlemen as reliable breeders of strictly first-class stock.

Our representative sends us the ad. of the first annual Short-horn sale by the Platte County Short-horn Association. The sale will occur May 18, at Weston, Mo., between Kansas City and St. Joe. They propose to offer seventy-five head of good cattle that will make a reputation for the breeders interested in this sale.

H. V. Pugsley, Plattsburg, Mo., had one of the most remarkable sheep-shearings of the season. Ten Merino ewes averaged 19 lbs. 11 oz., and Wrinkley Queen 602 clipped a year's fleece that made even 28 lbs., the heaviest on record. His five stock rams made an average of 30 lbs. The stock ram Vengeance clipped a fleece of 37 lbs. 8 oz.

Public Sales of Thoroughbred Stock.

The sales that we have to report for last week were all held in Kansas City at River view Park, near the Live Stock Exchange, and consisted of Hereford and Galloway cattle. The stock was representative and in fair condition, and satisfactory prices were realized. It is quite evident thus early in the season that mean-looking, poorly-conditioned and short-pedigreed cattle will receive their due this season by justly bringing low prices. The trade demands either choice thoroughbred or grade stock. Inferior animals are not desired by breeders and cattle-growers and should be made feeders instead of ostensible breeding animals.

Jas. Cunningham, of Scotland, made a sale of choice young Galloway cattle at Kansas City on the 14th inst. Forty-six bulls averaged \$287.40, and six females \$270. M. R. Platt and Leverett Leonard were the principal purchasers. Two grade bulls sold at \$76 each.

On Wednesday, April 15, G. S. Burleigh, Mechanicsville, Iowa, had a good sale of Herefords which was very much better than the sales of Messrs. Downing & Greatrex and Geo. Leigh & Co. last week. Col. Muir did the selling with the following result: Twenty bulls sold for \$5,625, an average of \$281.25; thirty-five cows sold for \$13,780, an average of \$393.70. Total for fifty-five Herefords, \$19,405, making a general average of

W. E. Campbell, Caldwell, Kas., sold seven bulls for \$3,275, an average of \$467.85. His famous show bull, Equinox 2758, was included in this sale and brought \$580; sold to J. T. Shoemaker, Perrin, Mo.

The Indiana Blooded Stock Company's Hereford sale on Thursday, the 16th, was as follows: Ten bulls \$3,030, an average of \$303; sixteen cows and heifers for \$6,380, an average of \$398.75. Total for twenty-six imported Herefords \$9,410, a general average of \$361.92. This lot of Herefords consisted of imported cattle entirely and were considered very good cattle by breeders generally.

Olydesdale Horses.

Last week C. G. Rankin, Monmouth, Ill., arrived at Newton, Kas., with a number of young Clydesdale stallions of a handsome dark color, the get of such noted and reliable sires as Donald Dinnie and Straven Callen. The horses were seen by a representative of the FARMER, who pronounces them a handsome and useful lot, such as are always in demand by farmers and breeders. In addition to these six stallions, Mr. Rankin has a few very choice mares. Mr. Rankin is a practical farmer and horse-breeder of Illinois, and has frequently shown his horses at the leading fairs in competition with such eminent breeders as Col. Holloway and the Dillons and won his share of the prizes. This is his first trip and if successful he is likely to favor this locality again. So far he has met with good success and will be glad to correspond with any one needing this class of valuable horses. He would, however, prefer to have intending purchasers call at the stables in Newton, Kas., where he will make satisfactory terms to purchasers. Call on or address C. G. Rankin, Newton, Kas.

Russell Sheep-Shearing.

Special correspondence KANSAS FARMER. The fifth annual sheep-shearing of the Central Kansas Wool-Growers' Association was held in the opera house at Russell on the 14th inst. This is one of the strongest organizations in the State, but the late depression in the business has somewhat disorganized the association. However, a number of professional sheep men, experienced flockmasters, having faith in the industry, were present and manifested considerable interest. Sheep-raisers are inclined to be more hopeful than last season, feed is more plentiful and less expensive, and the lambing season is starting out quite satisfactorily. The sheep business inclines men to be gentle and humane, but there is no use trying to conceal the fact that a war between England and Russia would be very gratifying to most flock-masters. The Journal kindly furnishes the subjoined tabulated result of the shearing:

OWNER.	Sex and number.	Age of sheep in years.	Gross weight.	Age of fleece in days.	Staple on shoulder, inches.	Weight fleece, pounds.	Name of sheep
E. O. Church & Co., Lura.	130	1b	131 1/2	425	3 1/2	15	
"	367	1b	100 1/2	421	4	15 1/2	
"	1175	2	143 1/2	371	3	31 1/2	Jumbo.
"	658	3	163	380	3	43	Hancock Stub Jr
"	798	3	150	371	3	28	Prince Jr.
"	28	4	163 1/2	371	3	26 1/2	
W. B. Page	22	2	126 1/2	370	4	17 1/2	

The awarding committee, consisting of Messrs. Wellington, Holmes and Bouton, awarded the prizes for shearing as follows: First prize, \$10, to R. Sheidler; second, \$8, to M. Straley; third, \$6, to W. T. Conklin; fourth, \$4, to W. M. Hall, and fifth, \$2, to W. H. Burris.

L. C. Walbridge brought in a ram, two years old, which weighed 186 pounds. He was not shorn. He is a large-bodied, well built sheep, and a magnificent stock ram in every respect.

The honors were carried off by Mr. Church, of Lura, whose ram "Hancock" clipped the heaviest fleece on record—43 pounds. Mr. Church, however, does not claim this as a strictly honest fleece. The sheep was put up for the express purpose of seeing how much he could be forced. He was fed all the grain he would eat from date of last

summer, but there was nothing put on the blanket, and he was not shorn as close last year as he might have been. All the other rams, except the two lambs, were shorn at the Wellington ranch last April.

After the public shearing, at night, the association gave their first annual ball, which was well attended, as was also the supper at the Russell House. HEATH.

Wichita Sheep-Shearing.

Special correspondence KANSAS FARMER. The fourth annual public sheep-shearing of the Arkansas Valley Wool-Growers' Association was held at Packer's stables, Wichita, last Saturday. The attendance was not so large as usual, but the interest shown by those present was equal to the past. The shearing began so late that a number of excellent shearers were debarred from making a record. Thos. Horton, of Wichita, a new breeder, had a number of the Atwood strain which were left out. The sheep men seem hopeful and not discouraged. They believe the depression to be but temporary. The following table gives the tabulated result:

OWNER.	Sex.	Age in years.	Gross weight.	Age of fleece in days.	Staple on shoulder, inches.	Weight fleece, pounds.
R. Hoffman.	689	2	66	36	3 1/2	13 1/2
"	691	2	74	358	3 1/2	15 1/2
"	3	1	51	365	3 1/2	8 1/2
D. Fox	11	1	66	365	3 1/2	13 1/2
"	555	1	71	365	3 1/2	22
R. Hoffman	32	1	75	395	3	11
Fox & Hoffman	70	1	57	365	3 1/2	3 1/2
Fox & Hoffman	59	1	53	365	3	6
R. Hoffman	50	1	63	65	3 1/2	19
"	12	1	110	390	4	15 1/2
Fox & Hoffman	619	1	111	65	2	30 1/2
"	27	1	17	365	3 1/2	3
R. Hoffman	4	1	73	370	3 1/2	9
H. C. Reeder	112	1	73	395	3	3 1/2
R. Hoffman	39	1	73	365	3 1/2	9 1/2
D. Fox	42	1	21	45	3	2 1/2
Thos. Horton	178	1	96	66	2 1/2	17 1/2
R. Hoffman	574	1	66	365	3	22
"	7	1	132	365	2 1/2	23 1/2
"	576	1	21	365	3	16 1/2
"	22	1	81	365	2 1/2	3
"	387	1	8	3	3 1/2	1 1/2
"	21	1	55	365	2 1/2	11 1/2
"	549	1	100	365	3 1/2	6 1/2
D. Fox	67	1	19	3	5	1 1/2
"	151	1	42	365	2	24
"	5	1	10 1/2	165	3 1/2	18
R. Hoffman	598	1	4	85	2 1/2	16 1/2
H. C. Reeder	641	1	420	320	5	28 1/2

The table abbreviates some. The sex is indicated as follows: "r." for ram and "e." for ewe. The "lb." in the age column is for lamb. The staple is in inches, and represents the length of the wool on the shoulder.

In the above table the most prominent sheep were Lady Banker 689, Wichita Belle 655, Rip-Van-Winkle 170, Lord Wool 50, Young Lord Wool 560, Baby Lord 619, Figure 2 No. 27, Dan 112, Lady Banker 42, Mammoth Lord 574, Miss Topeka 549, Lady Atwood 151, and Jumbo 64. For the record made, see corresponding number above.

HEATH.

Johnson Grass.

There are so many inquiries about this grass that anything on the subject will be of interest to farmers in Kansas. Here is a good letter from an Illinois farmer which was recently published in the *Western Rural*:

While in Arkansas two and three years ago, I had my attention called to the above named grass, and made it a special point to see all I could of it and to study it carefully. And also made inquiry of all I met who were familiar with it. It is a perennial sorghum, three to ten feet in height. On very rich loose soil when thinly scattered and well cultivated as it would be in a growing crop of corn, it grows eight to ten feet high, with a thickness at the butt as large as one's thumb. On poor land when it becomes thickly set, it runs from two to four feet in height. It is a grass of wonderfully rank and quick growth; is quite nutritious and greedily eaten by stock of all kinds in its green growing state, and when properly cut and cured makes a very fine, wholesome, nutritious hay for stock of all kinds. This hay is best judged by its commercial value where it is best known and most used, namely, the open New Orleans market, where hay is hay. It is there quoted at the same price or a little less than the best timothy hay. As a grass for grazing I could get but little practical experience or knowledge. But so far as I could see or learn, it furnished a great amount of pasturage, but comes late and quits early. We now come to the one great and all important fact about this grass. As I stated, it is a perennial sorghum, that is, its roots live in the ground and grow stronger and deeper by age in a climate where they are not killed by cold. And it seems impossible to eradicate it when it has obtained a strong hold in the soil, or at least our fellow citizens of the

eradicate it, so far as I could learn, when it had obtained possession of their cotton fields, and I must say from observation that some of them were striving manfully, laboriously and often very foolishly in trying to subdue it. The facts then are that this same Johnson grass is considered by one class, the Cotton planters (these men all spell cotton with a big C), as the greatest curse that was ever introduced into the South. Another class, those who wish to breed and grow stock, are equally positive that it is the greatest blessing that the South has ever had. And I guess from what I could learn that both parties are exactly right, when judging from their own standpoint of individual interest and profit. It is a fact that I know from observation that hundreds of splendid cotton plantations in the valley of the Arkansas river below Little Rock, second to none in the world except it be those of the Red river valley, have been utterly ruined as cotton plantations by the advent of this grass and its sending its perennial roots into the soil far below the reach of the plow. One experienced planter told me that a small "patch" got set in his best cotton field and that he dug the patch over four feet deep and picked out by hand every root he could see and destroyed them, and that it did no good whatever, in a few months the "patch" was growing more vigorously than ever, and was apparently spreading very fast. When it once gets a start in the field it not only spreads widely by its seeds, but it also spreads wonderfully fast by its underground stems or roots. The result is that those Arkansas valley cotton plantations that could be sold readily fifteen years ago for from \$40 to \$100 per acre can now be bought for from \$8 to \$20 an acre with no buyers. What splendid stock farms they would make. For it is possible to grow quite a good crop of corn on land thickly set with this grass. I have seen it done, but it takes work, and a good deal of it; work your Arkansas man don't like. The most prominent question I met in Arkansas was, which will eventually be king, cotton or Johnson grass? I thought Johnson grass had the best chance "to get there."

Since leaving Arkansas (I feared to bring seed of it here for trial; had it gathered but threw it away) I have been on the lookout for everything said about this grass. The first thing that especially attracted my attention is the fact that the editor of the *Rural New Yorker* offers it to his patrons in his free seed distribution. He is generally a pretty sound, careful man, but I wonder if he knows what he is doing this time? For we of the North have no particular use for any more grasses, and most certainly not for one that may serve us as Johnson grass has the cotton planters of the South.

The one great question to us is unsolved, it is to me at least, which is this: Will this Johnson grass withstand our winters and therefore entirely occupy the ground to the utter exclusion of nearly all other plant life as it does South? It seems to be hardy near New York city, and our friend L. G. H., of Henry county, Missouri, who gives us his experience in the *Rural* of March 14, may have put his foot into it so far that he will never be able to get it out, for a few scattering stalks came up the second spring after sowing sprouts from the roots that had penetrated the soil below the frost line; that is exactly the way Johnson grass does the second spring after sowing, even where there is but little freezing. But those scattering stalks keep right on sending up others and also maturing a vast amount of seed for two to three months each summer, and then when L. G. H. gets a good "set" all over his farm, if he can find out some practical way by which he can kill the "whole business," he can make an easy fortune by teaching the cotton planters how to do it.

But if Johnson grass will withstand our winters and thrive in this climate, there is no doubt whatever but what it will show up here in its own good time even if we do all we can to prevent its introduction. Now for a few more of the known facts about it and I have done. I had supposed that this grass was of tropical or semi-tropical origin, but I see that a writer lately says that it is adventitious here from Europe, that it is a native of the western part of that continent and is found growing everywhere in the temperate parts of it. I am inclined to think that this is a mistake, but having mislaid the memorandum of this notice I cannot refer to the writer. The analysis of this grass by the Department of Agriculture (see report of 1878) shows it to be a very valuable forage grass. But all notices of it say that when we get it it comes to stay, that it is nearly impossible to eradicate it. Let us hear from others about it, especially if any one has tried it north of the center of Illinois.

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Horticulture.

Watch the Trees.

We do not mean by the word watch merely to look at, but in addition to that to do whatever is needed to be done about the trees in order to insure good, steady and proper growth.

A matter not of vital importance, it is true, but worth attending to is, the SHAPE OF A TREE.

This depends upon the kind of tree somewhat, the object of its planting and the surrounding circumstances, as room, soil, lay of the ground, etc. Any variety of tree may be changed from its natural shape. A Lombardy poplar grows tall, naturally, and is very slender. But it may be made to branch out and form a heavy head. An apple tree spreads if let alone, but it may be trained almost to a sugar loaf top. The writer of this once had an unruly young apple tree that sent out four long lateral branches at about four feet from the ground, and it seemed that all the work of the tree was put into those four branches. They grew five or six feet long, each of them, in one season, and bent down like elm twigs. They started from very nearly the same part of the stem. The next spring we cut away everything above the four limbs, cut them off at about nine inches from the trunk, then trimmed off all twigs below. The tree was then a straight stalk with four nine-inch branches. When the buds started we kept all rubbed off except one good shoot near the ends of the branches and on the upper side. As soon as the four new shoots were fairly started, we cut away the old stub outside of the shoot and trimmed it neatly so that new growth would cover the end, and that was done so well during the season's growth that at the end of the second year there was no scar left to indicate that the original branch had been cut off. It grew into a very pretty tree.

Trees are all growing vigorously now, and while the new shoots are small they may be rubbed off without endangering bark. And it is much better to remove a bud that is not wanted to grow into a branch than it is to remove a branch after it is grown, and this for several reasons. There is no scar left, and all the matter which would go into the growing limb is sent to other parts of the tree. By removing everything that ought not to grow and mature, the strength and vitality of the tree goes into just what is wanted. It requires a good deal of attention to do this, but not nearly as much as one imagines before trial. A minute or two at odd times in the day can be devoted very pleasantly to this kind of work, and if a person is in earnest about it and really wants to do it, he will find a great many spare minutes that otherwise he would not know he had at his disposal.

If one that never had any experience in this kind of work will practice on a grape vine he will soon understand its philosophy. Pinch off the end of a growing vine, and new vigor seems to be imparted to every lateral. They push out at greatly increased rate. On the other hand, if the lateral shoots are rubbed off the stem grows much more rapidly. A vine may thus be kept down to a single cane running out to a wonderful length, or, by pinching off all the terminal shoots after they have made a joint or two, we may have a bunch of grape vine bushes all within two or three feet of the root.

Peach and apple trees send out a great many shoots on the under side of the principal branches. These are not needed and may be removed at the beginning by rubbing off the buds. If a branch which is to be saved permanently is

growing too long and slender, pinch off the terminal (end) bud. That will check its growth, stimulating its side buds into action, and will stiffen and strengthen it.

This kind of work among the trees is not only profitable, but it is very pleasant and instructive. One may trace the results of his work in every tree and vine and shrub. It is a training process, and the wonderful adaptation of means to ends in nature is shown in the changes we can effect by these simple processes.

Destroy all insects you can about the trees, and remove all webs and other evidences of insect depredations. An emulsion of coal oil and milk—one to five parts—mixed sprayed over the trees and spurted or poured on the bark of the trunk is good preventive work.

Keep down weeds. Give the ground to the trees and such other crops as you may be cultivating the first few years. Weeds are enemies. Wage perpetual war against them. The ground in which trees are growing ought to be kept as clean as a corn field.

If a young tree shows a tendency to play politician and get off wrong "leaning to the other side," drive a stake at the windward side and draw the tree to it by a cord or wire. But be careful to put a roll of paper, a chip, a little block or something between the cord and the bark so that the tree will not be cut. Whatever is used, may be steadied in place by a light wrapping of woolen yarn. Movements caused by wind might loosen the cord so that the protecting piece would drop out of place, and the woolen yarn will hold it there and will not interfere with the growth of the tree. Watch the trees.



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The River of Life.

The more we live, more brief appear
Our life's succeeding stages;
A day to childhood seems a year,
And years like passing ages.

The gladsome current of our youth,
Ere passion yet disorders,
Steals lingering like a river smooth
Along its grassy borders.

But as the care-worn cheek grows wan,
And sorrow's shafts fly thicker,
Ye stars, that measure life to man,
Why seem your courses quicker?

When joys have lost their bloom and breath,
And life itself is vapid,
Why, as we near the Falls of Death,
Feel we its tide more rapid?

It may be strange, yet who would change
Time's course to slower speeding,
When one by one our friends have gone
And left our bosom bleeding?

Heaven gives our fading years of strength
Indemnifying fleetness;
And those of youth a seeming length
Proportioned to their sweetness.

—Thomas Campbell.

Time was when nature's every mystic mood
Poured round my heart a flood of eager
joy;

When pageantry of sunsets moved the boy
More than high ventures of the great and
good;

When trellised shadows in the vernal wood,
And little peeping flowers, so sweet and
coy,

Were simple happiness without alloy,
And whispered to me things I understood.
But now the strange sad weight of human
woe,

And all the bitterness of human wrong,
Press on my saddened spirit as I go,
And stir the pulsings of a graver song;
Dread mysteries of life and death I scan,
And all my soul is only full of man.

—W. Walsham Bedford.

A Contented Mind.

Is contentment, like energy, to be regarded as an inherent quality in human nature? A quality which can be developed as a source of great good, or left to itself will become a predominating principle as is the case of the Laplanders, who are said to be contented with a life or existence little better than that of the wild beasts around them? Contentment in this case has become a predominating principle, developed by their climatic condition; in short, their energies have been limited to the bare extent of their physical wants until dwarfed to a degree of the possibilities of which their condition admits. Therefore, we would infer that contentment can exist almost to perfection independent of intelligence and morality as it relates to the civilized portion of mankind.

Contentment is not happiness, not riches. The idea is false. It is the negative of energy; it can exist in poverty and ignorance. Take, for instance, the pauper element in our large cities, who by habit, hereditary and otherwise, have become so indifferent or contented with their condition as dependents, that the principal effort for their elevation is directed to the awakening of their latent energies. It is said where this can be done there is hope of rendering them useful and self-sustaining; otherwise they remain a passive burden on the productive, energetic class. It is to that active principle of energy in our natures (discontent, if you wish to call it so,) we owe all the progress which civilization has made.

Had our fathers of the Revolution been contented with their taxations by Britain, there would have been no Declaration of Independence for us to celebrate, no homes in Kansas for the settlers. Had we been contented with the institution of slavery, we might have often witnessed in our public streets the auction of human beings as goods and chattels, contented to hear the cries of mothers and children separated with an indifference, but "Let the dead past bury its dead." Act within the living present. "Heart within and God o'erhead."

Can we be contented to-day? Is it right, even though we have a home surrounded with comfort and happiness, to sit down and fold our hands while others mourn? May there not come a time when their sorrow or the source of it may disturb our peace? Are we our brother's keeper? Can we be happy while others weep? One surely must either be selfish or unconscious, to be indifferent to the great moral question before us to-day. We can only be contented intelligently in the path of duty. Happiness the result.

He who is only contented with the great-

est good to the greatest number, is he the wealth of whose happiness exceeds all others when that object is attained. We enjoy our conditions to a degree of our ability to comprehend, and we comprehend to a degree of our intelligence; hence, wisdom is the source of happiness—"is of God." Intelligence and wealth are the legitimate offspring of energy or a desire within us to better our condition. Energy is the motive power, intelligently applied.

Dear Bramblebush, the heading of your article suggested these thoughts. They are not personal. In all kindness, yours in the cause of temperance. M. J. HUNTER.

Cooking For Invalids.

Invalids, like the poor, we have always with us, and a few hints in connection with the diet of persons in delicate health are never untimely. In families where the means are not large, the necessary diet for an invalid often makes a serious addition to the household expenditures. It is next to impossible to avoid this extra outlay altogether, but there are many ways of reducing it very largely, as may be seen in the following suggestions, which have been kindly sent to us by an experienced housewife who has fully tested their value. Assuming that the invalid, so far as meat is concerned, is generally limited to mutton, chicken and game, our correspondent recommends with regard to the first named, that a leg should always be purchased as being the most nutritious.

In order to get as much goodness from this joint as possible for the invalid's use, it should be cut across directly it is cooked, and after it has been placed on dish. No water should be put over the meat, and in a few minutes there will be probably two or three tablespoonfuls of good red gravy—the pure essence of the meat—which should be placed on a hot-water plate with a slice of meat, cut either in the kitchen or after it has gone to the table. Some of this red gravy should be caught also, when carving, in a spoon, and kept in a cup until next day, although it is inadvisable to do this if the person in weak health is at the table, as people who are delicate are usually averse to seeing any arrangements made for them. At any rate the cook can save some of the red gravy when the dish goes to the kitchen, and it should be put on a plate with a delicate slice of the hot leg, one of the first cuts, and kept until the next day. When wanted for dinner cover the plate with another one, and stand it over a saucepan filled with boiling water. The steam soon heats through the plate, and the meat having been cut hot, and having stood in gravy all night, is nearly as nice as if freshly roasted.

Beef essence should be made in the oven. Cut one pound of good lean beef into small square pieces. Put them in a brown jar, sprinkle them with a little salt and pour on a teacupful of water. Tie the brown paper firmly over the top of the jar, and leave it for five or six hours in the oven until all the goodness has been extracted.

For an invalid's breakfast it is recommended that the yolk of an egg should be carefully beaten up in a cup, removing every particle of white. Fill up with tea and add some clotted cream. The whites that are not used in the tea may always be employed as a whip for pies or puddings. The bread may be varied with milk rolls, crescents, zwieback or other tempting looking fancy bread. Puddings may be made of prepared barley, prepared tapioca or plain tapioca, well soaked before boiling, with an egg added. A change may be made in light puddings by mixing up some stewed fruit with the pudding before baking. Bread crumbs from stale bread make a nice light pudding, and a tiny custard, boiled in a very small basin or cup, turns out nicely, and is enough for one person.

If a loin of mutton is ordered for one course for one small family dinner, one or two chops may be cut off for the invalid, to be given on successive days for lunch and dinner. One chop may be lightly broiled and served with bread sauce and tinned or fresh tomato. The other may be stewed in its own gravy, with a small piece of butter and a tablespoonful of stock. This chop should be placed in a small saucepan in a cool corner of the range, and the meat must be constantly turned for an hour or more, taking care to have the lid on the saucepan to keep the steam in. Serve on a plate with some delicate potato croquettes and a few new carrots stewed until quite tender in some stock. The rest of the loin can be roasted.

If a neck of mutton be required for dinner, it is desirable to get about four pounds of the best end. Three bones or more can be cut off for boiling after having been carefully trimmed, and the remainder should be either roasted or braised. The piece of meat that is boiled should be put in a saucepan with the smallest quantity of water; the liquor extracted, after having the fat carefully taken off, should have pearl barley boiled in it for an hour at least. The pearl barley should be strained out and the broth, properly flavored, should be served as a lunch. It should nearly fill a breakfast cup and it makes a welcome change from beef tea.

A fowl can first be served freshly roasted or boiled. For the next day a leg or wing can be warmed up for the invalid, with some nicely-prepared spinach or cauliflower. The breast and merry thought are best eaten cold. The scraps of meat from a fowl should be very finely minced—almost to a powder in fact—and made into croquettes or

scalloped in white china shells. All the bones should be carefully stewed down for many hours in a very little water, and some excellent chicken broth will be obtained, which will, when cold, be quite a jelly. It requires flavoring with a scrap of very thinly-cut lemon peel, and some sweet herbs tied in a piece of muslin. This can either be eaten as cold savory jelly or melted down. Either way it is nourishing and extremely nice.—Ex.

Home Suggestions.

Pampas grass, its feathery plumes dyed in pink, is one of the prettiest novelties for decoration. The pompons of the milk-weed are also tinted in the same way.

Good flavoring for sauce is made by putting half an ounce of water-cress seed into one quart of vinegar. The seed should be crushed before putting it in, and it will then be soon ready for use. Celery vinegar is made in the same way.

An agreeable flavor is sometimes imparted to soup by sticking some cloves into the meat used for making stocks; a few slices of onions fried very brown in butter are nice; also flour browned by simply putting it into a saucepan over the fire, and stirring it constantly until it is dark brown.

When roasting a chicken or small fowl there is danger of the legs browning or becoming too hard to be eaten. To avoid this take strips of cloth, dip them into a little melted lard, or even just rub them over with lard, and wind them around the legs. Remove them in time to allow the chicken to brown delicately.

Drawers or wardrobes where woollens are kept should be occasionally emptied and left open in the fresh air and sunshine. This and taking care never to put away clothes damp is generally a sure preventive of moths. In addition, however, it may do good to sprinkle either a little camphor, lavender, rue, laurel, pepper, or cedar-wood through band-box, bundles and baskets. A little newly-made charcoal placed among clothes will prevent the unpleasant smell they often acquire when laid by.

A great deal of attention should be given to the proper airing of the mattress every morning, and at least once a week a stiff brush should remove the dust which will accumulate, even in the best ordered house, around and under the tufts of cotton, or the bits of leather or whatever is used to tack the mattress with. Attention should also be directed to the edge of the mattress, where the braid is sewed on, for dust sits under that. Where the bed-room is also the dressing room, dust can not be avoided, but it may be at least changed, and it need not be allowed to accumulate.

An excellent breakfast cake is made by taking a large cup of bread dough and adding a small cup of sugar and a lump of butter about the size of half an egg; mix them well, and let this rise all night; in the morning roll it out into a flat cake and put it into a tin; cut apples into slices, not too thin, and cover the top of the cake with them, pressing them down into it just as far as possible so that the top of the cake will be nearly smooth; then take half a cup of sugar with water enough to dissolve it and with cinnamon for flavoring; let this come to a boil, and then pour over the cake; bake in a quick oven. This is nice warm or cold.

How to Launder Lace Curtains.

Before the curtains are put in the wash, tack all around them narrow strips of white cotton cloth an inch or two wide. Dissolve a little soda in milk-warm water, and put in the curtains. Let them remain for half an hour, stirring and pressing them occasionally. Wring them very carefully—rather squeezing than wringing—whenever this process is to be performed. Place them in cold water for an hour, then wash them with soap and warm water. Wash again in clear water, rather warmer than the last. Rinse them in blueing water (only slightly blue, unless the curtains are very yellow). Wring carefully in clean towels. They are now ready for starching. Make the starch according to the usual process, but be sure to have it clear and good, and thin for muslin and very thin for lace. Thick starch is utterly destructive to the fine, soft appearance of the lace. Stir a few times round in the starch, while boiling, a wax or sperm candle, or put into it a small piece of white wax. If the latter is used it should be melted and poured in. When the starch is ready pour half of it into one pan and half into another. Dip the curtains in one, wring them out in towels, then dip into the second and wring again. Over the floor of an unoccupied room spread a couple of sheets, one under the other, for each curtain; shake the curtain and lay it down smoothly, the edges of the cotton cloth to the edges of the sheet. Pin down the top and back. The other sides with them come perfectly straight without pinning. Leave the curtains to dry. When dry they should not be folded, but put up at once, or, if you wish to put them away for a while, roll them lightly in a loose, soft roll, and wrap in blue paper or cotton (the former is preferable), and lay them where no weight will press against them.

Thou that bewails't thy lot with such a bitter cry,
Must have a higher sense of worthiness than I.

Far beyond my deserts have been the blessings sent,
And I should be ashamed, if I were not content.

—Wisdom of the Brahmin.

Smokers and Snuffers.

Probably, even to the most inveterate smokers of tobacco, the recollection of their irritation is among most disagreeable memories. The distressing nausea in most cases would be sufficient to warn the sufferer from the things which produced it. And the warning would be heeded if it came from anything else than tobacco. But the neophyte sees other men who have overcome the first horrors of the weed enjoying its after use, as if the burning of tobacco under the nose were one of the prime luxuries of life. And to very many persons, no doubt, it is such a luxury. From a luxury it may become at last a necessity, or is so deemed by the servant of habit. He has so surrendered himself to the use of the weed that he cannot command his thoughts or centralize his energies till he has breathed the fragrant incense.

It is not to the purpose of these remarks to enter into the merits and demerits of tobacco, its good or its evil effects upon the person who uses it. Of its excessive use no one disputes the harm, and even the danger. Experience and fashion are having their influence, and, perhaps, abating the evil. Once almost every man had his snuff-box in his pocket. Ladies, even, and especially the elder ones, had their boxes by them as they sat at their needle-work. In those days the following quaint lines were published, and could be appreciated:

Knows he that never took a pinch—
Knows he the pleasure thence that flows—
Knows he the titillating joy
Which my nose knows?

The snuffers have retired. The chewers are following. The smokers have the field, and the point of this plea is addressed to them. Remember what it cost you to learn to smoke; and remember that non-smokers, especially women, suffer more or less from your cigar or pipe the same nauseating sensations which you once went through. Though you do not spare yourself, spare them; and never let your present pleasure mar the comfort of others.—Philadelphia Ledger.

A competent authority says: "It is generally supposed that it is the exposure to a cold or wet atmosphere which produces the effect called cold, whereas it is returning to a warm temperature after exposure which is the real cause of the evil. When a person in the cold weather goes into the open air, every time he draws his breath the cold air passes through his nostrils and wind pipe into the lungs, and consequently diminishes the heat in these parts. As long as a person continues in the cold air he feels no bad effects from it; but as soon as he returns home he approaches the fire to warm himself, and very often takes some warm and comfortable drink to keep out the cold, it is said. The inevitable consequence is that he will find he has taken cold. He feels shivering which makes him draw nearer the fire, but all to no purpose; the more he tries to heat himself the more he chills. All the mischief is here caused by the violent action of the heat. To avoid this, when you come out of a very cold atmosphere, you should not at first go into a room that has a fire in it, or, if you cannot avoid that, you should keep for a considerable time at as great a distance as possible, and, above all, refrain from taking warm or strong liquors when you are cold. This rule is founded on the same principle as the treatment of any part of the body when frost-bitten. If it were brought to the fire it would soon mortify, whereas, if rubbed with snow, no bad consequences follow from it. Hence, if the following rule were strictly observed—when the body or any part of it is chilled bring it to its natural feeling and warmth by degree—the frequent colds we experience in winter would, in a great measure, be prevented."

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The Young Folks.

"Where Dolly Was Lost."

Oh yes, there were lots of boys up there,
And I liked them all; but then
The very nicest boy of all
Was only little Ben.
The other boys teased him many a time,
But I liked him the more for that,
And his face was as nice as any of theirs
For all his old torn hat.

Mamma used often to say that I
Must play with the boys of our set,
But Bennie was so much nicer than they,
I often used to forget.
And many a time when he drove the cows
I'd help him all I could,
And Bennie would often whisper to me
He liked me for being so good.

Well, just before we came home, one day,
I took my dolly to walk,
And there was Bennie under a tree,
He wouldn't even talk,
But he looked so sorry I almost knew
'Twas 'cause I was going away,
And he didn't smile till I promised I
Would think of him every day.

Then I thought, you know, that he'd like to
have
Something to 'member me by,
So I said, "I love you Bennie the best
Of all the boys; don't cry."
And I gave him the bestest thing I had,
My own dear dolly, you see,
Because I s'posed when he looked at it
He'd make believe it was me.

His face got awfully red, but still
He was glad to have it, I know,
'Cause I wouldn't have given my doll away
If I hadn't liked Bennie so.
And that is why mamma thinks she's lost,
For I do not like to tell
That I gave my dolly to Ben because—
Because I liked him so well.

—M. D. Brine.

Family Names--Some Account of Their Origin and Development.

[Written for the Globe-Democrat.]

Although the fact is not generally recognized, yet the review of a nation's proper names, whether of men or of places, is in no inconsiderable degree a review of the national history. Names of places are even more enduring than the places themselves, but the names of men were at first transitory, one man having a name given him on account of some accidental circumstance attending his birth or early life, later on taking another from some achievement, and perhaps changing this as often as caprice or necessity dictated, so that the early non-enclosure of a country is almost always more or less clouded in obscurity. The fact that these personal names for many ages always changed with the individual was an additional source of complication when men began to gather in large communities, and it is no wonder, therefore, that as early as the time of Moses a necessity was found for a more specific designation. Then first began the mode of designating a man by the name of his father in addition to his own, and we thus have Joshua the son of Nun, and such other names as this. Later, when particular names became common, men were named from peculiarities of mind or body as Diogenes the Cynic, or Simon the Leper. It was only in the eleventh and twelfth centuries, when the commercial and social relations of the world became so enlarged that there seemed to be a pressing necessity for specific designations, that family names became hereditary, the property of the family, and handed down from father to son as a family heritage. This being within the period when written records are found in great abundance, the tracing of family names is a comparatively easy matter.

PANTRONYMIC SURNAMES.

Americans must look to England for the greater part of their family names, and in England the family name was first apparently created by taking the name of the father and adding it to that of the son. In many parts of Wales this practice is said to be still common, so that it is no remarkable thing for a man to be called Bill O'Jacks, O'Dicka, O'Toms, O'Harrys. An old play, called *Sis, John Oldcastle*, contains an allusion to this practice. The Judge asks: "What is the bail and who are the sureties?" One of the parties replies: "Her cozen ap-Rice, ap-Evan, ap-Morice, ap-Morgan, ap-Llewellyn, ap-Madoc, ap-Meredith, ap-Griffin, ap-Davis, ap-Owen, ap-Shinkin—Jones." The Judge is surprised at the formidable array of friends willing to go on the bond of the prisoner, but is still more astonished when he finds that all these are but one, and he not a very good one at that. The Welsh ap, however, has given us a key to the solution of several names, in which it does not appear as a distinct portion. Thus, ap-Hugh has become Pugh; ap-Price, Price; ap-Owen, Bowen; ap-Richard, Pritchard; and ap-Howell, Powell. The tendency in proper names has always been towards abbreviation, a short name being invariably more popular than a long one. Another method of manufacturing family names was by adding a diminutive to the proper name, the chief diminutives in this use being the syllables kin, cock, and et or ot; another, ing, being found, but so rarely that it need hardly be mentioned. Using these in combination with proper names, from Simon we

have Simpkins, or Simeox; from William, Wilkins, Wilcox and Willett. From Emma comes Emmett, and from Ralph come Rawlings and Rawlinson. Emery has given us Emeric, Americ, Almeric, and, besides numbers of others, America. In early English days, the pagan was a favorite way of designating one who had not conformed to Christianity, and from this circumstance come the Paines, the Paynes, the Pynes and the Pynsons; to whom may fitly be opposed the Christians, the Christies and the Christions, while the Kitsons are the descendants of some Christopher who was familiarly known among his friends as Kit.

SAINT'S NAMES.

The names of distinguished persons are always found in great abundance in the records of a nation, and particularly in this case with saints and military heroes. The George Washingtons of this country, for instance, are a host which no man can number, like that of the Napoleons of France, or the Bismarcks in Germany. In early times, however, it was customary to call a child by the name of the saint whose festival occurred first after the date of birth. This practice still prevails to some extent in the country districts of Europe, though not to the same degree as formerly, while it is curious to notice the ready manner in which local events, such as festivals of local saints serve the purpose of furnishing names for children. The names of the Scripture saints are common enough, but it is not so common to find Holliday, Hockerday and Hobday, which all took their origin in the same way, by giving the child the name of the day rather than that of the saint in whose honor the day was celebrated. St. Theobald is remembered in the annals of the saints for many creditable actions, but his name is also found in little suspected quarters. It first became Tibbald, then Tibbe, or Tebbe, whence came the Tibbes, the Tebbes, the Tippees, the Tibbetts, and a score of others of like character and similar sound. Another saint, Gilbert, has been equally unfortunate with his name. Gib was formerly a cant word to express a wanton person. Then it became a proper name, whence Gilbertson, Gibbs, Gibbins, Gibbonson, Gibson, Gipps and many others.

JOHN AND JACK.

No monosyllabic name has been so prolific in its derivatives as John. As a family name it is sometimes found as a plain John, then as St. John, then its first change is into Johns, then come Jones, Johnson, Johncock, Jonkins, Jenkens, Jennings, Jenkinson, Jenks, Jinks and Jinkinson. By additions we have Littlejohn, Brownjohn and Properjohn. No argument is needed to prove the popularity of Jack. As a nickname it is fixed beyond all fear of abolition, and from a nickname it passed by easy stages to a reputable place among the family names. Jack is not very common, but Jacks is more frequent, and Jackson no longer excites remark. We have little idea how wonderfully popular the name Jack used to be. "Everybody was Jack until he was found to be some one else, so that 'every man Jack of them' was a common term for a crowd and its integral parts for ages. Every servant whose name or office happened to be unknown went by the name of Jack, and thus an idea of utility was attached to the character of Jack, which, when articles of household use were one after another invented, came into play in giving them names also, and thus we have boot-jacks and black-jacks and smoke-jacks and jack-towels, together with Jacks for this, that and the other purpose until the name became so common as to be inconvenient. Then came an idea that Jack must be a cunning sort of fellow, and so the appellation gradually applied itself to the smarter of the animal kingdom, and thus came the jackdaw, the jack-an-apes and the jack-pike. But as familiarity is a potent breeder of contempt, the very commonness of the name threw it into disrepute as having something stupid about it, and we thus gained jack-fool, or jack-pudding, for a buffoon, and jackass for a dolt." This is a sad fall for the name of the beloved disciple, but to such uses will a name sometimes come. It is curious to know that the name John became common in the western parts of Europe only after the Crusades, when the pilgrims to the Holy Land always carried as a part of their outfit a bottle designed to hold the water from the River Jordan, brought home for baptismal purposes. The great forerunner of Christ came into public notice among the pilgrims, and it was probably more on his account than on that of the beloved disciple that the name assumed such a place in the popular regard.

SCRIPTURE NAMES.

The name of Peter furnishes a curious bit of history, showing how a popular prejudice can influence the choice of a name for a child. Reasoning from analogy, one might suppose that as Peter was the leading disciple, and as the chair of Peter was held in high reverence, his name would take precedence of all others with piously inclined persons. So it does in many parts of the continent, but in England the name was always singularly unpopular, there being, as a rule, about thirty-five Johns to one Peter. The priests did all they could to encourage the use of the name, but in vain, for under the name of Peter's Pence the English were forced for ages to pay one of the most odious taxes in all their list, a tax for which they could see no use, which took money out of their pockets and brought them nothing in return; but, thanks to the priests, the name was sometimes given and we thus have not only Peter, but Peters, Peterson, Pierre, Pear, Pearson, Parson, Parsons, Pierce, together with Perretts, Parrets, Peterkins, Perkins and Parkins. Other Scripture names

are more common. Isaac has given us Isaacson, Ikes, Ikeson and Hicks and Hickson, with Higgs and Higginson. David gave us Davies, Davidson, Dawes, Dawsons, Dawkes and Dawkins. Daniel is still seen in Daniels, Danges, Dansons and Dannels. Simon is found in Sim, Simpson, Simkins, Simeox, Simonds and Simmons. Phillip survives in Phillips, Phelps, Phipps, Phipson, Philcox and Philpott. Matthew seems always to have been a favorite, for his memory is still embalmed among us in Matthews and Matthewson, in Mattison, Matson, and Matts. Bartholomew is now known among men as Bartolow, Bartle, Bartlett, Batte, Battie, Bates, Batsons, Batcocks, B docks and Badkins. Thomas received an additional impetus to popularity from the sad fate of his namesake, Thomas a Beckett, and his name is found in a hundred different forms, among the most common being Thoms, Thompson, Thompkins, Thompset, Tomkins, Thomlins, Thomlinson and Thomasett. James was always popular in Scotland, and appears as Jameson and Jimson, while Andrew reappears under the guise of Andison, and Alexander is found not only in its own shape, but as Sandy, Sanderson, Sanders and about a hundred other forms.

[Concluded next week.]

The Queer Habits of Ants.

Most of the members of each community of honey ants are active and roving in their dispositions, and show no tendency to undue distension of the nether extremities. They go out at night and collect nectar or honeydew from the gall insects on oak trees. This nectar they carry home and give it to the rotunds or honey-bearers, who swallow it and store it in their round abdomen until they can hold no more. They pass their time chiefly sleeping and clinging upside down to the roof of their residence. When the workers require a meal they go up to the nearest honey-bearer and stroke her gently with their antennae. The honey-bearer thereupon throws up her head and gives out a large drop of the amberliquid. The workers feed upon the drops thus exuded, two or three at once often standing around the living honey-jar and lapping nectar together from the lips of their devoted comrade.

The big red ant of southern Europe makes regular slave raids upon the nests of the small brown ants and carries off the young in their pupa condition. By-and-by the brown ants hatch out in their strange nest, and, never having known any other life except that of slavery, accommodate themselves to it readily enough. The red ant, however, is still only an occasional slave-owner; if necessary, he can get along by himself, without the aid of his little brown servants. Indeed, there are free States and slave States of red ants side by side with one another, as of old in Maryland and Pennsylvania; in the first the red ants do their work themselves, like mere vulgar Ohio farmers; in the second they get their work done for them by their industrious little brown servants, like the aristocratic first families of Virginia before the earthquake of emancipation.

Penitentiary Watch-dogs.

The night watchmen at the Eastern Penitentiary of Pennsylvania have very able assistants in brute companions, whose instinct and superior training is little less than remarkable. These are trained watch-dogs, nine altogether, embracing one full mestiff, two full bloodhounds and the rest half-breed bloodhounds. They are kept in three distinct kennels, in as many separate inclosures, into which the prison-yard is divided. The fences divide them and they never meet. Certain indications have showed that if they did there would be several very tough dog-fights. When the night watchmen are on duty the dogs are unshackled and accompany them on their patrol, but the canine guards are more effective in their way, as they penetrate the angles and out-of-the-way places, while the human watchmen follow the beaten paths. If the dogs hear any unusual noise, or find anything irregular, they notify the guard by a sharp bark. Their capacity to discover attempted escapes has never been fully tested, inasmuch as the convicts stand in too wholesome dread of them to dream of such a thing during the dog-watch.

An instance illustrating the wonderful instinct of these brute sentinels developed not long ago. The guard one night was startled by a warning bark from one of the dogs, which he found thirty or forty yards from a point where a small ventilating pipe led from the interior of the prison. A cautious investigation showed that one of the convicts on that gallery, but occupying a cell on the opposite side of the corridor, being sick, was endeavoring to attract the attention of the inside watch. The dog had discovered the unusual noise in the sound conveyed through the drain-pipe which the keepers on the inside of the building had failed to notice. The suffering convict was afforded assistance which he otherwise would not have obtained.

A Cat Story.

I once had a cat that always sat up to the dinner table with me, and had his napkin round his neck, and his plate and some fish. He used his paw, of course, but he was very particular, and behaved with extraordinary decorum. When he had finished his fish I sometimes gave him a piece of mine. One day he was not to be found when the dinner bell rang, so we began without him. Presently puss came rushing up-stairs and sprang

into his chair with two mice in his mouth. Before he could be stopped he dropped a mouse onto my plate and then proceeded to devour the other off his own plate. He divided his dinner with me as I had divided mine with him.

The Tropical Flea.

I have thus far neglected to give due credit to the tropical flea, to whose industry, enterprise and assiduous solicitude all travelers in this country are indebted for a great deal of diversion. At first his attentions were somewhat annoying, and there was a general disposition to conceal acquaintance with him; but when every man, woman and child in a company is constantly scratching, it becomes difficult to ignore conditions that are common and conspicuous; and everybody admits, first with blushes and then with brazen shamelessness, that he's got 'em. There's no use of trying to conceal the fact. They are as common and as plenty as flies in the basement kitchen of a city boarding house, and the Venezuela coat-of-arms would more truly represent the condition of the country if it showed a man vainly trying to scratch in seven places at once, instead of a wild horse dashing over the pampas. They are little black flies, which will get into your clothing in the most unaccountable manner. You find them in your shoes and under your shirt collar; you wake up in the night and think you have somehow wandered into a plantation of nettles, or when you become a little more accustomed to it, dream regularly that you are lying on the prickly side of a cactus. To rub the flesh with brandy does some good, but the better way is to grin and bear it. These pests are bad enough in Mexico; they are worse in the West Indies, but in Venezuela—the less said the better.

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A great deal of wheat ground is being plowed up for corn.

We have an article on Mixed Husbandry that came in too late for this week. It will appear in the next number.

Mr. Rezin Stoneman has our thanks for the kind words he says about the FARMER. We are trying hard to make a good paper.

The Secretary of the Interior, a few days ago, stated to Captain Couch in person that the Oklahoma lands are not now subject to settlement by white men, and that if any go in they will be removed.

The Secretary of the Ohio State Board of Agriculture published reports from eighteen wheat growing States. He gives the acreage and condition up to April 1, and he predicts a shortage on the general wheat crop of 1885 of one hundred million bushels.

General Grant has improved so much within the last ten days that he was able to take an open air drive in the City Park Monday. People everywhere will rejoice at the old soldier's recovery. The KANSAS FARMER wishes him years yet of good health to enjoy the respect and good will of his countrymen.

The Commonwealth of Topeka, says: We wish to make a prediction as to the wheat crop this year. We harvested last year, if ye remember right, about 48,000,000 bushels, and the hue and cry now is that we will not get over one-fourth of that amount this year. Our prediction is that it will reach 30,000,000 bushels, that is if the season from now on be at all propitious.

The spring is backward. This is the report from all parts of the country. In the vicinity of Topeka the early trees are in leaf, but a week ago there were no green leaves to be seen except on lilacs and a few other very early shrubs. Elms, box elders and willows wore a greenish cast Saturday, and to-day they may be seen a mile away. But we are two weeks behind all over the State.

Although it is impossible to predict with certainty of fulfillment, indications are that the present unsettled state of affairs in Europe will result in a war between England and Russia. It will grow out of a disposition on the part of both countries to have control of the country between the Black Sea and the Caspian Sea, and of the region east of the Caspian as far as to include Persia. England does not want any other civilized nation to be nearer to India than Russia now is. There was a battle not long ago between Afghan and Russian soldiers in the northern part of Afghanistan, and England takes that to mean further aggression on Russia's part.

First Working of Raw Sod.

A new comer in Comanche county, writes for information concerning the first working of sod, and wants to know whether he can raise any crops on it and if so, what will pay best.

The principal factor in a sod crop is the season. If the weather is dry and hot raw sod is useless. Nothing but a few weeds, and very few will grow in it. But if the season is good, with frequent rains in the early part, corn and potatoes, millet and sorghum and castor beans will grow on it and make a good half crop.

This is said with reference to sod as it is usually plowed—say two inches deep. But there is a way of getting a fair crop on raw prairie in a fair season; such a crop as grows well on old land of the same kind. It requires labor, and a good deal of it; but if any person expects to reap without sowing he will be disappointed; and if he expects to raise a heavy crop of corn or wheat without hard work, he will know more after he tries the experiment.

There are two ways of handling sod that will result in good yields of produce in fair seasons. First, deep plowing; second, plowing twice. By deep plowing we mean, in this case, turning over the sod to a depth of at least six inches. And there are two ways doing the work: (1) By narrow furrows, turning the sod over just far enough to rest on one corner edge, and (2) by wide furrows turning the sod clear over so that it lies flat. In case of narrow furrows, when the plowing is done, the dirt edges (or corners) of the sod lie exposed and are easily cut off by sharp harrow teeth, and thus the ground is made level. This method is easier in every way than the other (the wide furrows); it does not require as strong a team or plow, and more loose earth can be obtained with much less harrowing. But it leaves a great many little chunks of sod lying about over the ground, and they will grow if they are not moved frequently during the summer.

The wide furrows and flat sod leave an even, flat surface, and five to seven harrowings may be required in order to get loose ground enough to work with any reasonable degree of comfort or success. This delays planting a little, and by reason of the shallowness of loose earth the young plants will not grow as fast in the early part of the season as they would in the narrow furrow ground; but they will come out all right later in the season. When the sod is turned over and laid down flat, there is very little open space anywhere under sods; the only crevices are those between edges and where breaks occur, and they are all filled with loose earth thrown into them by the harrow. When the harrowing is completed, the plant bed is about solid with the sod roots nearly all covered out of sight. When narrow furrows are made and the sod leaned over on edge, there is an open space between every two sods, and it is not filled wholly until the sod is rotted. Such open places afford easy passage way to moles, and also aid in processes of evaporation.

If it be asked by any new farmer, or any one that never had experience with sod, why we designate narrow furrows and wide furrows when we are referring to the manner of placing the cut sod, it is to be replied that with a narrow and deep furrow the sod cannot be turned over flat with a plow of ordinary make, and if furrows are made wide, a good sod plow will turn the sod over flat every time, pushing it over close against the sod already turned.

There is another, and we believe a better way. Run three or four furrows in the sod as shallow as possible, cutting all the sod away. Then cut it in

pieces and throw it into the barn yard, make a barn yard or garden fence of it, throw it on a pile to rot for use in making lawns, planting trees, or grading ground about the house. Good, stiff sod makes good walls for first dwelling houses and cow barns. Get all the sod away along a strip say four feet wide. Then, open a plow land in that uncovered strip, running six inches deep, and as soon as you plow out to the sod, plow a very shallow furrow, throwing the sod over into the furrow just made in the uncovered strip, and follow this with another furrow below it six inches deep, throwing the earth over on the sod just thrown into the other furrow. Continue this method until a good sized land is plowed; then open another in the same way and so continue until all ground set apart for the work is plowed. Or, instead of opening new lands, if you prefer plowing "round and round," you can do so, beginning on the outside of the piece, going round it, in which case only two sods need be thrown away. When throwing the thin sod over into the deep furrow, see that it is put down well and flat as possible on the bottom. The object is twofold, (1) to separate the sod and root bunches from the rest of the soil turned, and (2) to cover the cut sod deep enough to be out of the way of cultivating tools and of all surface plant roots. After the plowing is done, harrow with sharp, fine teeth. [Perhaps some of the rolling cutter harrows and pulverizers now made would do this work. We have no experience with them.] The object is to get this sodless ground all broken up or the greater part of it, and good, patient work will do it. When this is done, if the season is favorable, the ground will produce an extra good crop. If the season is dry, this new ground will dry out faster than old ground plowed to an equal depth, and for that reason it will not produce as large a crop as older land of equal fertility. But in any event it will produce enough more than the raw sod as it is usually handled, to pay for the difference in labor required to prepare it.

On ground so prepared anything may be planted or sown that is suitable to the soil and climate. Garden vegetables grow luxuriantly in it. Field crops suited to the season, as corn, potatoes, sorghum, millet &c., do equally well. Trees and shrubs grow in it vigorously.

On sod turned over according to the ordinary methods, we would not risk anything except potatoes or corn. Drop the potatoe seed in every third furrow, pushing the pieces under the last turned sod far enough to be out of the way of the animal's feet. We have seen corn dropped the same way, but it is better to cut the sod in some way after it is turned, and drop the corn seed into the holes.

Let Them Stay There.

The Winnebago and Crow reservations were declared open to white settlement by President Arthur last February. Proclamation was duly made to that effect. A great many persons went on the lands and took up homesteads. Some thousands of people are there now. Last week President Cleveland issued a proclamation, setting forth that his predecessor's proclamation was not authorized; that as matter of law the lands are not subject to settlement, and he notifies the settlers now on the lands to leave within sixty days or they will be removed by the government. This is an outrage. There is neither law nor justice in its favor. The President is the lawfully appointed agent of the United States, duly authorized and empowered to make proclamation such as President Arthur did; and whether he made a mistake the people need not stop to consider. Upon the

strength of the proclamation settlers had a lawful right to go upon the lands, and the government is bound to protect that right. If the President mistook the law, the government is responsible, not the settlers. Let the President submit the facts to Congress when it meets, and let that body decide the question. In the meantime, let the people be warned by proclamation to remain off the lands in dispute but protect those that are there until it is decided finally that they must retire, and then pay them all their losses.

A LIBERAL OFFER.

There are a large number of farmers and stockmen, especially new settlers in Kansas and Nebraska, who need and want the KANSAS FARMER. They need it because it is their friend and instructor. To all such we will send the FARMER from May 1st, until January 1st, 1886, for 90 cents. Please send at once, so as to not to lose a single number.

Those who desire to examine a copy with the view of subscribing, give us your name and address on a postal card, and we will take pleasure in mailing it to you.

Our present subscribers will accommodate us very much if they will each furnish us a list of names and addresses of those who are not, but should be, readers of our valuable paper; and we will send them sample copies.

We call special attention to the club rates on our 8th page.

Address KANSAS FARMER CO.,
Topeka, Kansas.

As will be seen by reference to Secretary Sims' report, part of which appears in the FARMER this week, the loss on wheat from freezing and flies in Kansas, as gathered from reports up to March 25 was equal to 27 per cent. of the crop of last year. The acreage this year is 27 per cent. less than it was last year, when it was something over two million acres. Putting it at 2,000,000, a decrease of 27 per cent. would leave 1,460,000 acres for this year; and throwing aside 27 per cent. of that for flies and frost, we have left 1,055,800 acres, not half as much as we had last year.

But what matters it beyond the loss of seed and the labor of putting it in the ground? The fields are in good condition for corn, and corn is an excellent substitute for wheat in many cases. Last year the farmers of Kansas raised five times as much wheat as all the people of the State needed for their own use. If half as much is raised this year we will still have plenty for our own use and a great deal to spare. Every piece of wheat ground that does not show up by the first of May well enough to let alone ought to be plowed at once and put in corn. If weeds have not started, the ground may be loosened with a cultivator, except where listing is done. But if weeds and grass are growing, turn the ground with a sharp plow and plant immediately.

A good deal of rain has fallen in this part of the State within the last few days. It came mostly in showers, and without wind. Yesterday morning a heavy shower fell. Ground is in good condition.

A Boston widow out West indulged in visits to spiritualistic meetings to converse with her dead husband, and said she would sooner speak to a dead Boston man than any Western person who ever lived.

A whale recently captured yielded \$12,330 worth of bone.

Corn Cobs and Hogs.

Some time ago we presented to our readers a synopsis of experiments and results of feeding meal made of ears of corn ground, cobs and corn together. The experiments were made on the college farm at Manhattan by Prof. E. M. Shelton. We now have further work in the same direction, done at the same place and under supervision of the same painstaking and earnest man. Prof. Shelton kindly forwarded to our table advance sheets of his report on this pig and corn cob experiment.

The Professor starts by calling attention to his steer feeding experiments and says that at that time it seemed to him useless "to attempt a feeding experiment with pigs, using corn and cob meal as the feed. Further experience, however, showed that pigs will eat corn and cob meal when the cob is properly prepared, and they will consume it nearly or quite as well as clear corn meal, wasting but little more in feeding than is ordinarily wasted where clear corn meal is used, and digesting it without difficulty. This fact seems to show that either the cob possesses a greater nutritive value than is usually assigned to it, or the simple stomach of the pig has greater digestive capacity than might be expected from theoretical considerations."

Of the ten pigs selected for this experiment—almost exact yearlings—six were purely bred Berkshires and the remainder half and half Berkshire-Essex. These were, as a whole, a thrifty lot, and fairly uniform in all essential qualities. The method adopted in the experiment was:

The pigs were fed twice daily at as nearly as possible 8 a. m. and 5 p. m., and the constant endeavor was to give each pig exactly the amount of feed which it would eat and no more. The weight of each feed was taken, and a careful record made of the same. Each pig received water *ad libitum*. At the end of each week, a short time before the first feeding of the next week, all the pigs were weighed, and the weights recorded opposite the number of each animal upon the paper containing the record of the feed. The pigs were arranged in two series,—Nos. 1 to 5 and Nos. 6 to 10 inclusive—the first series receiving as feed the meal obtained by grinding the whole ear of corn, including cob; while the second were fed exclusively upon corn meal. The experiment was begun on Nov. 21, 1884, and ended Feb. 13, 1885, occupying a period of twelve weeks. The feeding was conducted in a series of "pens" erected for the purpose. These pens were each about eight feet square, the system ranging north and south. They were rather more than half roofed, and the entire series, except pen 10, was protected on the north by the experimental steers' shed and by a hay stack ranging parallel with the pig pens. These pens, although kept constantly supplied with an abundance of clean straw, were wholly insufficient for ordinary shelter and protection, to say nothing of the comfort of the pigs during such an unusually severe winter as that just passed. The pigs suffered almost constantly from the terrible cold.

The bad effect of this exposure to cold weather is seen in the large quantity of food consumed in comparison with the gain in flesh. Prof. Shelton calls attention to the fact, and reprints the figures of a former pig feeding experiment when part of the animals were fairly well protected. In that experiment the pigs kept in the warm barn gave a pound of increase for each 4.76 lb. of corn consumed, while, in the experiment under consideration, the corn-fed pigs required 6.7 pounds of corn for each pound of gain.

There has been some question about the palatableness of cob meal, and Prof. Shelton says that these pigs to which the corn and cob meal was fed consumed their rations almost, if not quite, as quickly and with as great a show of appetite as those receiving the clear corn meal. During about the third and

fourth weeks, when the sameness of diet had measurably blunted the appetites of the pigs, a disposition to pick out the particles of corn from the coarse pieces of cob was manifest. With feed of more uniform fineness, and with greater care in apportioning the feed, this difficulty was not felt.

The meal was fed dry, but during the prevalence of the greatest cold, the feed in both series was mixed with warm water, giving it a consistence of a thick mush.

The weights of the pigs at the beginning of the experiment were—No's. 1, 2, 3, 4 and 5: 207, 164, 191, 181, 222—total 965 pounds; of No's. 6, 7, 8, 9 and 10: 172, 180, 231, 250, 190—total 1,023 pounds.

The quantity of feed consumed was, corn and cob meal 3,619 pounds; corn meal 3,832 pounds. The total gain of cob meal lot was 557 pounds; that of the corn meal lot 572 pounds. Average gain of the first lot 111.4 pounds; average gain of second lot 114.4 pounds. One pound of increase was made by 6.7 pounds of corn meal, and 6.5 of corn and cob meal.

Summarizing the experiment, we have for the first lot—those to which was fed the corn and cob meal—total feed 3619 pounds, total gain, 557 pounds, meal consumed for each pound of increase 6½. For the second lot, fed corn meal—total feed 3832 pounds, total gain 572 pounds, feed consumed for every pound of increase, 6 and 7-tenths pounds. It will be observed that the quantity of corn meal fed was larger by 213 pounds than that of the corn and cob meal. So, we have—3619 pounds of corn and cob meal produced 557 pounds of increase, which is 6½ to 1; and 3832 pounds of corn meal produced 572 pounds of increase, or 6 and 7-tenths to 1. The corn and cob meal produced the greater increase.

Commenting on these results, Prof. Shelton concludes:

The very close analogy between the results of this experiment and those obtained with steers fed under similar circumstances as to feed, one year ago, are shown in the following parallel statements. Thus with the steers fed 1 bushel (70 lb.) corn and cob meal gave 9.56 pounds of increase (see p. 17 this report); while with the pigs 1 bushel (70 lb.) corn and cob meal gave 10.76 pounds of increase; and with the steers again 1 bushel (56 lbs.) corn meal gave 7.04 pounds of increase while with the pigs 1 bushel (56 lb.) of corn meal gave 8.35 pounds of increase. The fact that the pigs were fed during the late severe winter season, while the steers were fed during the comparatively mild winter of 1883-4, is a sufficient explanation of the near approach of the cost of a pound of increase of the pigs to that of the steers. That an animal possessing the comparatively simple digestive apparatus of the pig is able, almost equally with the ox, possessing complex and extended digestive machinery, to use the cob as feed, would seem to indicate that it exerts something more than a mere mechanical influence in nutrition.

The April number of the *Western School Journal* contains some notable contributions on current educational topics. Mrs. Sallie T. McKinney discusses "The Moral Side of Public School Life" admirably; the argument of Prof. Hill, of Hiawatha, on "The Value of Classical Studies," will attract the attention of thinkers, while Dr. Bishop's article on "Personal Influence"—almost classical in its English—should be taken to the heart by every teacher. To view this or any other single number of the *Journal* satisfactorily would require a column. Editorial notes, quotations showing current educational thought, contributions on live and practical questions suggestions to teachers, official decisions of the State Superintendent, book reviews and news notes, are all separate and complete departments. A special and enterprising feature of this issue is the publication of all the School Laws of general applica-

tion as passed at the last session of the Legislature. We can, and do, sincerely advise teachers and school officers to subscribe for this magazine. The price is only one dollar a year. Address H. C. Speer, managing editor, Topeka, Kansas.

Inquiries Answered.

TOBACCO.—This is not good medicine for man or beast if taken in excessive doses. Applied externally to animals, skins to destroy vermin, if the quantity used is excessive, or if the animal is weak from sickness or from want of feed, or if it is soon afterwards exposed to cold wind or rain storms, there is more or less risk. For killing lice, ticks, etc., the decoction ought to be strong, and it ought to be applied directly to the skin. The quantity ought not to be large. Good judgment must be used. Then see that the animal does not be exposed unnecessarily for some days.

FROZEN LIMBS.—The best thing to do for frozen flesh of animals if it has gone so far as to suppurate, is to poultice with some easy matter as light bread or milk, slippery elm bark, something that will keep the parts soft and give opportunity for the diseased flesh to be disposed of. In the meantime get the system into the best possible condition. Wash the sore daily. Feed loosening and nutritious food—green grass if possible. Bathing with kerosene said to be good where the flesh is not decomposing. Weak ley-water we know is good, if applied warm. In case of a human foot or hand bathe it in water poured on hot wood ashes—hot as you can bear it.

RHEUMATISM.—What is the matter with my mare? When down cannot get up without help. When standing keeps one or the other of her feet off the ground. Cannot raise her left off ground to step over anything without pain. Seems to hurt her to go down hill; puffs on hock joint. Front parts are all right; eats well, looks well; has been ailing for about ten days. Is in foal. Does not want to be down long at a time.

—The symptoms indicate rheumatism. Or it may be the animal was heated unduly and was cooled off too quickly. In either case, good care and soft, nutritious food is required and relief from all kinds of work requiring much effort. Feed oats and wheat bran, clean hay, and as soon as possible get the mare on grass. Give plenty of clean water and all the salt she wants. A thorough rubbing of the skin with a corn cob or bunch of hay twisted, twice a day will be good.

NEW LIQUOR LAW.—The new liquor law is growing more popular among temperance people and more unpopular among other classes the more it is studied. It has closed saloons absolutely except in two or three cities, and it is believed that after the 30th day of the present month there will not be an open saloon in the State. The Sheriff of Leavenworth county has given notice that there must be no saloons in this county on and after May 1. A similar notice we understand is operating in Atchison and Ford counties. A good many persons complained because there seemed to be a great deal of unnecessary trouble about honest people getting liquor; physicians and druggists complained because they were hampered with what they regarded as unnecessary restrictions, and then there were a good many persons who believed that their personal liberty was circumscribed by the law. In order to accommodate these persons and to remove objectionable features, the present law was passed. Now, if a physician desires to prescribe any kind of liquor for his patient, he does so with as much freedom as he would ginger or gentian. But if he uses the authority thus given him to get intoxicating liquors for a person as a beverage and not as a medicine, and is caught at it, he goes to jail and pays a fine. The prescriptions are all filed with the probate judge and may be examined by any person interested the same as any other paper in his custody. When a person wants liquor for mechanical, or scientific or medical purposes, he may get it from a druggist on his own written statement setting forth the particular purpose for which he wants it, and if he lies about it, he is punishable; and if the druggist sells liquor to any person whom he knows or believes is buying them for unlawful purposes, or if he sells to an habitual drunkard, or to any person after notice not to sell to that person, or if he permits the liquor to be

drank on the premises, or if, in any way, he knowingly violates the law, he is punishable by both fine and imprisonment. His permit is forfeited and he cannot obtain another in less than five years. The probate judge may revoke a druggist's permit at any time. Nobody but a druggist can obtain a permit, and no clerk, employe, or other except the particular person named in the permit, is authorized to sell. The county attorney may call before him and examine under oath any person that he believes has knowledge of violations of the law. It is much easier to obtain liquors lawfully under the amended law than it was under the first law, and it is also easier to suppress unlawful selling. We have consulted persons on both sides. The sincere prohibitionists expect much good from the law, though they say it is only an experiment to ascertain how far the law's enemies may be trusted, and the out-and-out anti-prohibitionist solemnly declares that the new law is worse than the old. Both of these opinions, we think, are good signs.

Few animals in times past have been more esteemed than the cat, or been honored with a wider folk lore. Indeed, among the Egyptians this favored animal was held sacred to Isis and the moon, and worshipped with great ceremony. In the mythology of all the Indo-European nations the cat holds a prominent place; and its connection with witches is well known.

The word measles originally signified leprosy, although in modern times used for a far different disorder. Its derivation is from the old French word *meseau*, or *mesel*, a leper.

THE MARKETS.

By Telegraph, April 20, 1885.

STOCK MARKETS.

New York.

BEEVES.—Receipts 2,900. Prices advanced 10a 15c, but closed weak at 5 30a 36 for common to prime steers. 6 40a 70 for extra and fancy steers; old cows and fat bulls sold at 3 75a 75.

SHEEP.—Receipts 61 car-loads. Market dull and ¼¢ lower with sales of unshorn sheep at 4 75a 60, unshorn yearlings 5 35a 70, and one car-load of clipped sheep at 3 00a 30.

HOGS.—Receipts 141 car-loads. Poor to fair live hogs sold at 4 45a 60.

Chicago.

The Drovers' Journal reports:

CATTLE.—Receipts 8,900, shipments 3,500. Market weak and 1½¢ lower, mostly on tough, heavy and lean cattle. Shipping steers 4 40a 60, butchers 2 40a 50 stockers and feeders active at 3 40a 50, Texans 4 50a 60.

HOGS.—Receipts 22,000, shipments 9,100. Market slow and lower. Rough and mixed 4 30a 50, packing and shipping 4 50a 60, light 4 30a 40, skips 3 50a 45.

SHEEP.—Receipts 6,400, shipments 7,300. Market active and 1½¢ lower. Inferior 3 00a 30, medium 3 85a 45, good to choice 4 40a 50.

St. Louis.

CATTLE.—Receipts 1,800 shipments 500. Market active and strong. Exports strong at 5 60a 50, fair to good shipping steers ranging from 1,000 to 1,400 lbs sold at 4 75a 50, butchers' steers 4 50a 4 75, cow- and heifers 4 25a 25, stockers and feeders 3 50a 4 75, Texans 4 00a 45.

HOGS.—Receipts 5,300, shipments 8,400. Market slow and weak. Yorks 4 35a 40, packing 4 10a 4 25, butchers 4 30a 4 50.

SHEEP.—Receipts 1,400 shipments 2,700. Market firm with good demand. Fair to good 3 50a 4 25, good to choice 4 25a 5 0, extra 5 25.

Kansas City.

CATTLE.—Receipts 719. The market to-day was weak slow and 1½¢ lower for all classes. Sales ranged at 3 35a 50.

HOGS.—Receipts since Saturday 2,495. Extreme range of sales 3 70a 20, bulk at 4 10a 15.

SHEEP.—Receipts since Saturday 2,888. Sales: 625 natives (wooled) av. 110 lbs. at 4 50, 216 natives av. 87 lbs. at 3 4, 186 natives av. 79 lbs. at 2 95, 96 natives av. 86 lbs. at 3 50.

PRODUCE MARKETS.

New York.

WHEAT.—No. 2 red, 1 00a 1 00½¢.
CORN.—Cash, 54a 56c.

Chicago.

WHEAT.—Market excited. Cash, 85a 87c.
CORN.—Cash, 46¾ 47¼¢.
OATS.—Cash, 31a 33c.

St. Louis.

WHEAT.—No. 2 red, cash, 1 00.
CORN.—Cash, 44½¢.

Kansas City.

WHEAT.—Market strong and values higher. No. 2 red cash and April were nominal. May sold at 78¾ 78c.

CORN.—No. 2 cash, 38c bid 4c asked.
BUTTER.—Receipts light and market slow except for fancy stock. We quote: Creamery fancy 24a 25c good 22a 23c, fine dairy in single package lots 19a 20c; roll, good 13a 17c, medium 10a 12c, store-packed 10a 12c.

EGGS.—Receipts of eggs light and market steady at 10c.

CHEESE.—We quote: Full cream 13c, part skim flats 10c, Young America 13½¢.

POCAHONTAS.—In car load lots, Peachblows 60c per bu, Neshanocks and Pearless 50c, Colorado Rose 40c, Early Ohio and Early Rose, for seed, 90a 1 00 per bu.

BROOM CORN.—Hurl 3a 4c, self-working 2a 3c, common 1a 1½c crooked ¾a 1½¢.

ASTOR BEANS.—Quoted at 1 40a 1 50 per bus.
FLAX SEED.—We quote at 1 20a 1 25 per bus upon the basis of pure.

OIL CAKE.—100 lbs. 1 25, 1,000 lbs. 12 00, per ton 23 00, free on board cars.

In the Dairy.

About Chemical Methods for Examining and Ascertaining Adulterations of Butter.

An address delivered by Dr. H. Dettmer, analyst St. Louis Dairy company, before the Mississippi Valley Dairy and Creamery Association.

(Concluded.)

The method of determination of melting and stiffness points, depends on the fact that the different kinds of fat have the property to melt and to become stiff again at a certain but different temperature. This method is discovered by Wimmel, who has examined a great number of all kinds of animal and vegetable fat, and determined those points. The operation is very simple to make, but requires a very careful attention in observing the certain point at which the fat is melting or becoming stiff, and therefore, in my opinion, I must call this method too subjective, that is to say, three or four chemists find a result only a little varying from each other and yet every one of them is right in his own opinion. The practice of this method is as follows: By melting the butter on a water-bath the butter fat is separated from the water, casein and salt, and as soon as the fat is quite clear and transparent it is filtered into a small beaker-glass. The glass is placed again in a water-bath, a correct thermometer is put into the glass, going through the fat not quite to the bottom, and now the different points can be observed by heating and cooling.

The best of all qualitative methods is the determination of the specific gravity of the pure butter fat, discovered by Prof. Kœing's, in Germany. Prof. Kœing's determines the specific gravity of pure and filtered butter fat at 212 deg. F. and has found that the specific gravity of pure fat of pure butter is 0.865 to 0.868 mostly 0.867, while artificial butter, beef, mutton, hog fat, and mixture of pure butter with said fats have a lower specific gravity. For these examinations Prof. Kœing's has constructed a peculiar water-bath with well closed cover. The cover has four small holes in which four small glass tubes, each one inch wide and eight inches long, hang in by means of caoutchouc rings. The previously melted butter fat is poured into these glass tubes and at the boiling temperature of water the specific gravity is determined by means of peculiar small areometers having a scale running from 0.845 to 0.870 specific gravity. Butter found to have a lower specific gravity than 0.865 was adulterated.

All these qualitative methods being not without value and interest for the chemist, are not sufficient as soon as upon chemical examination the prosecution of the offender is commanded by the State. In this case the chemist has to apply the quantitative analysis. The quantitative analysis for ascertaining the quantity of foreign fat in butter are only three, namely: (1) Determination of insoluble fatty acids; (2) determination of volatile fatty acids; and (3) determination of all fatty acids together.

It makes no difference which of these methods is applied by the examining chemist because all three are exact and give a good and satisfactory result. However, the method of determining the insoluble fatty acids is perhaps most preferred by chemists; I have made all my quantitative examinations of butter, about 100, by means of this method and have always got exact and satisfactory results. Otto Hehner, chemist at the Isle of Wight in England, published his method in the year 1877. This method was the first which was quantitative and had as basis a strong scientific principle; therefore it was adopted by the chemists with great pleasure. Before explaining this method and in order to make the principle better understood, I have to say some general facts about the chemical reactions of fat. All kinds of fat are chemically composed of glycerine and fatty acids. The kind of this composition, however, is not a loose or a mechanical mixture of said bodies, but a positive chemical compound of a distinct constitution. With respect to this positive constitution the fats belong scientifically to the class of acid-ether and therefore undergo all chemical reactions of the acid-ether. Acid-ether is a chemical compound of any acid, with any kind of alcohol. Like all acid-ether also, the fats are separated by means of alkalis in alcohol and acids, the latter combining with the alkali's. In the fats the alcohol is represented by glycerine and the acids of a mixture of

different fatty acids. By decomposition of the fats with alkali's, as potash or soda, we get on one side the free glycerine and on the other side chemical compounds of alkali with different fatty acids.

The separation of the fats by alkalis, is called saponification of fats. The manufacture of all kinds of soap is based on this principle. Strong acids, like sulphuric or muriatic acid, decompose soap and liberate the fatty acids. These thus obtained free fatty acids consist principally of the following three fatty acids: palmitic, stearic and oleic acid, all three insoluble in water.

Hehner made now the very interesting investigation that pure butter fat besides the glycerids of oleic, palmitic and stearic acids, insoluble in water, also contains some glycerids of fatty acids, which are soluble in water, about 4-7 per cent.; while all other animal fats consist only of the fatty acids insoluble in water. This very important difference in the constitution of fats, is used by Hehner in an excellent manner, and with great success, to find out a method in order to examine the butter on foreign fats, and to ascertain the quantity of them. Further, he found by very numerous analytical determinations, that pure butter fat contains on an average, 87.5-10 per cent. of insoluble fatty acids; while the different animal fats like tallow, lard, etc., further the vegetable fats like sesame oil, cottonseed oil and others, contain on an average 95.5-10 per cent. of this insoluble fatty acids. His results about vegetable fats, have been sustained by Dietzell and Kressner.

Therefore, butter adulterated with lard or beef-fat, must exceed the amount of 87.5-10 per cent.; the more it contains foreign fats. For example: A sample of butter is found to contain 91 per cent. of insoluble fatty acids. Taking as a standard for pure butter fat, 87.5-10 of insoluble fatty acids, and for the foreign fats 95.5-10 per cent. of insoluble fatty acids, we will find by calculation, that said butter was adulterated with 43.7-10 per cent. of foreign fat.

I make said analysis in the following manner: In order to get pure butterfat for my examination, I melt about a quarter of a pound of the suspicious butter in a beaker-glass on a water-bath. By this operation all fat is going to the top while the water, casein and salts gather on the bottom. As soon as the fat has become quite oily and liquid, perfectly clear and transparent, I filter it very carefully through a filter with many folds in a small beaker-glass, and let the fat becoming stiff. For analysis, I take 2 grains of said pure fat and saponify it by adding of about 50 C. C. of strong alcohol, and 2 grammes of pure potash in little lumps in a porcelain dish on a water-bath. During the saponification, which is generally finished in about ten minutes, a strong smell of butyric acid-ether, like the flavor of pineapples, is remarkable as soon as the butter pure or not badly adulterated. The strength and duration of the smell of said ether is a good test at the examination. After evaporation of the alcohol, the thus obtained soap is dissolved in about 100-150 C. C. of distilled water. As soon as the soap has dissolved perfectly, I decompose the soap by aid of diluted sulphuric acid, and thus liberate all fatty acids. The solution must show a strong acid reaction, tested by litmus paper. The fatty acids are heated further on the water-bath until they become oily and liquid. Now, I pour the liquid fatty acids carefully upon a small, tight filter, previously weighed, and wash out with boiling distilled water. By this all volatile fatty acids dissolve in the hot water and only the insoluble fatty acids remain upon the filter. The washing of the fatty acids with ever-boiling water must be made very carefully; it requires mostly two days, and the amount of three pints of water on an average. In order to prove whether the wash-water is still acid or neutral, the rest must be made by means of a sensible litmus tincture, but not with litmus paper. The applying of the latter will not give an accurate test. A further great care is to take of the filter, it must be of very tight Swedish quality and properly prepared in the funnel; otherwise small drops of the fluid insoluble fatty acids pass through the filter and the analysis has lost its value. The insoluble fatty acids remaining upon the filter and perfectly washed out are allowed to become stiff, and after this are put in a peculiar glass with perfectly air-tight glass stopper, previously weighed. The glass then without stopper is placed in an evaporator and dried at a temperature not above 212 deg. F. to a constant

weight. The weight of the dried fatty acids gives us directly by calculation the quantity of foreign fat in per cent.

As mentioned before, the very exact method of Hehner has on an average, 87.5-10 per cent. of insoluble fatty acids, while the animal and vegetable fats contain on an average, 95.5-10 of insoluble fatty acids. The latter amount has been found really by many different chemists in animal and vegetable fats; however, there have been found a few cases in which the amount of insoluble fatty acids in pure butter, was running to 89.7-10 per cent. In consideration of this fact, we were compelled to say, a butter is only adulterated having 90 per cent. and more insoluble fatty acids; but 90 per cent. of insoluble fatty acids is equal to 30 per cent. of foreign fat. After this, even said the amount of less than 30 per cent. of foreign fat, for instance, 25 per cent., could not be detected. Fortunately, this is not so, and I will now show that we are entitled to take as standard for pure butter, 87.5-10, or at highest, 88 per cent. of insoluble fatty acids. The facts which are found in exceeding the standard to 89.7-10 per cent., are so very little in proportion to the very numerous results found by many leading and different chemists, and sustaining Hehner's standard, that the before mentioned fact has certainly a great interest for the analytical chemist, but cannot have any important influence upon the exactness of the method. Many authentic chemists have sustained by their own examinations the said standard, and have adopted it; for instance, Oscar Dietsch, State's chemist, in Switzerland, says that he has examined a very great number of pure Swiss butter, and always found an amount of insoluble fatty acids, only running from 86 to 88 per cent., but never an excess. Because on the contrary, the amount of insoluble fatty acids in pure butter, frequently has been found lower than the common standard. Prof. Reichardt at Sena, Germany, even proposes to reduce the standard for pure butter only to 86.8-10 per cent. I cannot agree with Reichardt's proposition, and I must say that in my opinion, and upon my examinations of pure butter, we must take as the most correct standard, 88 per cent., but not higher and not lower. Because it is not known to me whether the amount of insoluble fatty acids in American butter was found exceeding the common standard, and being of great interest and importance for me to know positively this fact, I made last summer a series of experiments and analysis of pure summer butter.

For this purpose pure butter was manufactured in our laboratory from our cream, and I received other samples of butter from the city hospital and private parties.

The analytical result was the following: (1) Butter manufactured by ourselves showed 88 per cent. of insoluble fatty acids. (2) Six samples sent from city hospital were found running 86.2 to 88. (3) Butter received from private parties were found to contain 86.4-10 to 88 per cent. of insoluble fatty acids.

These figures show that in no case did the amount of insoluble fatty acids exceed 88 per cent.

This result is sustained by the very careful and exact examinations of pure American butter, made by Prof. Fleischmann in Germany. His results are published in the *Zeitschrift für Analytische* in the year 1877. Fleischmann examined 11 different samples of pure American butter delivered to him by a wholesale merchant, Mr. Boysen, of Hamburg, and he found in all those samples the amount of insoluble fatty acids running from 85 to 86 per cent. and not one sample exceeding 88 per cent.

These agreeing results show that the highest amount of insoluble fatty acids in American butter does not exceed 88 per cent. and as long as no pure butter is found to contain more than 88 per cent. there is no reason to doubt the standard, and all examining chemists applying Hehner's method may without scruple take as a highest legal standard for pure butter 88.0 per cent. of insoluble fatty acids.

I will conclude with the following experiment, made by myself:

One gallon of cream was mingled with two pints of sesame oil and then churned to butter by means of a hand-butter machine. I had examined the sesame oil, a clear yellow fluid oil of good taste and without smell, frequently used for adulteration of butter, and found it to contain 95.2-10 per cent. of insoluble fatty acids agreeing with the fact before mentioned. The resulting butter was analyzed and found to contain 92,

7-10 per cent. of insoluble fatty acids, that is equal to 62, 6-10 per cent. of foreign fat. By this experiment we may see how easy it is to adulterate butter with a cheap oil and without complicated machines.

Upon my examination I found samples of butter adulterated in every proportion, running from 10 to 80 per cent. of foreign fat; however, generally the adulterations were very strong, mostly not below 50 per cent. of foreign fat, and samples in the last three months were adulterated an average 60 and 70 per cent.

Hehner's excellent method soon induced the Professors Reichardt and Koettstorfer to find out similar methods, and thus the one determined the volatile fatty acids and the other the total fatty acids.

Reichardt's method of determining the volatile fatty acids depends on the fact that pure cow butter contains more volatile fatty acids than all other fats. The volatile fatty acids are separated by distillation, and afterwards determined by titration. Reichardt also has taken a standard for pure butter. The principle of Koettstorfer's method, determining the total fatty acids, is that the fatty acids of pure butter possess a molecular gravity less than that of other fats, and in consequence of this fact the acids of butter need more alkalis for saponification than those of other fats. A standard for pure butter also is used in this method.

All three methods give accurate and satisfactory results; however, it is of the greatest importance that in the United States, the chemists as they have done in some old countries, should agree in using the same legal standard for each one of the three quantitative methods. And as soon as the examining chemists agree in their methods and standards, they will not undergo any trouble before the court, and on the other side the States will get a greater power and more success in prosecuting these people whose business it is to sell knowingly adulterated foods.

YOUNG MEN!—READ THIS.

THE VOLTAIC BELT Co. of Marshall, Michigan, offer to send their celebrated ELECTRO VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days, to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred as thirty days trial is allowed. Write them at once for illustrated pamphlet free.

A HOME DRUGGIST TESTIFIES.

Popularity at home is not always the best test of merit, but we point proudly to the fact that no other medicine has won for itself such universal approbation in its own city, state, and country, and among all people, as

Ayer's Sarsaparilla.

The following letter from one of our best-known Massachusetts Druggists should be of interest to every sufferer:—

RHEUMATISM. "Eight years ago I had an attack of Rheumatism, so severe that I could not move from the bed, or dress, without help. I tried several remedies without much if any relief, until I took AYER'S SARSAPARILLA, by the use of two bottles of which I was completely cured. Have sold large quantities of your SARSAPARILLA, and it still retains its wonderful popularity. The many notable cures it has effected in this vicinity convince me that it is the best blood medicine ever offered to the public."
E. F. HARRIS.

River St., Buckland, Mass., May 13, 1882.

SALT RHEUM. GEORGE ANDREWS, overseer in the Lowell Carpet Corporation, was for over twenty years before his removal to Lowell afflicted with Salt Rheum in its worst form. Its ulcerations actually covered more than half the surface of his body and limbs. He was entirely cured by AYER'S SARSAPARILLA. See certificate in Ayer's Almanac for 1883.

PREPARED BY
Dr. J. C. Ayer & Co., Lowell, Mass.
Sold by all Druggists; \$1, six bottles for \$5.

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Is a new work on Farming, of 400 pages, written by William Crozier and Peter Henderson, two of the best known practical Farmers and Gardeners on this continent. The book is mailed for \$2.50. Table of Contents and Terms to Agents sent free. Our Agents are making from \$3 to \$10 per day selling this book.
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PROPHETS SAY
It will be rainy next summer. Then save your hay. Our circular describes the only carrier that horse returns to load, and runs either way without changing anything. Big bargains in horse and hay. Don't forget this. Box 414.
OBORN BROS., Marion, O.

The Veterinarian.

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

BOG SPAVIN.—My young horse has a wind-puff on the inside of his hock-joint. It does him no injury, but I fear it will hurt his sale. Please state if a permanent cure can be effected, and how. [It is doubtful if a permanent cure can be effected. The best treatment is blistering with an ointment made of beniodide of mercury and lard, in the proportions of one part of the former to eight parts of the latter. The patient should have entire freedom from work.]

PERIODIC OPHTHALMIA.—I have a mare I bought some months ago. After, I discovered an affection of the eyes. She seemed for a short time in each month to have a smoky color come over her eyes, and she would have some difficulty in seeing. In the early part of this week she became totally blind. The eyes are a smoky color and the whites are blood-shot. [The mare is no doubt affected with the disease known as periodic ophthalmia—a constitutional disease of hereditary origin. Medical treatment will not do any good.]

INDISPOSED.—I have a Short-horn bull that has been growing poor for two months. He eats very little. I have come to the conclusion that he has the "horn-ail" or what some call the "hollow-horn." I bored a hole in each horn, and as soon as I was through the shell I found nothing but a little blood. Can you inform me what will cure him? [None of our standard works on veterinary literature recognize such a disease as "hollow horn" in cattle. If, instead of ascertaining that your bull was attacked with the so-called "horn-ail," you had devoted a little time to a description of the symptoms and previous history of the case, in reply we no doubt could have sent you some instructions as to the necessary treatment to pursue.]

ENLARGED NOSE IN MULE.—I have a mule, four years old, that is puffed or enlarged on each side of nose, midway between the eyes and nostril; the enlargement is oblong, and the bone of the under jaw is as thick again as it should be. There is no indication that this enlargement will come to a head, and there is no discharge from the nostril. He is not dull in the least; eats hearty and works well. Will you tell me what caused it, and if it is contagious, and how I shall treat it? [The animal probably has disease of the osseous structures known as astero porosis or "big head." It is not contagious. It is very probable that the disease will interfere with mastication at some future day. There is no remedy for the above.]

BUNCH ON COW'S KNEE.—My cow has a large soft bunch on her knee. A year ago or more I ran a penknife blade up into it from the bottom and let off the matter, but it has filled up and is larger than before. One doctor says that it should have a seton put into it to take it off; another says that it will be likely to leave her with a stiff joint, and a better way would be to blister a small spot here and there, until it is gone. She is not lame. What do you say is best? [Blistering it will not reduce it if full of pus. A seton would be better now, and in two weeks cut it out, then blister every month. It is useless to apply blister to a spot. It must be used all over the enlargement at once, then give nature time to absorb what may be of the swelling, and repeat in about four weeks.]

The Duty of State Legislatures.

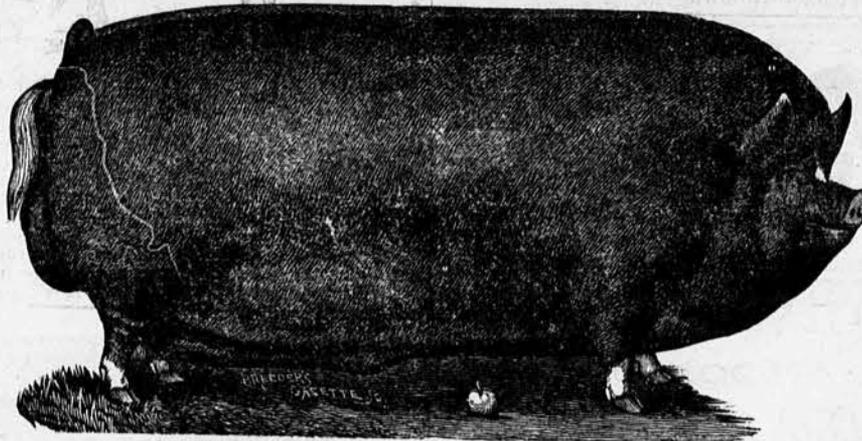
Legislatures in every State should regulate the sale and use of the many poisons resorted to by women in their desperation to obtain a beautiful complexion. There exists in Dr. Harter's Iron Tonic every requisite to accomplish the object without injuring health or endangering life.

When butter is kept in tubs or earthen vessels, it must be packed as closely as possible, and no interstices or vacant spaces left, for the butter quickly spoils around these interstices, and the evil spreads through the whole tub. In large establishments, it is considered essential that a tub be filled with butter made all in one day.

Where stumps are numerous and farms small, it pays farmers to unite and buy a large stump-puller. The expense to each would be comparatively light, and the stumps could soon be routed by co-operation in work and machinery.

Ask your Druggist for a free Trial Bottle of Dr. King's New Discovery for Consumption.

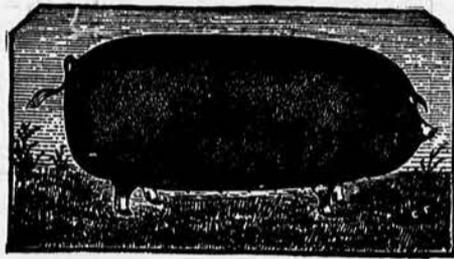
Manhattan Herd of Berkshires



SOVEREIGN DUKE 3819.—(From Life, by Lou Burk.)

SOVEREIGN DUKE 3819, at head of famous Manhattan Herd. Among many other honors, elsewhere, this splendid sire won five blue ribbons during two successive years at the great St. Louis fair including sweepstakes as best boar of any age or breed, each year,—a record never attained by any other boar. At the St. Louis and other leading fairs of 1882, the Manhattan Herd sustained its well-earned prize-winning reputation of former years by winning a majority, over all competitors, of the premiums competed for, being 13 sweepstakes and 58 prizes for that year. Until the present time I have been unable to supply the demand from some fourteen States and Territories for my swine, but I now have about 40 very choice young Boars and Sows old enough to use, that I will sell at a price to suit the times. A case of Cholera has never occurred in my Herd, which has come through the past severe winter in very thrifty condition. Twelve different families of Sows and five noted Boars in use. Satisfaction guaranteed. Send for Catalogue to

A. W. ROLLINS, Manhattan, Kansas.



PLEASANT VALLEY HERD

Pure-bred Berkshire Swine.



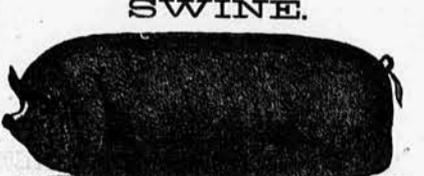
I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars headed by the splendid prize-winner Plantagenet 2919, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for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

JAMES ELLIOTT, Abilene, Kansas.



Breeder of HIGH CLASS BERKSHIRE SWINE. My herd is composed of twenty breeding sows of the leading families known to fame, headed by Earl of Carlisle 10459. My hogs are noted for size, uniformity, fine heads, broad hams great depth, with short, strong legs. They are perfectly marked, having good coats of hair; with quality of bone that enables them to carry great weight, combining quick and easy feeding qualities. Stock all recorded in A. B. R. I am now prepared to fill orders for pigs, of either sex. Prices reasonable. Correspondence and inspection invited.

PURE-BRED Berkshire and Small Yorkshire SWINE.



We are breeding 25 of the best selected sows of the above named swine to be found in the country, direct descendants from Imported Sires and Dams. We are prepared to fill orders for either breed, of both sexes, at the very lowest prices. We have tried Small Yorkshires thoroughly, and are satisfied that they cannot be excelled as a profitable hog to raise. They are very docile and mature rapidly. Send for prices and catalogue to

WM. BOOTH & SON, Winchester, Jefferson Co., Kas.



Chester White, Berkshire and Poland-China Pigs, fine Setter Dogs, Scotch Collies, Fox Hounds and Beagles, Sheep and Poultry, bred and for sale by W. Gibbons & Co., West Chester, Chester Co., Pa. Send stamp for Circular and Price List.

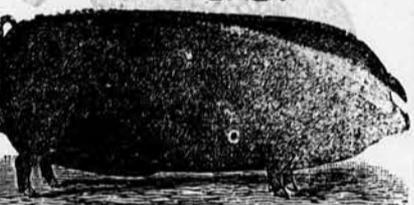
TIMBER LINE HERD

HOLSTEIN CATTLE and POLAND-CHINA PIGS.

We have on hand 150 head of fine pigs for sale now and for spring trade. Also a fine yearling Holstein bull and a few grade Holstein cows for sale. Splendid milkers. We guarantee satisfaction. All correspondence answered. Inspection invited.

W. J. ESTES & SONS, Andover, Butler Co., Kas.

Poland-China and Berkshire HOGS.



We have for sale a fine lot of Poland-China and Berkshire Pigs, from 2 to 6 months old. Ours is the Largest herd of pure-bred Swine in the State, and the very best strains of blood of each breed. If you want any of our stock write us and describe what you want. We have been in the business many years, and have sold many hogs in this and in other States, and with universal satisfaction to our patrons. Our hogs are fine in form and style, of large stock, quick growth, good bone, hardy and of wonderful vitality. Our Poland-Chinas are recorded in the American Poland-China Record.

RANDOLPH & RANDOLPH, EMPORIA, LYON Co., KANSAS.



REGISTERED POLAND-CHINAS. 62 Page Illustrated Manual. Sent free on application to Shepard & Alexander, Charleston, Illinois. If you want A YOUNG SOW, Bred to our crack Boars; If you want A YOUNG BOAR Pig; If you want A YOUNG SOW Pig; If you want to place an order for A SPRING PIG; If you want A SETTING OF Plymouth Rock Eggs, at \$1.50; If you want a Thoroughbred SHORT-HORN BULL, From \$100 to \$125. Write to MILLER BROS., Junction City, Box 298. - Kas.

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We are having a splendid lot of pigs for this season's trade, sired by "Challenge 4939" and "Kentucky King 2681." Orders taken now. Pedigrees gilt-edge and stock first-class. We claim that our "Challenge 4939" is the best boar in Kansas, "for money marbles or chalk." STEWART & BOYLE, WICHITA, KANSAS.

Dr. Thomas Blackwood,



Breeder of POLAND-CHINA SWINE. My Poland-China herd numbers over 75 head. My stock is first-class, all registered, and guaranteed just as represented. Choice breeding stock not akin, of both sexes, for sale at all times at reasonable prices. All correspondence promptly answered. For full particulars and prices, address THOMAS BLACKWOOD, Clay Center, Kansas.

MEADOW BROOK HERD



OF POLAND-CHINA SWINE. Breeding Stock recorded in American and Ohio Records. Tom Duffield 1675 A. P.-C. R., at head of herd. Always apace with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered. JELLEY & FILLEY, Proprietors, KINGMAN, KANSAS.

THOROUGHbred POLAND-CHINAS



As produced and bred by A. C. MOORE & SONS, Canton, Ill. The best hog in the world. We have made a specialty of this breed for 33 years. We are the largest breeders of thoroughbred Poland-Chinas in the world. Shipped over 700 pigs in 1883 and could not supply the demand. We are raising 1,000 pigs for this season's trade. We have 160 sows and 10 males we are breeding from. Our breeders are all recorded in American P.-C. Record. Pigs all eligible to record. Photo card of 43 breeders free. Swine Journal 25 cts. in 2 cent stamps. Come and see our stock; if not as represented we will pay your expenses. Special rates by express.



RANKIN BALDRIGE, Parsons, Kansas.

Breeder of Pure Poland-China Hogs. This herd is remarkable for purity, symmetry, and are good breeders. Black Jim, a prize-winner, bred by B. F. Dorsey, heads the herd. Stock recorded in Central Poland-China Record. Correspondence invited.



ISAAC WOOD, Oxford, Kas.—PIONEER—The sweepstakes herd of the Southwest for three consecutive years. Comprising the blood of all the popular strains of the day. Six years a specialty. Pigs furnished not of kin. Quality of stock and pedigrees first class. Prices low, and favorable rates by express to all points. Pigs of different ages ready to ship, and orders taken for future delivery. Satisfaction guaranteed. For history of herd, see Vol. IV, page 31; Vol. V, page 47, and Vol. VI, page 37, Ohio P.-C. Record.

Pioneer Herd of Holstein Cattle

AND DUROC JERSEY SWINE.



For beef, butter, and cheese, breed HOLSTEINS. For largest return on money invested in swine, breed DUROC JERSEYS. Choice registered animals for sale by WM. A. GARDNER, Oregon, Mo. Correspondence solicited. When writing mention this paper.

The Busy Bee.

Development of Bees.

A bee keeper in the New England Farmer of March 28 ult. gives the following information:

The queen's egg in appearance, is a tiny bit of ivory, twice as long as it is wide. The egg will hatch in three days from the time it is laid. At this time, or before, a milky substance is placed around the egg, on which the young bee feeds when it breaks the shell. According to some authorities, owing to the porosity of the egg shell, the occupant is fed by this fluid before it emerges from it.

The "hum of busy life" is not heard in this hive, because bees do not hum, but there is great activity. Young bees now, after three days, are breaking their shells every minute, and as the number increases, the nurses appear in greater numbers. They run from cell to cell, going part way into every one to see if the infant bee requires anything he has not. No royal jelly is fed now. Only drones and workers are wanted, and they must come to maturity on ordinary fare. In seven days after hatching, the worm, or young bee, has grown sufficiently to nearly fill the cell, and the cell is capped over, and it is left to pass through the chrysalis stage, and to arrive at maturity. In twenty-one days after the egg was laid, the perfect bee opens the door of his cell with his sharp mandibles, gnaws his way out, walks forth among the dense population of the hive, and becomes a worker, or drone, at once, and enters upon the life work, or the life loaf.

Certainly the worker bee is well named. Its short life is all work and no play—a life of ceaseless activity and wearing toil. And yet may not the bee life, short as it is, be to the bee what three score and ten is to man? An old writer says that the worker is neither masculine nor feminine, and yet not neuter. He must have had in mind a gender unknown in this age of the world, but he gives no clue to it. The worker bee is called an "undeveloped female," that is to say, if development had proceeded further, the bee would have been a female. It is nearer feminine than masculine, but being neither, must be without gender, strictly speaking. A worker bee, so called, sometimes lays eggs, but the eggs produce drones always, and as drones are equal to a drug in the market, or a stump in the field, (of industry), it is evident that the efforts of the laying worker, called "fertile worker," are misdirected.

The discussion in regard to the sex of the worker bee began more than a century ago, and is in progress to-day. The holder of the belief that the worker is neither male or female, is confronted with the fact just given, namely: that the worker may, under certain conditions, lay eggs. Old apianians attributed the fertility of the worker to the fact that it, the worker, was hatched in cells near the queen cells, and receiving crumbs of royal jelly from the queen's table, became thereby half queen and half worker. The modern scientific bee-keeper, like some other men of science of the present day, believing that the old masters in thought, knew very little about their business, pronounce the "accidental theory false," but give no other to which they are willing to commit themselves. Another authority says that the worker is "a perfect female, but undeveloped." And he says further, that the worker needs but a "touch of nature" to be a virgin queen. Whence and what this touch of nature? The origin of the fertile worker is one of the mysteries of bee culture, and the presence of a fertile worker in a hive is one of its misfortunes.

Drawn aside by this discussion of the fertile worker, the young bee was left, after emerging from the birth place, to make way unaided in the hurrying multitude. He rubs his nose, kicks his legs out to get rid of kinks, moves the wings slightly, and walks ahead to explore the new world. The carpenters, the bread bringers, the nurses, and the lazy drones run over him, jostle, trample under foot, and apparently make sport of his infantile weakness. It appears to a spectator, that there is no room for him, that he is in the way, and that he came forth at the wrong time. His coming forth and that of thousands of others is what makes the activity. In a short time a day or less, the young bee has found his place. He becomes a nurse, and begins at once to feed the larvae not yet sealed. The food is supposed to be

pollen and honey partly digested. In ten days or more, the young bee is a comb builder, using deftly the materials brought in by the tenders, or full fledged workers.

Down in Texas they call a mule "the power behind the thrown."



STEWART'S HEALING POWDER
Cures all Open Sores on Animals from any cause. At Harness or Drug Stores. 50 Cents a Box.

RIVER VIEW Stock Farm.

50 HEAD OF IMPORTED NORMAN STALLIONS

Just arrived from France, added to my stock of Norman Horses, which now numbers upwards of 100 HEAD, from 2 to 5 years old. Parties wishing to purchase first-class stock will do well to call and see my Normans before purchasing elsewhere. Prices and terms to suit purchasers. All of the above stallions were selected by myself in France this season. (Mention this paper.)

JAMES A. PERRY
Importer and Breeder of Norman Horses.

River View Stock Farm, Wilmington, Ill. Fifty miles south of Chicago, on the Chicago & Alton railroad.

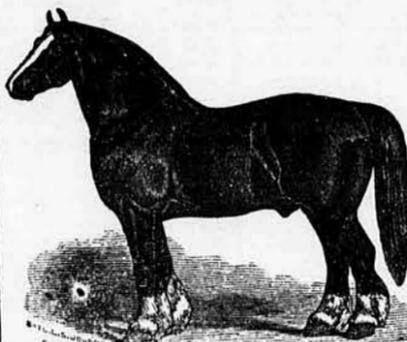
River Side Stock Farm.



DEGEN BROTHERS, Ottawa, Ill.,

Importers of NORMAN HORSES. Large selection of imported stallions and mares—50 head imported this season. We are also breeding full-blood and high-grade Normans. Having purchased the old State Fair Ground, we are fitting up one of the best sales barns and breeding establishments in the State, and will be pleased to show our horses to visitors. Correspondence invited. DEGEN BROS., Ottawa, Ill.

OVER ONE HUNDRED **CLYDESDALE, ENGLISH DRAFT** AND **PERCHERON NORMAN** Stallions and Mares arrived in August, '84.



Another importation just received, ages range from two to four years old. (This stock won fifteen premiums at the Iowa State Fair of 1884; also sweepstakes on Clyde Dale stallions and mares—300 on Percheron-Norman stallions, 300 High-Grade Mares, in total to our most noted horses, for sale.)
Advantage offered to customers at our ranch: Many years' experience in importing and breeding immense collections, variety of breeds, enabling comparison of merits. The best of everything. A world-wide reputation for fair and honorable dealings. Close proximity to all the through railroad lines. Low price consequent to the extent of the business. Low rates of transportation and general facilities. Visitors welcome at our establishment.
Ranch 2 miles west of Keota, Keokuk Co., Iowa, on the O. R. I. & P. R. R., 15 miles west of Washington, Ia. SINGMASTER & SONS, Keota, Keokuk Co., Iowa.



Every animal selected by him in person.

HOLSTEIN CATTLE.

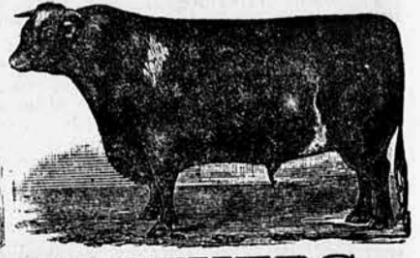
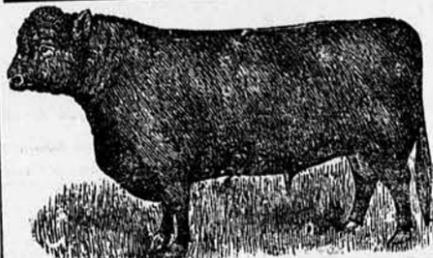
550 Head on Hand.

Over thirty yearly records made in this herd average 14,212 lbs. 5 ozs.; average age of cows four and a-half years. In 1881 our entire herd of mature cows averaged 14,164 lbs. 15 ozs. In 1882 our entire herd of eight three year olds averaged 12,388 lbs. 9 ozs. April 1, 1884, ten cows in this herd had made records from 11,400 to 18,400 lbs., each, averaging 15,608 lbs. 6 3/10 ozs. For the year ending June 1884, five mature cows averaged 15,621 lbs. 12 5/8 ozs. Seven heifers of the Nether and Family, five of them two years old and two three years old, averaged 11,616 lbs. 12 5/8 ozs.

BUTTER RECORDS.

Nine cows averaged 17 lbs. 5 1/2 ozs. per week. Eight heifers, three years old, averaged 13 lbs. 4 3/4 ozs. per week. Eleven heifers, two years old and younger, averaged 10 lbs. 3 ozs. per week. The entire original import of Netherland Family of six cows (two being but three years old), averaged 17 lbs. 6 1/6 ozs. per week. When writing always mention the KANSAS FARMER.

SMITHS, POWELL & LAMB, Lakeside Stock Farm, Syracuse, N. Y.



THE LEONARD BROTHERS
Importers and Breeders of

Galloway, Aberdeen-Angus and Short-Horn

CATTLE,

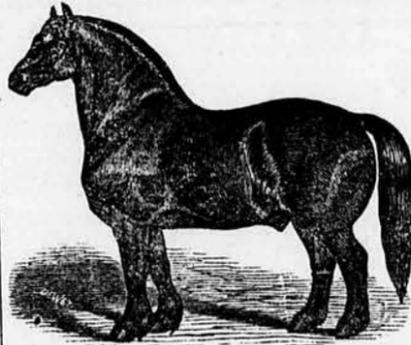
SPANISH - JACKS - AND - JENNETS,

MOUNT LEONARD, MISSOURI.

A very choice lot of Black Polled and Short horn Grades for sale. Carload lots a specialty for Ranchmen. We have some of the largest and choicest herds of Pure-bred Stock to select from. Prices Reasonable. Call on or address

LEONARD BROTHERS, Mount Leonard, Missouri.

PERCHERON NORMAN, CLYDESDALE and ENGLISH DRAFT HORSES.



E. BENNETT & SON
Importers and Breeders, Topeka, Kansas. All stock registered. Catalogues free.

PUBLIC SALE!
—OF—
ABERDEEN-ANGUS Cattle.

T. W. HARVEY, of TURLINGTON, NEB.,

—Will offer at—

Riverview Park, Kansas City, Mo.,

On Wednesday, May 6, 1885,

20 HEIFERS and 10 BULLS!

All prize-winners, or the produce of prize-winners

For any further particulars or sale catalogue address
T. W. HARVEY,
Turlington, Nebraska.



The Edward Harrison

MILL CO.
Manufacturers of HARRISON'S STANDARD GRINDING and FLOURING MILLS of all sizes and varieties for Steam, Water, Wind, Horse & Hand Power. Possessing great capacity and durability. Every Mill warranted to do just what we claim for it. Write and enclose a 2c stamp for our new 80 page illustrated catalogue, and mention this paper. The Edw. Harrison Mill Co., New Haven, Ct.

FOR MARRIED LADIES.—(No risk.) Cut this out and send 5c for sample. Why fret when you can get it for so small a sum.
RUBBER CO., Box 75, Rock Falls, Iowa.

A NEW AND SUPERIOR ROUTE
—TO—
NEW ORLEANS
—FOR THE—
GREAT WORLD'S FAIR

This Grand Exposition was opened to the Public on DECEMBER 16th, 1884, by the

PRESIDENT OF THE UNITED STATES

And will continue for six months.

—THE—
MISSISSIPPI VALLEY ROUTE,
—FROM—
MEMPHIS, TENN., to NEW ORLEANS, LA.,

Opens up the finest TIMBER, COTTON, SUGAR and RICE LANDS in the WORLD, and offers special attractions to PROSPECTORS and TOURISTS.

SPECIAL SCHEDULES have been arranged for the benefit of Travelers from points west of the MISSISSIPPI RIVER, with Elegant

PULLMAN PALACE SLEEPING AND DRAWING ROOM CARS

BETWEEN
Kansas City and New Orleans.

ROUND TRIP TICKETS on sale at all principal points. Ask for tickets via the "MISSISSIPPI VALLEY ROUTE," (Louisville, New Orleans & Texas Railroad.)

Information furnished by
JAS. S. DAVANT,
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PATRONIZE HOME INSTITUTIONS.

THE SOUTHERN KANSAS RAILWAY
IS A KANSAS ROAD,

And is thoroughly identified with the interests and progress of the State of Kansas and its people, and affords its patrons facilities unexcelled by any line in Eastern and Southern Kansas, running

THROUGH EXPRESS trains daily between Kansas City and Olathe, Ottawa, Garnett, La. Humboldt, Chanute, Cherryvale, Independence, Winfield, Wellington, Harper, Attea, and intermediate points.

THROUGH MAIL trains daily except Sunday between Kansas City and Wellington, and intermediate Stations, making close connections at Ottawa, Chanute and Cherryvale with our trains for Emporia, Burlington, Girard, Walnut and Coffeyville.

ACCOMMODATION TRAINS daily except Sunday between Kansas City and Olathe and Ottawa.

REMEMBER that by purchasing tickets via this line connection is made in the Union Depot at Kansas City with through trains to all points, avoiding transfers and changes at way stations.

THROUGH TICKETS can be purchased via this line at any of the Regular Coupon Stations, and your baggage checked through to destination, East, West, North or South.

PULLMAN SLEEPER on all night trains. For further information, see maps and folders, or call on or address
S. B. HYNES,
Gen'l Passenger Agt.,
Lawrence, Kansas.

THE STRAY LIST.

HOW TO POST A STRAY.

BY AN ACT of the Legislature, approved Feb 27, 1866, 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 appraisement, 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.

How to post a Stray, the fees fines and penalties for not posting.

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

Unbroken animals can only be taken up between the 1st day of November and the 1st 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, 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 a stray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray.

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 appraiser, 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 appraisement.

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.

Strays for week ending April 8, '85.

Linn county--J. H. Madden, clerk. MARE--Taken up by Lemuel Downing, in Lincoln tp., February 25, 1885, one black mare, 10 years old, left hip knocked down, blind in right eye; valued at \$25.

Harvey County--John C. Johnston, clerk. HORSE--Taken up by J. L. Reynolds, in Darling on tp., March 7, 1885, one medium-sized black gelding, star in forehead; valued at \$50.

Smith county--J. N. Bascom, clerk. PONY--Taken up by Jasper Lightner, in Harlem tp., March 21, 1885, one pony mare, 4 years old, 13 hands high (color not given), white hind feet.

MULE COLT--By same, March 10, 1885 one dark brown horse mule colt, about 1 year old.

Pottawatomie county--I. W. Zimmerman, clk. COLT--Taken up by Henry Shebi, in Spring Creek tp., February 7, 1885, one bay mare colt; valued at \$60.

COY. T--By same, same time and place, one iron gray colt; valued at \$40.

Strays for week ending April 15, '85

Chase county--J. J. Massey, clerk. STEER--Taken up by J. C. Thompson, in Bazaar tp., March 5, 1885, one speckled 2-year old steer, points of both horns off, under-bit out of left ear, no brands visible; valued at \$25.

J-well county--W. M. Stephens, clerk. STEER--Taken up by N. Reed, in Walnut tp., March 21, 1885, one red steer 1 year old this spring or summer, red and white, red spot in forehead, white belly, square crop and slit in left ear; valued at \$13.

Flk county--J. S. Johnson, clerk. HORSE--Taken up by C. O. Seward, in Longton tp., March 9, 1885, one brown horse, 13 hands high, about 12 years old, white spot in forehead, left hind foot white branded something like on right hip, collar and saddle marks.

MARE--By same, one sorrel mare, 13 hands high, 10 or 12 years old, white stripe in face, left hind foot and right fore foot white, collar and saddle marks.

MULE--By same, one black yearling mule, no marks or brands.

Three above-described animals valued at \$100.

Wabaunsee county--H. G. Licht, Clerk. STEER--Taken up by L. Rouse, in Kaw tp., (P. O. St. Marys), March 25, 1885, one red line-back steer, 1 year old past, branded A on right hip; valued at \$18.

Strays for week ending April 22, '85.

Nemaha county--R. S. Robbins, clerk. MARE--Taken up by S. D. Smith, in Adams tp., March 6, 1885, one bay filly, 2 years old, three white feet, roach mane; valued at \$40.

Shawnee county--Chas. F. Spencer, clerk. COW--Taken up by A. E. Davis, in Menoken tp., March 10, 1885, one little Soldier creek, one mile south of Jackson county line, one roan cow, 4 years old, D branded on left hip; valued at \$25.

THE PLUMB STEAM TILE DITCHER

Cuts from 10 to 25 rods per hour, 10 inches wide, 4 feet deep. Works well in all soils, and grades the bottom PERFECTLY. For circulars address

300 SHORT-HORN CATTLE AT AUCTION.

Central Missouri Series

SHORT-HORN SALES! April 28th, 29th and 30th, and May 1st, 1885.

SALINE COUNTY BREEDERS' ASSOCIATION will sell at Marshall, Mo., April 28th and 29th, 1885. For Catalogues address, T. C. RAINEY, Secretary, Marshall, Mo.

LAFAYETTE COUNTY BREEDERS' ASSOCIATION will sell at Higginsville, Mo., April 30th, 1885. For Catalogues address Wm. G. NEALE, Higginsville, Mo.

PETTIS COUNTY BREEDERS' ASSOCIATION will sell at Sedalia, Mo., May 1st, 1885. For Catalogues address FRANK CRAYCROFT, Sedalia, Mo.

The number and character of these offerings, and the easy and comfortable railroad connections and accommodations between these points, render this series one of the most attractive, if not altogether the most important, that will occur this season in the West. Apply at once for Catalogue and arrange to attend the great Central Missouri Series of Short-horn Sales.

Public Sale 160 head of Short-horn Cattle.

The Jackson County Breeders will hold their Tenth Annual Sale of Registered Short horns, at

RIVERVIEW PARK, KANSAS CITY, MISSOURI, MAY 13 and 14, 1885,

CONSISTING of about EIGHTY HEAD of choice Cows and Heifers of popular families, and same number of young Bulls, ready for immediate use. This offering will be fully equal to any of their former sales. All stock recorded or accepted for record. For catalogues address either of the committee at INDEPENDENCE, MO.

C. C. CHILES, S. K. KNOX, G. L. CHRISMAN, } Com. L. P. MUIR, Auctioneer.

AT MANHATTAN, RILEY CO., KANSAS, Wednesday, June 3d, 1885,

Messrs. W. A. Harris and C. M. Gifford & Sons,

WILL SELL ABOUT FIFTY HEAD OF Well-bred :: SHORT-HORN :: CATTLE,

Embracing ROSE OF SHARONS, FLAT CREEK YOUNG MARYS and JOSEPHINES, YOUNG PHYLLISES, and other popular American families, together with a few of the CRUICKSHANK blood.

THESE CATTLE have been bred from the very best specimens of their respective families obtainable and are the get of first class Bates and Cruickshank sires. The catalogue is particularly rich in its collection of choice young cows and heifers, which will either have calves at foot or (when of proper age) be served by the best breeding bulls of the two herds; the sires at Elmwood being of the best Bates topped Renick Rose of Sharon and Barrington blood, and the head of the Elmwood herd being the imported Siltiton Victoria bull Baron Victor 42824.

Catalogues on application to W. A. HARRIS, Elmwood, Kas. C. M. GIFFORD & SON, Elmwood Farm, Milford, Kas.

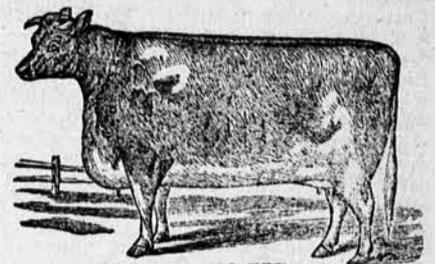
PUBLIC SALE OF SHORT-HORN CATTLE!

I Will Sell on THURSDAY, MAY 21st, 1885, AT LEE'S SUMMIT, MISSOURI,

TWENTY FOUR MILES EAST OF KANSAS CITY, on the main line of the Missouri Pacific railroad, 60 head of Short-horns--50 Cows and Heifers and 10 Bulls, of the following valuable families: Renick Rose of Sharons, and others that come from the full sister to the foundation of Mr. Renick's herd, and equally well-bred, Mason Goodnesses, Vanmeter Marys and Phyllises, Bates Fletchers, and several other choice families--altogether a grand lot of individuals and highly bred.

On account of failing health, I am including in this sale the bulk and best of my herd, many of which I had purposed never to part with. The stock should be seen to be appreciated. Terms and full particulars given in catalogue, which can be had upon application, after May 1, 1885.

PUBLIC SALE SHORT-HORN CATTLE!



By the Breeders of Leavenworth county, Kansas, at Leavenworth, Kas., Thursday, May 28, 1885.

We will sell 56 head, one-third Bulls and two-thirds Cows and Heifers, of superior breeding and quality. The following families will be represented:

Cruickshanks, Young Marys, Craggs, Louans, etc. TERMS--Six months at 6 per cent., or 5 per cent off for cash. Lunch at 11 a. m. Sale begins promptly at 1 p. m. Catalogues on application to J. C. STONE, Jr., President, J. W. GRANCE, V. President, R. ORTON, Secretary, G. W. NELLES, Treasurer.

PUBLIC SALE SHORT-HORN CATTLE,

At Albia, Iowa, May 19, 1885.

We will offer for sale our entire herd of 60 choice-bred Bates-Cruickshank Cattle. This herd composed of 45 stock cows and heifers and 15 grand young bulls contains a number of prize-winners and is made up of such representative families as WILD EYES, GOODNESS, CRAGG'S, VICTOR'S, YOUNG MARY, YOUNG PHYLLIS, BELINA, etc.

Our bulls in service are Lord Wild Eyes Oxford 39707 and Lord Goodness 58851. Both these bulls will be included in the sale. The attention of breeders is particularly directed to the pedigree of these two bulls. Both animals are dark red and of rare individual merit.

Lunch at 11 a. m. Sale commences at 12 m. Reduced railroad fare for parties attending the sale, over C. B. & Q., Wabash and Iowa Central lines.

Catalogues mailed on application. Correspondence solicited. Address all communications to the undersigned at Unionville or Centerville, Iowa. S. H. SAWYERS & SON. J. W. and C. C. JUDY, Auctioneers.

IMPORTANT PUBLIC SALE

45 Head of Choice Pure bred

ABERDEEN-ANGUS BULLS and FEMALES,

Riverview Park, Kansas City, Mo.,

WEDNESDAY, APRIL 29th, 1885.

The property of The Geary Bros. Co., Bothwell, and Geary Bros., London, Canada.

This offering comprises a number of the choicest representatives of the breed, from the

CRIGAS, PRIDES, PRINCESS, LADY IDA, and other noted families.

The Females have calves at foot or are in calf, and are exceptionally well bred. The Bulls are choice yearlings and two-year-olds, and are a splendid lot of animals.

They will also sell two car loads of choice ANGUS GRADE BULLS at the close of sale of pure-bred stock.

Sale positive. Catalogues ready. Address GEARY BROTHERS, London, Ontario, or WALTER C. WEEDON & CO., (Sale advertisement) Kansas City, Mo.

NOTICE!

STRAYED OR STOLEN. From my farm, seven miles west of Frankfort, on the night of April 7, 1885, one light gray mare, three years old, one-fourth Norman, dark mane and tail, one hind foot white, collar mark rote halter around neck when lost. Any person returning said animal or giving reliable information concerning her will be rewarded liberally by me for the time and labor. O. B. WATKINS, Frankfort Kas.

VIRGINIA FARMS FOR SALE.

Land from \$2 to \$40 per acre. CHEAP HOMES. Mild and short winters. Pleasant and healthy climate. Write for our Real Estate Herald containing description of Farms. SENT FREE. Address

The Poultry Yard.

What Is Roup?

As the fall comes on, and the weather begins to get damp, roup will attack every yard not properly attended to, and next to cholera is more to be dreaded than any other disease. "Roup," says a correspondent of the *Prairie Farmer*, "is a disease of the lining membrane of the beak, extending, however, to the whole head and throat, through the tear duct to the eye, and finally affecting the whole constitution. In fatal cases death ensues in from two to eight days after the specific symptoms of roup show themselves, and cases that are not treated are generally fatal whenever the malady appears as an epidemic in its severe form." It comes from neglected colds, undue exposure to cold and wet, roosting in draughts, from keeping fowls in damp, dark, filthy, ill-ventilated houses, a general disregard of all sanitary laws, and the disease may sometimes be developed by atmospheric conditions not fully understood.

Roup is contagious; it is communicated from one fowl to another by contact with the discharge from the nostrils and eyes, and doubtless the germs of the disease are carried by the air from one flock to another. For this reason roup cannot always be prevented, but the poultry-keeper who avoids all the known causes of the disease and takes proper sanitary precautions when the roup is in his immediate neighborhood, will have little cause to fear it, even though it actually gets a foothold among his flock. Under such conditions the disease is usually of a mild type and easily controlled if taken in hand at the very outset. The first symptoms of roup—hoarseness, sneezing, and a slight running at the nostrils—are the same as those of a common cold, and closely resemble those of a "cold in the head" in the human subject. In the second stage of the disease, the discharge from the nostrils thickens and becomes very offensive, and the eyes and head are affected more or less. In the third and last stage, the head swells, ulcers form in the mouth and throat, and sometimes around the eyes, the appetite falls, the comb turns black, and the fowl dies. When the roup first makes its appearance in a flock, while it is still in the first stage, is the time to handle it easily and surely. Give each one of the affected fowls a dessert spoonful of castor oil at night, and for a week afterwards feed the whole flock on cooked food, well seasoned with pepper and pulverized charcoal; also give Douglass' mixture in the drink. Whitewash and disinfect the house, and thoroughly cleanse and disinfect the feed troughs and drinking vessels. In most cases this course will cure the afflicted birds and prevent the spread of the disease. In the second stage, separate the sick from the well and proceed with cleaning and disinfecting. Give the sick the dose of castor oil, and afterward roup pills. Give the apparently well fowls the pepper, charcoal and Douglass' mixture daily for a week, or while the disease remains on the premises; also give the "German roup pills" according to directions. After the disease reaches the third stage the fowl is not worth doctoring, and the most effective treatment is to cut the head off and bury the whole carcass. Always use care in handling roup fowls; for should the discharge from the nostrils or eyes, or the matter from the ulcers, get in a cut or scratch on the hands, the consequences might be serious.

"The most common diseases of fowls," says a correspondent of the *Minnesota Farmer*, "are catarrh and roup. They are somewhat alike in their character, the first, if neglected, often passing into the other. Indeed, I am not certain that roup is anything more than a highly aggravated form of catarrh. In simple catarrh there is a discharge of watery mucus from the nostrils and the bird presents the appearance of being a little out of condition. The cause is exposure to wet and cold, and nothing is usually required but removal for two or three days to a warm, dry place, and to give stimulating food.

"The first symptoms of roup are identical with those of catarrh, but the discharge soon commences to thicken and fill up the nostrils, the eye-lids and face become swollen from the accumulation of mucus, which now emits an offensive odor, air bubbles appear in the corners of the eyes and in the throat, and in a few days the bird, unless relieved, dies from suffocation. When

the disease assumes this aggravated form, it becomes highly contagious, therefore no time should be lost, but the affected bird should be immediately removed from its companions, and thus prevent the communication of the disease. If the case is severe, and the bird is not a valuable one, I would recommend that it be immediately killed. If, however, it is desirable to save it, give it warm, dry quarters, and stimulating food, as in catarrh. Keep the air pure and sweet by ventilation and cleanliness, but warm it if you can.

"In the way of medicine, I have found nothing more effective than a few drops of tincture of muriate of iron, and a small piece of gum camphor in the drinking water, and the application of a wash consisting of eight grains of sulphate of copper (blue vitriol) and six drops solution of carbolic acid (Calvert's) for each fluid ounce of water. Apply this wash two to three times a day, by means of a camel's hair pencil, to the face, taking care not to injure the sight by allowing it in the eyes; brush the inside of the mouth and throat, and inject it by means of a small syringe into the nostrils. As the disease abates reduce the frequency of the application and the strength of the solution.

"Another excellent wash which may be used in place of the above, and in the same manner, and without fear of injury to the eyes, is the solution of chlorinated soda (Labarraque's solution) diluted with four times its bulk of water. In this and all other diseases, much is gained by taking the case in hand at the earliest stage. Therefore, when you close the poultry house at night, when all is quiet, listen an instant. If you hear no unusual sound you may lock the door and retire, but if a wheezing greets your ear find its source and attend to it.



"I owe my Restoration to Health and Beauty to the CUTICURA REMEDIES."

Testimonial of a Boston lady.

DISFIGURING HUMORS, Humiliating Eruptions, Itching Tortures, Scrofula, Salt Rheum and Infantile Humors cured by CUTICURA REMEDIES.

CUTICURA RESOLVENT, the new blood purifier, cleanses the blood and perspiration of impurities and poisonous elements, and thus removes the cause.

CUTICURA the great Skin Cure, instantly allays itching and inflammation, clears the skin and scalp, heals Ulcers and Sores, and restores the Hair.

CUTICURA SOAP an exquisite Skin Beautifier and Toilet Requisite, prepared from CUTICURA, is indispensable in treating Skin Diseases, Baby Humors, Skin Blemishes, Chapped and Oily Skin.

CUTICURA REMEDIES are absolutely pure, and the only infallible Blood Purifiers and Skin Beautifiers. Sold everywhere. Price, Cuticura, 50 cents; Soap, 25 cents; Resolvent, \$1. POTTER DRUG AND CHEMICAL CO., BOSTON, MASS.

CATARRH

What is Catarrh?

It is a disease of the mucous membrane, generally originating in the nasal passages and maintaining its stronghold in the head. From this point it sends forth a poisonous virus along the membranous linings and through the digestive organs, corrupting the blood and producing other troublesome and dangerous symptoms.

Cream Balm is a remedy based upon a correct diagnosis of this disease and can be depended upon.

HAY-FEVER Give it a trial.

ELY'S CREAM BALM CURES COLD IN CATARRH OF THE HEAD. HAY-FEVER. BEAVER'S HEADACHE. PRICE 50 CENTS. ELY BROS., OWEGO, N.Y., U.S.A.

ELY'S Cream Balm Causes no pain. Gives Relief at once. A Thorough Treatment will Cure. Not a Liquid. Not a Snuff. Apply into nostrils. Price 50 cts. at druggists; 60 cts. by mail, registered. Sample bottle by mail 10 cts.

ELY BROTHERS, Druggists, Owego, N. Y.

CONSUMPTION.

I have a positive remedy for the above disease, by its use thousands of cases of the worst kind and of long standing have been cured. Indeed, so strong is my faith in its efficacy that I will send TWO BOTTLES FREE, together with a VALUABLE TREATISE on this disease, to any sufferer. Give express & P. O. address. DR. T. A. SLOCUM, 181 Pearl St. N. Y.

Self Cure Free Nervous Debility, Lost Manhood, Weakness and Decay. A favorite prescription of a noted specialist (now retired.) Druggists can fill it. Address DR. WARD & CO., LOUISIANA, MO.



BETHANY COLLEGE

Under care of the Protestant Episcopal Church. For Girls and Young Ladies exclusively. Boarding and Day Pupils.

Twenty-six Officers and Teachers.

Faithful Maternal oversight for all entrusted to our care. All branches taught—Kindergarten, Primary, Intermediate Grammar, and Collegiate; French, German, the Classics, Instrumental and Vocal Music, Elocution, Drawing, Painting. The Music Department employs eight teachers and twenty pianos and three organs. In the Art Department the Studio is fully equipped with casts, models and copies. Send for Catalogue to T. C. VAIL, Bursar, or BISHOP P. VAIL, President, Topeka, Kansas.

50 CTS. **THE BEST 50-CENT KNIFE EVER MADE!** HAND-FORGED FROM RAZOR STEEL! Blades replaced if soft or flawed. Price, postpaid, 50 Cts., or 5 for \$2.00. Extra heavy 2-blade, 75c. Stock Knife, 3-blade, \$1.00. 48-page list free.

MAHER & GROSCH, 50 S. St., Toledo, Ohio.

TOWER'S FISH BRAND POMMEL SLICKER THE BEST WATERPROOF RIDING COAT. Covers the entire saddle, and will keep you dry in any storm. Sold everywhere. Illustrated catalogue free. A. J. Tower, Boston.

An Old Soldier's EXPERIENCE.

"Calvert, Texas, May 3, 1882.

"I wish to express my appreciation of the valuable qualities of **Ayer's Cherry Pectoral** as a cough remedy.

"While with Churchill's army, just before the battle of Vicksburg, I contracted a severe cold, which terminated in a dangerous cough. I found no relief till on our march we came to a country store, where, on asking for some remedy, I was urged to try **AYER'S CHERRY PECTORAL**.

"I did so, and was rapidly cured. Since then I have kept the **PECTORAL** constantly by me, for family use, and I have found it to be an invaluable remedy for throat and lung diseases.

J. W. WHITLEY."

Thousands of testimonials certify to the prompt cure of all bronchial and lung affections, by the use of **AYER'S CHERRY PECTORAL**. Being very palatable, the youngest children take it readily.

PREPARED BY **Dr. J. C. Ayer & Co., Lowell, Mass.** Sold by all Druggists.

MICA AXLE GREASE IS THE BEST. USE IT

A CHANCE to secure a first-class Farm in the Red River Valley at \$3.00 per acre is an opportunity for a profitable investment that a

never allows to pass; and during the past year a large number of actual settlers availed themselves of this liberal offer by the **ST. PAUL, MINNEAPOLIS & MANITOBA RAILWAY CO.** choice tracts, and commenced improvements. The Company has also many thousands of acres of choice lands, well adapted to Dairy, Live Stock and General Farming purposes, from which can be selected that cannot be excelled in any STATE in the UNION. FOR PARTICULARS, MAPS, ETC. WRITE TO **J. B. POWER, Land Com., St. Paul, Minneapolis & Manitoba R'y Co. ST. PAUL, MINN.**

IT WILL BE AN ADVANTAGE to always mention the **KANSAS FARMER** when writing to advertisers.

OPIUM SLAVERY!

By means of the now celebrated remedies of **DR. KANE**, (late Supt'd't of the DeQuincy Opium Hospital of N. Y., and author of several books on Opium), the worst cases of the Opium and Morphine Habits can be cured, thoroughly and secretly cured at home. No pain, nervousness, or loss of sleep. A certain and reliable cure, endorsed by the Medical profession. No Quackery, Deceit or Lying. No confinement, restraint, or interference with business. **PAMPHLET** with full particulars, charges, prices and medical endorsements and testimonials, sent for cents in stamps securely sealed. Letters involuntarily confidential. **DR. HENRY H. KANE**, 19 E. 14th St., New York.

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Patented August 19, 1884. Saves one third to one-half by cooking feed.

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The best in the world. The knife is steel, and tempered. It is fastened to lever with three 1/2 inch bolts and can be easily taken off to sharpen. The length of cut is regulated by a lever to which the knife is bolted. The higher the lever is raised, the longer it will cut. All are guaranteed. Send for circular which will be mailed FREE.

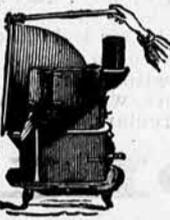
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is endorsed by FARMERS to be superior to all others as a LABOR-SAVING Creamer. are wanted in every town on liberal terms to handle our creamer and the WILSON CHURN. Send for Circulars, &c.

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Champion Cabinet Creamery.



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DAIRY IMPLEMENT CO., Bellows Falls, Vermont.

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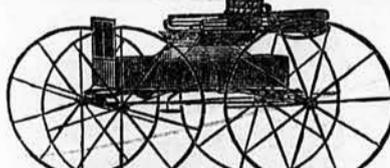
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Greatest LABOR SAVING Creamer in the market. We make a SPECIAL OFFER to the first purchaser in every town. It will pay you to write at once and get a creamer at less than wholesale prices. Address the



DELAWARE CO. CREAMER CO. Boston Harbor, Mich.

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New, CHEAP, SIMPLE AND Serviceable INSTRUMENT

for terracing, leveling, ditching and draining lands, laying off lots, and foundations for houses, etc., etc.

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ECLIPSE POST HOLE DIGGER.

The Greatest LABOR-SAVING tool ever invented for digging holes in the ground. This machine works on a new principle, and is unlike anything in the market. It is neither an Auger nor a Plunger, but is driven in the ground with a driving rod, which works in a pipe similar to a telescope. We claim for this tool: 1st. That one man can dig from two to three hundred holes two feet deep in ordinary ground in one day. 2d. That it will dig holes any size of depth required. 3d. That it will work successfully in very hard or rocky ground where other diggers and augers will not work at all. 4th. You stand up straight while using it, consequently no back-breaking work is required. It will pay you to send for descriptive circulars and prices to GOLE & FLEMING, Mfrs., Springfield, Ohio.



EUREKA MOWER Wide Front Cut And Direct Draft.

The only successful CENTER DRAFT MOWER manufactured. The lightest Draft Mower in the world. With largely increased capital, new and extensive buildings, equipped with special machinery and skilled workmen, we are prepared to furnish a Mower that HAS NO EQUAL.

AGENTS WANTED IN ALL UNOCCUPIED TERRITORY. SEND FOR ILLUSTRATED CATALOGUE.

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Farmers and Millers contemplating buying either hand or light power shellers and fast running light powers, adapted for various kinds of work, should write us for lithographic circular of our Tiger and Sweepstakes Shellers and Imperial Powers. The finest goods of their class on the market, and at bottom prices.

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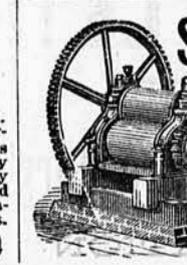
WOOD'S CULTIVATOR ATTACHMENT.



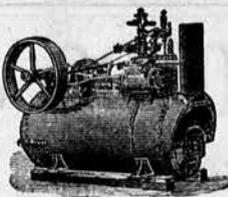
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Eighty Sizes, for Hand, Animal, Steam and Water Power. The Best, The Cheapest. Thousands are Now in Use. We are this year selling direct to the farmers giving them the benefit of Agents' discount for cash. Northern Cane Manual FREE on application. Address The Geo. L. Squier Mfg Co., Buffalo, N. Y.

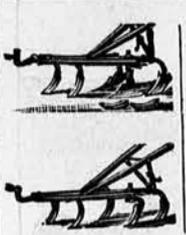


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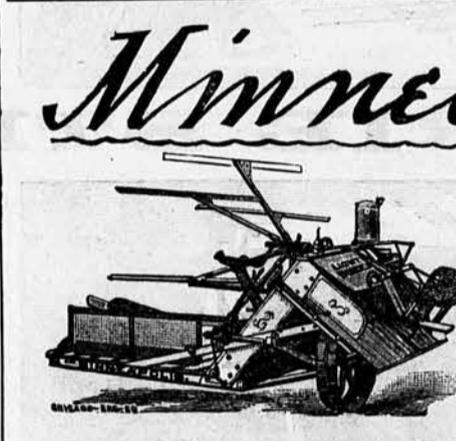
THE "PLANET JR" HOLLOW STEEL STANDARD HORSE HOE



As lately introduced, has no equal in the world. Its excellent work in the field has distanced that of all competitors. It is, in some sections, doing in one passage, the work of four or five old-style implements, and in others superseding the cumbersome and expensive two-horse tools. The "PLANET JR" HAND SEED-DRILLS AND WHEEL HOES are the newest and best, lightest and strongest known. There are 7 distinct tools, each with special merits, no two alike or the same price; all practical and labor-saving. Let no Farmer or Gardener fail to study up during the winter evenings our 1885 CATALOGUE, which gives reduced prices, careful and exact engravings of these different machines, and such descriptions as will enable the reader to judge correctly of their merits. Thirty pages and forty engravings. Free to all. Correspondence solicited. S. L. Allen & Co., Mfrs., 127 & 129 Catharine St., Phila., Pa.

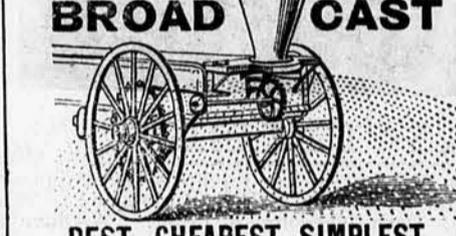


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A NEW DEPARTURE. The latest improved Binder in the market. The Lightest Draft, Most Reliable, Economical, Simple and Durable. Adapted to large and small farms, and is the choice of every wide-awake, judicious and independent farmer. It is unlike any other Binder made; has dozens of good points, which must be seen to be understood and appreciated. Call on our Local Agent and let him explain to you, or send for Circulars to the manufacturers MINNEAPOLIS HARVESTER WORKS, MINNEAPOLIS - MINNESOTA.

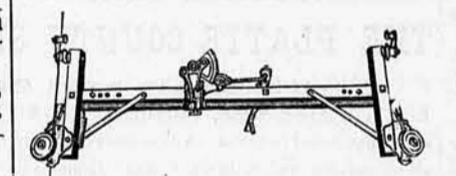
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Sows all grains, grass seeds, plaster, salt, ashes, commercial fertilizers - everything requiring broadcasting - any quantity per acre, better and faster than any other method. SAVES SEED by sowing perfectly even. Not affected by wind, as seed is not thrown upwards. Sows half or full cast, on either or both sides of wagon. Readily attached to any wagon or cart without injury, and used wherever they can be driven. Lasts a lifetime. Sows 80 acres wheat per day. Crop one-fourth larger than when drilled. Only perfect Broadcaster made; most accurate agricultural implement in the world. Endorsed and recommended by Agricultural colleges and best farmers in U. S. Fully warranted - perfectly simple. Do not be put off with any other. Send at once for new free illustrated catalogue with full information and hundreds of testimonials. C. W. DORR, Manager RACINE SEEDER COMPANY, 262 FOURTH ST., DES MOINES, IOWA.

WORKS ON ALL PLANTERS AND LEADS THEM ALL! Barnes' Wire Check Rower.

TWELVE YEARS' PRACTICAL USE IN THE FIELD. The Only Entirely Successful Wire Check Rower Ever Invented. Popular Because SIMPLE and EASY to Operate.



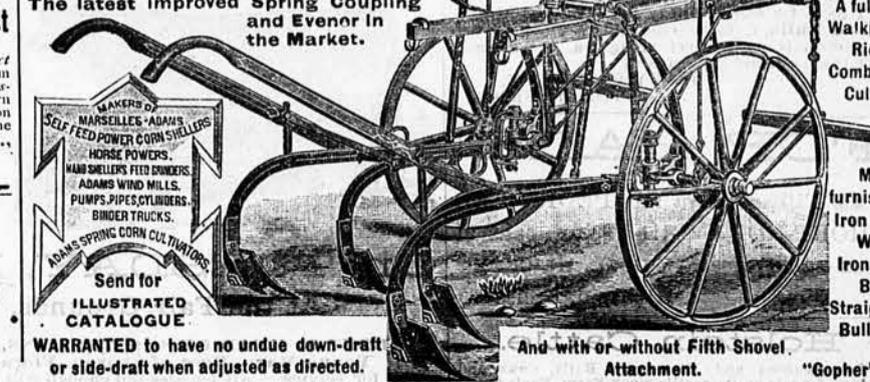
The Barnes Wire Check Rower is the first Check Rower that has ever accomplished the great object of making corn check in a perfection, thus saving both time and money. The unprecedented sales of the Barnes Check Rower is the best and most substantial evidence of its merits, as well as of its value and importance to the farmer as a Labor Saving Machine. The wire does not cross the machine, thus avoiding a Great Wear and Strain on the Wire and friction on the pulleys, and making a wire that does not cross the machine outwear several wires that do cross. This point is apparent to reflecting people.



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Only Single Ring Ever Invented that closes on the Outside of the Nose. BROWN'S ELLIPTICAL RING AND Triple Groove Hog & Pig Ringer. Only Single Ring that closes on the outside of the nose. No sharp points in the nose to keep it sore. CHAMBERS, BERING, QUINLAN CO., EXCLUSIVE MANUFACTURERS, DECATUR, ILLINOIS.

For Adams Standard Spring Cultivators, MARSEILLES M'F'G COMPANY



MARSEILLES, LA SALLE CO., ILL. The latest improved Spring Coupling and Evener in the Market. Makers of MARSEILLES-ADAMS SELF-FEED POWER CORN SHELLERS, HORSE POWERS, HAND SHELLERS FEED DRINDERS, ADAMS WIND MILLS, PUMPS, PIPES, CYLINDERS, BINDER TRUCKS, ADAMS SPRING CORN CULTIVATORS. Send for ILLUSTRATED CATALOGUE. WARRANTED to have no undue down-draft or side-draft when adjusted as directed.

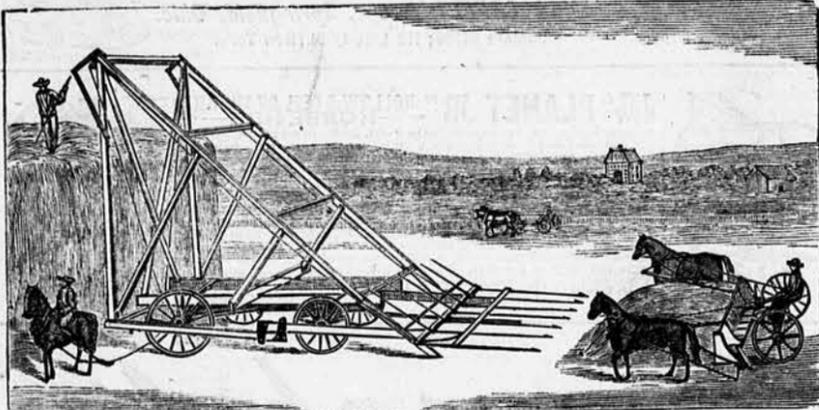
A full line of Walking, Riding and Combined Cultivators. May be furnished with Iron or Wood Wheels, Iron or Wood Beams, Straight, Twist, Bull-Tongue, or "Gopher" Shovels. And with or without Fifth Shovel Attachment.

ATLAS ENGINE WORKS

INDIANAPOLIS, IND., U. S. A. MANUFACTURERS OF STEAM ENGINES & BOILERS. Carry Engines and Boilers in Stock for immediate delivery.



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MANUFACTURERS OF **THE DAIN** —IMPROVED AUTOMATIC— **Hay-Stacker and Gatherers,**

THE GREATEST LABOR-SAVING, MONEY-SAVING, TIME-SAVING MACHINERY EVER INTRODUCED ON THE FARM.

Will save 50 to 75 per cent. in the cost of putting up hay over the old way. Does away with the hard labor of putting up hay; hay not touched with a fork from the time it leaves the mower until it is on the stack; is put up better than it can be done by hand, so that hay keeps better and is worth more. *The cost of a Stacker and two Gatherers saved in putting up every seventy tons of hay!* No farmer who puts up hay can afford to be without it. Makes a farmer independent. One man, three boys and five horses, will do the work of ten men and six horses.  Send for full Descriptive Circulars.

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SOMETHING Every Farmer Should Have!

Roll your Wheat; it will pay! Prepare your Ground for Crops! Roll your Corn; Break up the Clods; Press the Earth around the Roots.

THE CHEAPEST AND BEST ROLLER EVER INTRODUCED!

 For \$40 Cash, or \$38 Each in Clubs of Four, we will deliver this Roller on board cars at Kansas City. *Think of it!* A Steel Roller for this price, when other manufacturers have been asking \$75 to \$100 for Iron Rollers!

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SEED DEPARTMENT. WE QUOTE A FEW SEASONABLE SPECIALTIES, IN WHICH WE ARE offering unusually low prices, because we have good large stocks. We also have large stocks of all kinds of Grass Seeds. Will give prices promptly upon application.  **JERUSALEM ARTICHOKE**—\$1.10 per bushel, packages included. **EARLY AMBER and EARLY ORANGE CANE SEED**—In lots of 1 to 50 bushels, \$1.00 per bushel. Fifty bushels to car load, 90 cts. per bushel. (Packages included.) Special prices in car lots. Cash to accompany order. We have large stocks of **GERMAN MILLET, COMMON MILLET, HUNGARIAN and BUCKWHEAT**, upon which we will be pleased to give special prices upon application. Write for our prices on **SWEET POTATO PLANTS** in season. It will pay all who have not tried our **RELIABLE GARDEN SEEDS** to plant none other.  **ANNUAL CATALOGUE FREE.** Address **TRUMBULL, REYNOLDS & ALLEN, Kansas City, Mo.**

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"For Sale," "Wanted," and small advertisements for short time, will be charged two cents per word for each insertion. Initials or a number counted as one word. Cash with the order.

L. C. JORDAN, Ottawa, Franklin Co., Kas., breeder of choice Langshans, Wyandottes and Colored Dorkings, Houdans and Brown Leghorns. Eggs, \$3.00 per 13.

FIVE EXTRA YEARLING SHORT-HORN BULLS For sale cheap. L. A. Knapp, Dover, Kas.

960 ACRES GRAZING LAND—All in a body. Also 800 sheep for sale. Call on or address J. W. Stewart, Eagle Rapids, Smith Co., Kansas.

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—Breeders of—

IMPROVED POLAND-CHINA HOGS
Of the Highest Type.
All well pedigreed. Correspondence solicited

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I have for sale 5 finely bred young Short-horn Bulls, fit for service. They are gilt edge individuals with select pedigrees. Come and see them or send for terms to **HENRY BLAKE-LEY,** Peabody, Kansas.

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 Fifteen extra fine PEDIGREED SHORT-HORN BULLS for sale at reasonable prices. **G. W. GLICK,** Atchison, Kansas.

Holstein Cattle.

Thoroughbred and High-grade Bulls, Cows and Calves, for sale on Dairyville Stock Farm, Eagle township, Sedgwick Co., Kas. Inquiries answered by **J. SIMON,** Agent, Sedgwick City, Kas.

IMPORTANT PUBLIC SALE
—OF—
75 HEAD OF SHORT-HORN CATTLE!
—AT—
Weston, Mo., Monday, May 18, 1885.

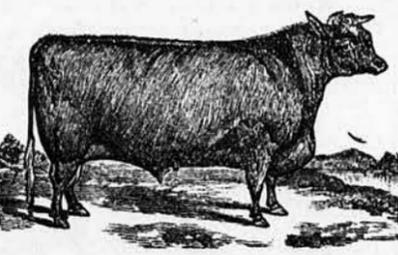
THE PLATTE COUNTY SHORT-HORN ASSOCIATION

WILL SELL **50 Bulls and 25 Females** of the following families: **RUBY, WHITE ROSE, VICTORIA, YOUNG MARY, ROSE OF SHARON, MRS. MOTTE,** and other noted families. A rare chance to buy first-class hardy animals. Most of them run out all winter, but will be in the best condition to be valuable to purchase.

WESTON is midway between Kansas City and St. Joseph. Special passenger rates over K. C. and H. & St. Jo. Trains arrive about noon from north and south, connecting with roads east and west. Sale under tent at 1:30  Write for catalogue to **C. THORP, Secretary,** WESTON, MO.

COL. L. P. MUIR, Auctioneer.

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—OF—
SHORT-HORN CATTLE!!

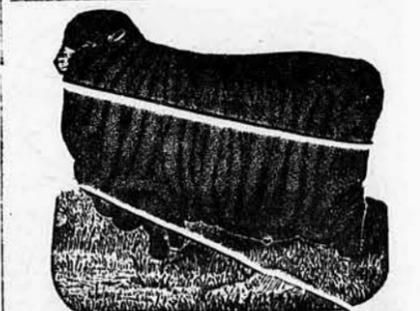


THE Cass County Breeders' ASSOCIATION
—WILL SELL—

On **TUESDAY, MAY 5th, 1885,**
At the Fair Grounds, **PLEASANT HILL, Mo.,**

ABOUT 50 HEAD OF SHORT-HORNS, of the following well-known and popular families: **Young Mary, Rose of Sharon, Flora, Miss Severs.** About one half will be bulls ready for service. All females old enough will be bred or have calves by their side. Catalogues can be had on application to **W. H. H. CUNDIFF or J. T. NEAL, Sec'y,** PLEASANT HILL, Mo. **COL. L. P. MUIR, Auctioneer.**

THE PERCHERONS VICTORIOUS
IN THE
Contests of Breeds!
ONLY TWICE
Have the Great Herds of the Rival Breeds of Draft Horses met in competition: First, at **CHICAGO IN 1881,** where the finest collections of the British and French races competed for the **\$1,000 PRIZE.** offered, which was admirably won by **M. W. Dunham's** Herd of Percherons. Next, again at the **WORLD'S FAIR at New Orleans, 1884-5,** where four of the Best Herds in America of the different breeds were entered for the **\$500 SWEEPSTAKES HERD PRIZE,** and again **M. W. Dunham's** Oaklawn Stud of Percherons were victorious. Here, also, Mr. Dunham was awarded the **First Prize in Every Stallion Class** entered for, as follows: For Stallions 4 years old and over—23 entries—**Brilliant, first;** Stallions 3 years old—23 entries, **Confident, first;** Stallions 2 years old—13 entries, **Cesar, first.** Also, first for Best Grade Stallion, **M. W. DUNHAM, WAYNE, DU PAGE CO., ILLINOIS,** now has the following Pedigreed Stock on Hand: **150 Imported Brood Mares, 250 Imported Stallions.** Old enough for service, also, 100 Colts, two years old and younger. 140 Page Catalogue sent free. It is illustrated with Six Pictures of Prize Horses drawn from life by **Edouard Bonheur,** the most famous of all animal painters.



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Breeder of pure Merino Sheep. Registered in Vermont and Missouri Registers. Largest flock in the State. Plymouth Rock chickens and Bronze turkeys. Catalogues free.

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FORKS, PULLEYS, ETC.
Farmers who order early, will get **Rock Bottom Prices.** Satisfaction Guaranteed. Send for illustrated Circular and Price List. **GEO. W. KING, Box 20, Marion, Mo.**