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The Web Worm.

For the Illinois crop report of June, Prof. Forbes, State Entomologist, prepared a paper which will be of much interest to farmers. We gather its substance from an article in the *Western Rural*. Among other things

was sent to us last year from various localities in Henry, McLean, Macon and Livingston counties, and doubtless occurs everywhere throughout Illinois. There was no evidence that the previous history of the land had anything to do with the prevalence

The Blue Blue Valley Herd.

Imported Double Gloster 55406 (49383), the bull illustrated on this page, now heads the Blue Valley Herd of Short-horns owned by W. P. Higinbotham, Manhattan, Kansas. The bull is a pure Cruickshank, bred by

during the summer, Mr. Higinbotham believes that first-class stock deserve first-class quarters, and therefore has provided all the modern improvement for the stock. Everything in his establishment is conducted in a mechanical, systematic and business-



"Imp' Double Gloster"
A CRUICKSHANK SHORT-HORN BULL OF THE BLUE VALLEY HERD.
Property of WM. P. HIGINBOTHAM, Manhattan, Kansas.

he says: "Much additional information is still to be desired, and I report here the facts already made out, in the hope that other observers may be induced to assist in the completion of the life history of the species, and may help to a fuller knowledge of its origin and its injury to vegetation. Although working somewhat like the cut-worms, it belongs to another family of moths, and may easily be distinguished from these pests by its habits, and the character of its injuries. If a hill of corn damaged by this insect be carefully examined, a mass of dirt, loosely webbed together, will invariably be found just beneath the surface of the ground, close beside the young stalk or among the larger roots. If the nest, which is irregular in shape, and commonly about as large as a hickory nut, be opened, a reddish, bristly, active worm, half an inch or a little more in length, if full grown, will be found hidden within the matted earth, evidently serving as a retreat from danger. The stock of the affected plant will be found gnawed irregularly beneath the earth, sometimes wholly severed, as by a cut-worm, but more commonly scarified or bored lengthwise, either superficially or through the center of the stalk. From one to ten larvae may be found in a single hill. The species

of the insect. Whether a second brood occurs or not is wholly uncertain, and to this point special attention is asked of those that work in the corn-field throughout the Summer. Information tending to show that the larva feeds on any other plant than corn will also be especially useful and welcome. The injuries inflicted occur so early as to permit replanting in most seasons in case they should be of serious import, and this species is consequently to be classed with cut-worms, so far as the effect of its injuries to corn is concerned. Minute mites, which attacked the pupae in our breeding cages, and were apparently responsible for the loss of nearly all the larva we attempted to rear, probably also attacks the worm in the field. Besides this, I determined by dissection that certain predaceous beetles, especially abundant in fields infected by the web worms, had also been feeding upon them. Further than this, we have no knowledge of natural checks on the increase of the species.

The ushers who acted at a wedding held in Baltimore two years ago were the pall bearers at the funeral of the bride last week, and invitations to attend the funeral were sent out to all who had been invited to the wedding.

Amos Cruickshank, Esq., Sittydon, Aberdeenshire, Scotland, and imported in the fall of 1883, by James O. Davidson, of Balsam, Ont. He is of the Duchess of Gloster tribe, topped with Mr. Cruickshank's best sires. Double Gloster was purchased by W. A. Harris, in January 1884, and afterward at a long price to be used on the Blue Valley Herd, which is now conceded to be one of the largest and best in the West. The drafts from this herd that have been sold at occasional public sales have always realized the highest prices and uniformly have gone to build up representative herds in the State. Mr. Higinbotham has always exercised commendable enterprise and good judgment in the selection of the breeding animals for his herd and stud, hence the produce is in constant demand by breeders who are seeking good stock. The Blue Valley herd of thoroughbred Short-horns numbers 109 head of representative cattle, the females are bred to Double Gloster, assisted by Col. Barrington 55135, a straight bred Young Mary bull.

The Blue Valley Herd comprises in addition to the above 300 grade Short-horns and about ninety head of young well-bred horses; also some forty brood mares, which are bred to a noted stud which will be illustrated

like manner. The establishment is well worthy a visit and every patron can depend upon a square deal.

Topeka Stock Yards Sales.

The representative sales of live stock at the Topeka stock yards for the week ending Saturday, June 27, are as follows:

Yearling steers at \$18; fat hogs, weighing from 230 to 290 lbs., sold at from \$3 to \$3.20; Texas ponies sold at from \$30 to \$32.50; sixty sheep averaging fifty-six pounds at \$2.50 per 100 lbs.; twenty calves, weighing from 155 to 200 lbs., sold at prices ranging from \$3.40 to \$5.25 per 100 lbs.; twelve old cows, stockers, sold at from \$21 to \$24 each; milch cows and springers at prices ranging from \$25 to \$37.50; twenty fat steers, weighing from 960 to 1,100 lbs., sold for from \$4 to \$4.50; sixty fat cows, 960 to 1,180 lbs. average, brought prices ranging from \$3 to \$5.50, the prevailing price being about \$3.10; 140 2-year-old heifers sold for from \$18 to \$20, 100 head of this lot were shipped to Denver parties.

The business of monarchy promotes longevity. Witness the ages of the following rulers: The Emperor of Germany is 87; the King of the Netherlands, 67; the King of Denmark, 66; and Queen Victoria, 65.

Horticulture.

About Budding.

It is about time to do the work of budding. It is a simple operation and consists merely of placing a bud from one variety on the stem or branch of another variety. If the object is to change the character of the whole tree, the budding must be done near the ground, and the old stem above the bud cut away the next year. If the object is to merely get a different kind of fruit on one or more branches, the work is done on the upper side and pretty near the inner end. The operation consists of cutting a long slit, say an inch and a quarter long and a short cut across the long one at the upper end, both deep enough to reach the wood and so that the bark may be raised without injury to either bark or wood. The cuts will look like a capital letter T without any points. The bud is taken from a healthy branch of this year's growth, by slipping a sharp knife-blade under it toward the inner part of the tree, beginning just a little above or beyond the bud, and running about three-fourths of an inch, taking a very thin slice of the wood. The bud, when removed, ought to be about three-fourths of an inch long. Cut off the upper end under the bud proper, to a neat, square shoulder; then open the incision, raising the bark carefully on both sides of the long slit, and slip the bud under the lips, dropping the bud in so that the shoulder will fit neatly against the edge of the cross cut. Tie with wool yarn, or a rag, or anything that will be a little yielding, and yet hold the bark firmly on the bud. If a little grafting wax, or other soft substance is plastered over the wound it will be servicable, but is not necessary.

July is generally the best month for budding. "The time for cutting the buds should be when they are sufficiently matured as to be rather firm and hard in texture, and they are as a rule in the best condition when the terminal bud has formed. The leaves should be immediately removed, to prevent withering. Leave about a quarter of an inch of the footstalks of the leaves, so that they may be used for handling when inserting the buds."

Stocks that are in the best condition need not have the bark raised any further than to admit the lower part of the bud, for as the bud is pushed downward it will perform the operation itself; and as a matter of fact, when the bark does not peel freely enough for this, there is no certainty of success. If for any reason there should be a failure at first, repeat the operation. The essential requisites for success in budding, says a well known authority, are first, a rapidly growing stock so that the bark will peel very freely; second, a proper time; not so early that there will be too little cambium or mucilaginous cement between the bark and wood, for the adhesion of the wood; nor so late that the bark will not peel, nor the subsequent growth sufficiently cement the bud to the stock; third, buds sufficiently mature; fourthly, a keen, flat knife for shaving off the bud that it may lay close in contact upon the wood of the stock; fifthly, the application of a ligature with moderate pressure, causing the bud to fit the stock closely.

Paris green used on plants destroys worms and dangerous insects generally. A tablespoonful of Paris green in half gallon of water and boiled, may be sprinkled on plants to good purpose. London purple is said to be better in some cases, and particularly on tree worms.

Horticultural Notes.

Look well to the grape vines. In every case where a cane is long enough, pinch off the end. That will check linear growth and stimulate the growth of laterals, at the same time produce hardiness, and it operates to strengthen the vine.

Young grape vines ought not to be allowed to bear promiscuously. Until a vine is four or five years old, it ought to be checked in fruitage every year, not stimulated. By pinching off the ends of bearing canes as soon as the number of bunches you want to remain are formed, you have the matter under perfect control. A two-year-old vine may bear two or three bunches, and as the vine grows older, the fruitage ought to be regulated so that it should be light until the vine is strong and well rooted. Say three bunches the second year, ten bunches the third year, twenty bunches the fourth year, and after that a full crop. Heavy fruiting the first few years has a tendency to weaken the vine.

Willow cuttings may be planted on the open prairie sod, and grown there successfully, if we may believe a correspondent of the *Farm, Field and Fireside*. He thus describes his method: "For a fence, scatter a heavy mulching of straw or old hay right along in a straight line, say four inches thick after it is well trodden down. Prepare your cuttings from fourteen to sixteen inches long, from one-half to one inch in thickness; sharpen them, draw a line so as to have them straight, and drive them right through the mulching, leaving only an inch or two out. The cuttings hold the mulching and rot the sod, which keeps them moist, and they will be sure to grow. In a new country where straw is plenty it is the easiest way to tend them. And mulching after they are up six feet high helps them to grow. For a wind-break or a little patch of timber, set the same way. For a fence, drive one foot apart; for timber a little farther."

A writer in *Vick's Monthly* says: "In fall I replot my roses in good rich earth, one-third well-rotted barnyard manure, in two quart common earthen jars. Cut them well back and water. Then place them in a room up stairs, with an east window, heated by a hall coal stove, never exceeding 50 degrees; every fine day leave window open. When buds commence to show themselves, give them a good drenching with warm water, first turning the dirt from the edge of the jar, and putting a teaspoonful of commercial fertilizer all round. Do not water again for three or four days. I repeat this three times during winter, and have always lovely buds, blossoms and foliage, which is beautiful in itself. Have no insects till April or May, when there are a few aphides. In June cut back again, and place in a rich border, where they blossom till I take them in. I have only lost two plants in six years; do not remember the names of the varieties, but will give the colors: white, pale yellow, golden yellow, carmine and buff, yellow tinged, with rose and pink."

Enemies to the Currant.

A writer in the *Massachusetts Plowman* says:

Just as the fruit grower begins to congratulate himself on having conquered the first and second crop of currant worms, he goes into his garden to find that a very large number of the ends of the twigs of his currant bushes are lying on the ground, and a considerable number only half broken off, but still hanging to the bushes in a wilted state. He wonders what the trouble is, and if he gives it but a passing thought, concludes that the new growth is so tender that they have been broken off by the wind. Should he stop to examine he will discover that they have

been bitten off by some insect; close watch will convince him that the work has been done by a long bodied and long winged fly, nearly the shape as to length, of a winged ant. They are very sluggish and are easily caught. If no further investigation be made, the fruit grower only laments the loss of the new growth of his bushes, but as they soon start again he concludes that the injury is not very serious, and so he turns his attention to more serious troubles, among them the worm that kills whole stalks by eating down through the heart of the stalk. This troubles him very much because he does not know how to prevent it; when he discovers the dying stalk it is too late to prevent the mischief, so year after year he is compelled to see his bushes die out, with no power to prevent it. He has not the remotest idea that the fly that cut off the ends of the twigs had anything to do with it, but the fact is, he is the identical rogue that is at the bottom of the trouble.

It is the female fly that cuts the twig partially off that she may prepare a place wherein to lay her eggs, after cutting the twig perhaps half off, she lays an egg which in a short time hatches out and begins to eat its way down in the centre of the twig, growing larger and larger as it descends, until when full grown it is large enough to very much injure, if it does not kill the stalk. When this fact is fully understood the remedy is easy and sure. When a twig is found to be eaten off, to destroy the egg, cut off another inch of the twig. It may sometimes be necessary to go over the bushes twice, but as a rule once is enough, if the cutting is not done until four or five days after the flies first appear; but if it should be necessary to go over them the second time, it can be readily seen which twigs have been cut with a knife, and which by the flies. By adopting this practice a few years it will be found that the number of flies will be greatly reduced, so that the work of cutting the twigs will be very trifling.

Rose Gardening in June.

A correspondent of the *Country Gentleman* recently prepared a good article on rose culture and the care of rose plants in midsummer, from which we take what follows:

Roses must have daily care to keep them from the attacks of the rose bugs, slugs and aphides, or green lice, which will devour them if not resisted. The last named insects are the most disgusting pests of the three, for they cover the stems of the roses so thickly that they will destroy their beauty very quickly. An hour's work in the morning or evening, however, will keep a large rose garden entirely free from these destructive insects, but if you neglect them one day, you will have cause to regret it. For the rose bugs, a hot water bath is the best remedy to be applied. Take a pail of boiling water and shake the branches infested with them over it, and large quantities can be rapidly destroyed. Do not let one escape, and in about ten days you will have rid your garden of them all.

For the slugs, a different course must be pursued, as the small white flies hide under the leaves when in their first state, and eat them into lace work; but after a while they turn into small green worms, which devour the rose buds. Pyrethrum or insect powder, scattered all over the bushes, when wet with the dew, will kill hundreds of them, but if still they come, sift air-slacked lime all over the bushes; the first rain will wash it all away.

If you prefer to water the rose bushes with a sprinkler, fill with whale-oil soap and water, you must be careful to do it so thoroughly, that it will be felt on both the under and upper side of the leaves, and a plant syringe will do the work better than the hose or watering pot. Make a solution of two pounds of whale-oil soap, dissolved in fifteen gallons of water, and add to it two quarts of fine salt or three pints of coarse salt. White hellebore or wood ashes scattered over them are equally good to destroy the pests. The aphides will succumb to any one of these above remedies, if they are thoroughly applied. Crushing them between the thumb and fingers is also an efficacious application, but not a very agreeable one to the applier.

There are two crops of the slugs every summer. The first appears in May or June, and when the larvae are fully grown, they will fall off the Lushes into the ground, where each will turn into

a small chrysalis, and in due season another crop of white flies will appear and a new supply of eggs will be laid, from which another army of slugs or worms will be developed. Therefore you must diligently destroy the first crop so that the second one cannot annoy your autumn roses. But if they come, repeat the applications faithfully, so that you will not have as large an amount of pests to fight another season.

Roses are high livers, delighting in the richest food you can procure for them, and amply repaying you for all the fertilizers and stable manure that you will heap around their roots. It seems as if, in the open border, one could hardly supply them with too much stimulant, so freely do they respond to its use, by producing large quantities of buds and flowers of great size and beauty of coloring. The soil best suited to their needs is a stiff, clayey loam, well mixed with manure, thoroughly decayed, and with some commercial fertilizer added in large quantities—dug into the ground a few inches from the main stems.

I have thirty-five or forty varieties of mosshybrid perpetuals and summer roses in my garden at this time, covered with luxuriant foliage, and filled with buds, single and in clusters. A large amount of horse manure was placed around their roots last November, and the more delicate varieties were laid down and covered with sods, which protected every little branch from the intense severity of our northern winter, which was prolonged into April the past season. When they were uncovered, by the third week of that month, they were pruned with an unsparing hand, and all the old wood was cut out. A large supply of thoroughly rotted horse manure was then dug into the ground around them. By the second week in May, guano was dug into the roots, with a trowel, and now the bushes are showing the effects of this treatment.

There are ten classes of roses now offered by rosarians and florists: Summer or Garden roses, Climbing roses, Noisettes, Moss, China or Bengal, Bourbon, Hybrid Perpetuals, Hybrid Teas, Teas, and Polyantha roses. No garden is complete without several varieties of each of these most desirable classes.

An experienced sheep-raiser and wool-grower in Texas says "the sheep for Texas should be large, with long, light wool, and that the ewes should have udders like cows; that Merinos will not do; hot weather and scab will get away with them every time. He thinks the Shropshire on the Merino will give the sheep he has in mind, as such would give a long medium wool, with eight to ten pounds to the fleece; be 'feeders,' and the mother ewes give milk more than sixty days."

Here is a sensible item: "Somebody says it is worry more than work that kills men. So it is with horses. If you work your horses and bring them in to a hasty meal in a clean, cool stable, free from the flies, they are thrifty and healthy, but if you take your hard worked horses into a hot, dirty stable, with myriads of flies to bother the life out of them when they are tired and hungry, that worry is harder than work. Reader, if you value your horses and their comfort, put up nettings to keep out the flies and keep your stables clean and cool."

As to manipulations in canning fruit, a great many glass vessels have been cracked when the hot fruit was poured in. One housekeeper that we know of holds a large spoon in the jar, one end resting on the bottom when she pours the fruit in. Another way is thus described by a correspondent: "Instead of gradually heating glass jars and jelly tumblers, use an iron rod or wire about the size of a slate pencil, seventeen or eighteen inches long, and bent into a hook or ring at one end, to answer for a handle. When your fruit is cooked and ready for the jars, insert this wire, making sure that it touches the bottom of the jar, then fill up the cold jar with boiling fruit or jelly. Do not be afraid; you will not lose as many jars as you will by putting them in cold water and gradually heating them in the old way. Imperfect jars will break either way. In twenty years I can only recall the loss of one jar."

Mica Axle Grease is composed of the very best grease and powdered mica. Powdered mica is an almost perfect lubricant of itself. Mica Axle Grease reduces friction, keeps the axle cool and preserves it against wear.

In the Dairy.

About Making Cheese.

A Kansas man wrote to the *Western Rural* for information as to cheese-making, and the editor responds as follows:

An Abilene, Kas., correspondent asks for directions for making cheese from the milk of two cows. There are certain things that are indispensable for making cheese whether it be done on a large or small scale. There must be a vessel large enough to hold the milk. While a wooden tub is best, it may be a boiler or kettle. It scarcely need be said that whatever it is it should be strictly clean. There must be means of warming. Where the operations are upon a small scale this may be done by means of the cook stove. There must be a supply of rennet, and this must be provided and soaked before operations are begun; and there must be a hoop for pressing the cheese. Whatever may be necessary or desirable in the way of utensils, may be procured of Chas. P. Willard & Co., Chicago, or any other dealer in dairy supplies. Having made these preliminary arrangements, warm the milk to about 84 degrees, being very careful not to burn it. Add enough rennet to cause the milk to curdle in fifteen minutes, and cover it to keep it from cooling. No rule can be laid down as to the quantity of rennet to be used. That must be settled by experiment or trial. It is estimated that a first-class rennet that is well soaked and rolled will curdle 2,000 quarts of milk. But rennets vary so much in strength that, as before said, no rule can be laid down. "When the curd becomes so hard as to cleave before the finger when pressed through it," insert a blade that will reach through to the bottom of the vessel, and cut it into squares about an inch square. Then cover once more and give time for the whey to separate. In fifteen or twenty minutes dip off the whey and break the curd up with the hands into pieces about the size of a hickory nut or perhaps walnut. After this is done, take water that is heated to about 150 degrees and in quantity equal to that of the whey which has been removed, and turn it into the curd, stirring it until all is equally warm, covering it again and letting it stand about twenty minutes or for such time as the curd will not stick firmly together. Then dip off the liquid again, break the curd up fine and again turn on hot water and mix the mass evenly by stirring it gently. Stir often enough to keep the pieces of curd from adhering. Keep covered and let it stand until the curd hardens; and when it squeaks between the teeth it is hard enough.

"When the curd has been stirred till it is free from whey and becomes a little cool and the large lumps broken up fine so it will all receive salt about alike, salt at the rate of one ounce of salt for each ten quarts of milk. The salt should be thoroughly mixed through the curd, and when that is done put the curd to press. When it is sufficiently stuck together so that it may be handled, remove the curd from the press and put on a new press cloth, turn it upside down, fold the cloth evenly over it and again press for twenty-four hours. After it finally comes from the press, let it stand for a couple of hours that it may dry. Then rub over it some soft grease and every day it should be turned and rubbed, for from thirty to sixty days, until it is cured." That is all there is to do for a cheese for home use. Our correspondent will not need a press for so small an amount of cheese, that is if he means to make cheese only for family use. A curd that is properly prepared will form into a very good cheese of its own weight. But it is recommended that when no pressure is used that the hoop should be made of perforated tin to allow the escape of the whey, with top and bottom of the same material. The top and bottom are made to fit like lids, and this enables the cheese-maker to turn the curd every few minutes while it is warm, thus producing smoothness on both sides. To make cheese without pressure, the curd should be put into the hoop quite warm. Cold curd cannot be made to adhere without pressure.

Waldo Brown gives the following directions for family cheese-making: "But a small outlay will be necessary for fixtures, as the wash-tub can be used for the whey, but a new, clean tub should be bought in which to set the milk. A cheese-basket, or drainer, with flaring sides and perforated bottom,

will be needed to set over a tub to drain off the whey. A hoop, in which to press the cheese, which is best made of tin; a dozen cloths, which should be a yard square and made of cheap, coarse muslin; a press, a thermometer, a wooden bowl and a chopping knife, a cheese-ladder, a curd-knife, and a few smooth, wide shelves, on which to cure the cheeses, makes up the inventory.

"The sides of the basket should be flared, so that it can be used on tubs of different sizes. The holes in the bottom should be one inch in diameter, and there should be enough of them to give quick and free escape to the whey. The hoop should be of heavy tin, and is exactly like a peck measure with the bottom out; a good size for from five to eight cows would be ten inches in diameter and eight deep. It is best to have two sizes, as the quantity of curd will often vary. A 'follower' must be made for the hoop, by which is meant a round piece of board made to fit loosely inside of it to settle and follow up the cheese as it is pressed. It should be cut from a two-inch board, and have a strip screwed on to the top across the grain of the wood to keep it from splitting. This strip, if grooved at the sides, makes a good handle by which to lift the follower out of the hoop.

"The press may be a cheap affair, and the simplest and best form is made with a lever, on which weights are hung to increase the pressure as the cheese needs it. A screw-press, however, will answer for the purpose. A common hash-knife will answer to chop the curd to get it ready for salting. A cheese-ladder consists of four pieces of wood one by one and a half inches. It is convenient for holding the strainer, and also for keeping the cloth out of the milk when the rennet is first added. A strip of tin will do for a curd-knife.

"You will need to provide rennet, and that which is a year old is considered the best. The best rennet is from a calf from one to four weeks old. It should be emptied of its contents, thoroughly salted, and dried without any washing or scraping, and when dry should be put away in a dry place where it can be kept from flies and insects. To prepare for use, soak for twenty-four hours in one gallon of warm water, rubbing and working often to get out the strength. Add as much salt as the liquor will dissolve, strain, let settle, and it is ready for use. If it be kept some time add the juice of a small lemon and about one-fourth ounce each of cloves, cinnamon and sage. Bottle it and keep it in a cool, dark place. The rennets, if dried and salted, will gain strength and can be used a second time.

"In setting the milk, the temperature should be about 96 degrees. The new milk will be nearly the right temperature, but the milk which has stood overnight must be warmed, and the better way to heat it is by setting a tin pail of boiling water into the tub. The cream may be removed from the night's milk and used for making butter. The night's milk should be heated while the cows are being milked, so that the rennet can be put in before breakfast, as it is important to get the work done during the cool of the day.

"It will require some little experience to ascertain how much of the rennet liquid to use; but if made as directed, try a tablespoonful for each three gallons of milk. If it is much over a half-hour in 'coming,' increase the quantity; if much less decrease it. The tub should be covered with a cloth, to keep it from cooling while the milk is curdling, and it should not be jarred by walking over a springy floor. When the milk has curdled, so as to appear solid, cut carefully with the curd knife into strips an inch wide, and then across, so that at the top it will look as though divided into inch squares. In many dairies a knife with horizontal blades an inch apart, like the bars of a gridiron, is used to cut the curd so as to divide it into cubes an inch square. As such a knife would cost but little, I would advise that it be procured. It could be made of tin; or a light frame, with fine wires stretched across, would answer. I only used the strips of tin for a knife, and then, after the whey began to separate, and the curd hardened a little, lifted it gently from the bottom with a ladle.

All the handling of the curd, in the early stages, must be done with great care, or the whey will be milky in appearance, showing that the cream is being washed out. As the whey begins to separate, spread the cloth over the top, and begin dipping it off as it comes through. As soon as you can dip up a half-gallon of whey, let it stand on a cloth in a dipper, as this will give about

as much pressure as is needed at this stage. Heat some of the first whey dipped to a little above one hundred degrees, and pour over the curd. By increasing the pressure, and an occasional cutting with the curd knife, and careful stirring, the curd will harden so that in about an hour from the first cutting it can be dipped into the cheese basket. You will first spread one of your cloths in the basket, and dip the curd carefully into it, and then, by gently lifting the corners and drawing them to the center, you will press the curd and drain off the whey. As the curd hardens, you will occasionally slice it both ways and increase the pressure by drawing up the corners of the cloth, and folding them over the curd, and placing a square piece of board on it and a weight—a smooth stone, of twenty or thirty pounds' weight, can be kept for the purpose. In from one to two hours after dipping up, the curd will be solid enough for the press. It should be of such consistence that it can be crumbled between the thumb and finger. It should now be chopped fine, and one ounce of salt added for each five pounds of curd, and it is ready for the press.

It is desirable that the cheese be of sufficient size, and if one has but four or five cows, the curd can be kept over till the next day, and two put together. It can be kept on ice or in a cold spring-house, by spreading it out in slices in pans. A better way, however, is for two neighbors to co-operate and put their milk together, each making a cheese on alternate days.

Place one corner of a cheese-cloth over the hoop, so that when settled to the bottom it will cover the sides and leave enough to spread over the top. The edges must be folded over nicely and the follower put on. The pressure must be gentle at first, or the cream will run out and leave the cheese poor; but it may be gradually increased, and in a few hours the cheese is ready to turn. Take the cheese from the hoop and spread a clean cheese-cloth over it and press the hoop down around the cheese. Have the cloth placed so that there will be width enough at one side to spread over the top of the cheese. Now lift the cheese and hoop together and invert it, so that what was the top of the cheese at the first pressing will be turned down. Spread the cloth over the top smoothly, and with the left hand hold the narrow edge of the cloth while, with a common table-knife, you tuck down inside of it the edges of the cloth that covers the top of the cheese. The object of this is to give a good smooth edge to the cheese and preserve a good shape. Part of the cloth will now hang outside of the hoop, while at the first pressing it was all folded under the follower. If the cheese remains in press more than twenty-four hours, it should be turned a second time, for if left too long the cloth will be likely to stick to it and tear the rind.

The Veterinarian.

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

BUNCH ON HORSE'S NECK.—In the early part of winter I noticed a hard bunch, about as large as a common bean, on my horse, midway between ear and shoulder. In February it began to increase in size until it extended across one side of neck, remaining so about a week, after which it went away, except the former bunch. In about four weeks more it did the same thing. At such times it is about four inches wide, and sore; otherwise the horse acts and eats as well as any horse. Please give me some information as to its cause, name and cure. [Clip hair off of and around the enlargement and apply golden blister, covering a space four inches in diameter. If this does not eradicate the difficulty, it will require dissection.]

PARALYSIS IN HOGS.—Several of my hogs are suffering with paralysis (I take it to be such—lameness across the back, and unable to get up); appetite fairly good, etc. I have very good quarters for them, and think they are properly fed. They are out either in the yard or in pasture during the day. Their feed is corn in the ear twice a day and slop—rye and swill or wheat and swill. The water here is strongly impregnated with iron, but has always been considered healthy. Will you kindly inform me the general cause of paralysis? [Strong or stimulating food, or the forcing of flesh, is supposed to be a prominent factor in the production of this kind of

paralysis. We know that the invasion of the muscles by parasites produces it.]

CAPACITY OF STOMACHS.—I have heard it stated that to feed a horse over a certain weight of grain was simply throwing food away, as the horse's stomach could only assimilate so many pounds of food. If such be the case with the horse, the same rule will apply to the ox, the sheep, and the pig. I would like to ask you to inform me on the following: (1) What is the capacity of the stomach of the different animals above named? (2) How many pounds of grain or artificial food is required for sustenance food, and how many pounds over that, are each of the animals capable of assimilating? (3) What is the lung capacity, and how much cubic area is required by an average-sized animal of each of the breeds? [The horse has the largest lungs, and their capacity is twenty-six pints; those of the ox about eighteen pints; those of the pig and sheep have been investigated. The cubic area required by a horse is 1,000 to 1,200 cubic feet; for an ox, 600 to 800 cubic feet; for a pig or sheep, from 150 to 300 cubic feet. No animal can assimilate more than a certain quantity. The same rule does not apply with the horse and ox, as regards the feeding of them. The capacity of the horse's stomach is three gallons. The capacity of that of the ox is five gallons. The horse must, from the size of his stomach, receive food in small quantities and frequently. The ox does not require to be fed so frequently, for he can take a very large meal at a time, and then employ a considerable time in remasticating it. The capacity of the pig's stomach is comparatively small—two gallons; and the pig therefore requires to be fed frequently. The capacity of the sheep's stomach is proportionate to the ox's, and it must be fed similarly. Professor Dick found that a horse not working could be kept in fair condition on twelve pounds of hay and five pounds of oats, but if a good amount of work has to be done he should receive fourteen pounds of hay and twelve pounds of oats and two pounds of beans. We know of many horses that receive twenty pounds of oats and two pounds of beans, and hay *ad lib.*, but they are used for very fast work, and are kept in prime condition. The quantities of sustenance food depends on the nature of the animal; some require very little, others a great deal. Young animals require far more than old animals; fat animals more than lean ones, and so on. Quoting from the "Book of the Farm," we find that two pecks of steamed potatoes with nine pounds of barley-meal and a little salt, given every day to a pig weighing twenty-four to twenty-eight stones will make it prime fat in nine weeks. Messrs. Lawes & Gilbert found that if a 1,400-pound ox were taken from grass and put under cover, he would gain about twenty pounds weekly by being fed daily on—crushed oil-cake, 8 lbs.; chopped clover hay, 13 lbs.; turnips, 47 lbs. The late Dr. Voelcker gives the following as a distinctly fattening sheep diet: 16 lbs. clover hay, 4 oz. linseed-cake, 312 oz. mangel-wurzel.]

Proved it on Him.

The story, or something like it, was told by Gen. Shields when he last visited Boston. While in Kentucky, he was approached by a portly, substantial looking man, who said: "I wish to give you a piece of advice. Never deny anything. Some time ago I ran for office in this section of the country, and resolved to keep quiet whatever was said about me before the election, which was to take place in about a month. The first week they accused me of being a horse-thief, but I paid no attention to it. The second week they asserted that I had been treasurer of a trust company and ran away with the funds, and I received this in silence. The third week they said I had induced my right-hand neighbor to make over his property to me temporarily, and then refused to give it up, and still I made no defense. The fourth week they came forward with a statement that I had stolen the chickens of my left-hand neighbor, a worthy old lady, and sent her to an insane asylum. This made me indignant, and I denied it in public, and I'll be darned if they didn't go to work and prove it on me." There is a moral contained in this story which some of our political candidates might lay to heart.—*Boston Courier.*

Nervous Debilitated Men

You are allowed a free trial of thirty days of the use of Dr. Dye's Celebrated Voltaic Belt with Electric Suspensory Appliances, for the speedy relief and permanent cure of Nervous Debility, loss of Vitality and Manhood, and all kindred troubles. Also, for many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred. Illustrated pamphlet, with full information, terms, etc., mailed free by addressing Voltaic Belt Co., Marshall, Mich.

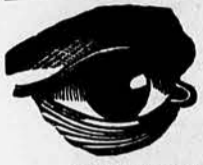
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Send for circular and printed list of questions. Correspondence and consultation strictly confidential.

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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.

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Against Fire, Lightning, Tornadoes and Wind Storms.

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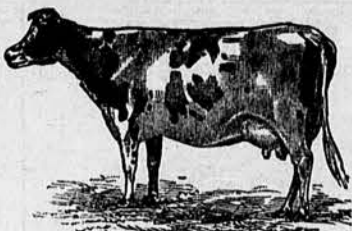
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A PAPER FOR THE PEOPLE.
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Address **M. O. FROST & SON,** Pubs.,
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Every animal selected by a member of the firm in person.

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550 Head on Hand.

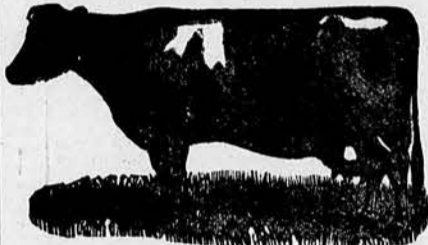
Over thirty yearly records made in this herd average 14,212 lbs. 5 ozs.; average age of cows four-and-a-half years. In 1881 our entire herd of mature cows averaged 14,164 lbs. 15 ozs. In 1882 our entire herd of eight three year-olds averaged 12,388 lbs. 9 ozs. April 1, 1884, ten cows in this herd had made records from 14,000 to 18,000 lbs. each, averaging 15,608 lbs. 6 3-10 ozs. For the year ending June, 1884, five mature cows averaged 15,621 lbs. 1 2-5 ozs. Seven heifers of the Netherland Family, five of them two years old and two three years old, averaged 11,556 lbs. 1 2-5 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 imported 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.**

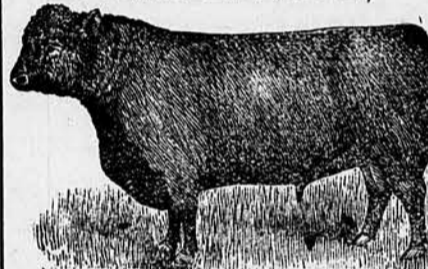
SMITHS, POWELL & LAMB, Lakeside Stock Farm, Syracuse, N. Y.

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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.

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 thirty head of young bulls, fit for service, sired by the noted bull MacLeod of Drumlanrig; also thirty high-grade females of different ages that I will sell reasonably. Time given to suit purchaser, if desired.

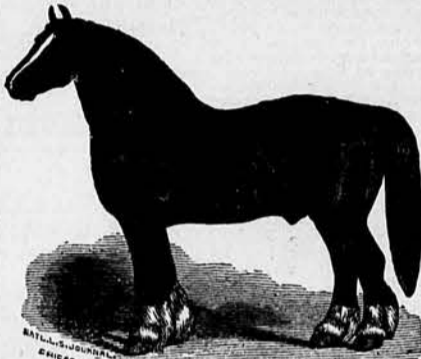
If you want
A YOUNG SOW,
Bred to our crack Boars;
If you want
A YOUNG BOAR
Pig;
If you want
A YOUNG SOW
Pig;
If you want
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A SPRING PIG;

POLAND-CHINA SWINE.

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
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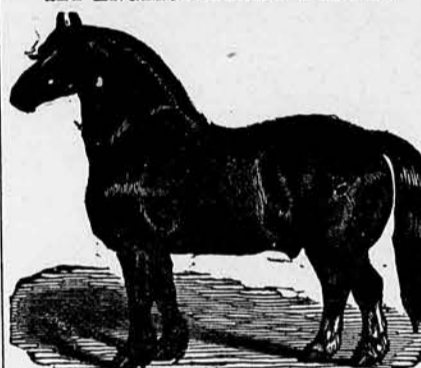
OVER ONE HUNDRED CLYDESDALE, ENGLISH DRAFT AND PERCHERON NORMAN

Stallions and Mares arrived in August, '84.



Another importation just received, ages range from two to four years old. Our stock won fifteen premiums at the Iowa State Fair of 1884; also sweepstakes on Clydesdale stallions and sweepstakes on Percheron-Norman stallions. 300 High-Grade Mares, in foal to our most noted horses, for sale.
Advantages 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 prices 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 C. R. I. & P. R. R.; 15 miles west of Washington, Ia. **SINGMASTER & SONS,** Keota, Keokuk Co., Iowa.

PERCHERON NORMAN, CLYDESDALE and ENGLISH DRAFT HORSES.



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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.

FALL TERM--Begins September 9th, 1885.

Plenty of grass should be given fowls in confinement, in order to keep them in good healthy condition.

The slave population of the empire of Brazil is estimated at 1,177,022, of whom 623,274 are males and 553,748 females.

The sheep business, comprising both the wool and mutton produce, is one of the greatest industries in the United States.

It is claimed that if milk is brought just to the boiling point, then poured immediately into cans and sealed air-tight, it will keep for an indefinite period.

In hot weather all the unconsumed food should be frequently swept away from the chicken coops, as it soon sours and acts like poison if taken into the crop.

Scotch farmers hold that cut straw is better for the dairy when newly-threshed, and therefore they thresh each day enough fodder for the next day's consumption.

Potash on grapevines has been tried with great success, especially on light soils. It is said to promote the thrift of the vines and largely increase the yield of the crop.

At the annual sheep-shearing in Vermont the heaviest ram's fleece was twenty-eight pounds thirteen ounces, and the heaviest ewe's fleece twenty-one pounds eight ounces.

There's a monster delusion that lives in the mind

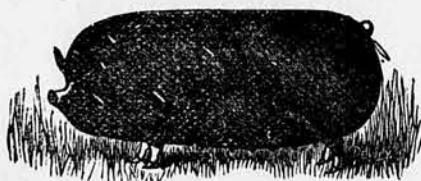
And it rests on the basis of gold,
That a lofty ambition of pomp, and of kind,
All the joys of the world can enfold.
To be true to the righteous, that lives in the deed.
To be true is to practice the Christ-crowning creed.

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 boar 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 attained by any other boar. 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 boar, "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.

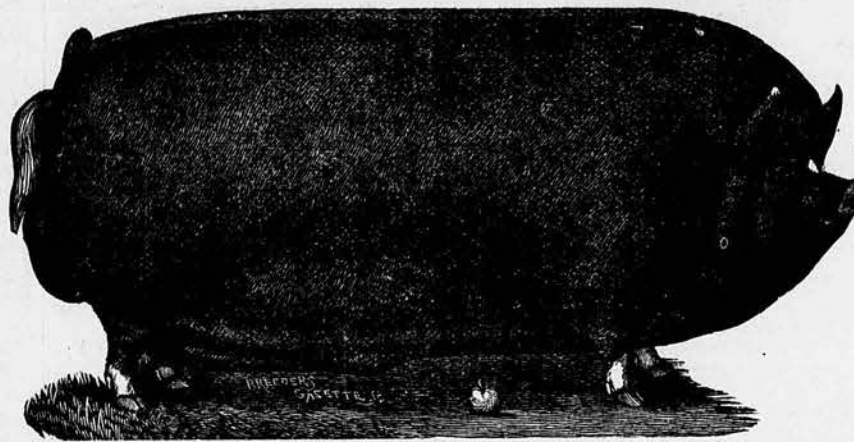
PLEASANT VALLEY HERD
—OF—
Pure-bred Berkshire Swine.



I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars, headed by the splendid 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 reasonable. Satisfaction guaranteed. Send for catalogue and price list, free.

S. McCULLUGH,
Ottawa, Kansas.

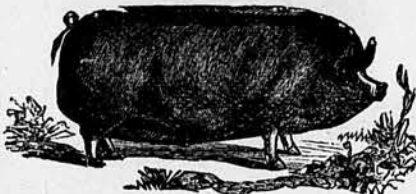
Manhattan Herd of Berkshires



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 55 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 prices 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

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ABILENE HERD
—OF—
BERKSHIRES
FOR 1885.

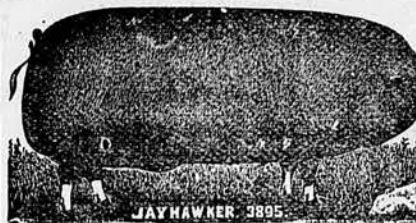
COMPRISING the choicest strains of blood bred to perfection, including ten different families known to fame, such as the Sallie Sweet Seventeen, Cassanara and Gipsy families. At the head of my herd stands

EARL OF CARLISLE 10459,

A son of Imp. Royal Carlisle 3433 and Imp. Fashion, and Duke of Wellington 12392, winner of second prize at St. Louis Fair in 1884, under one year old. My pigs this spring are very fine, from five different boars. I never have had a case of disease in my herd of any kind. Have some choice Boars now ready for service, also one young SHORT HORN BULL—fine individual and fashionably bred. I would always prefer parties to

Come and See My Stock Before Purchasing,
But orders to me will receive my own personal attention and will be filled with care, for I will not send out stock that I would be ashamed to keep myself. Catalogues will be ready soon. Correspondence solicited. Come and see or address

RIVERSIDE HERDS
POLAND and BERKSHIRE SWINE.

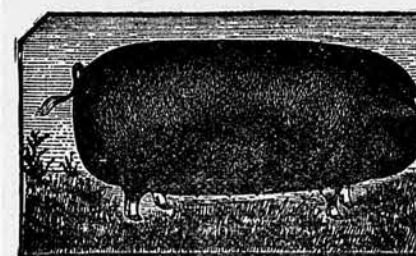


Owned by **J. V. RANDOLPH, Emporia, Kas.**

Established in 1868.

Having been a breeder of Poland China Swine in Kansas for seventeen years, it is with pride as well as pleasure that I announce to the people of the New West that I am offering the finest lot of Pigs that I have ever seen offered, representing the best strains of the breeds, and thoroughbred. I will fill orders of either sex and any age at reasonable figures. All stock warranted to give satisfaction. Come and see my stock or write, and if not as represented, I will pay your expenses. Orders promptly filled.

J. V. RANDOLPH, Emporia, Kansas.

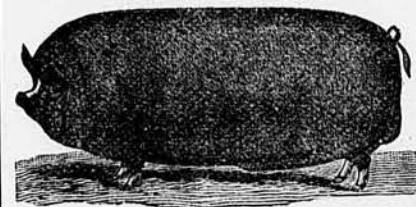


TIMBER LINE HERD
—OF—
HOLSTEIN CATTLE and
POLAND-CHINA PIGS.

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.

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.

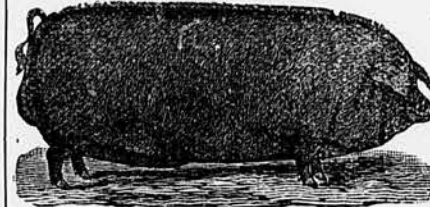
We have tried Small Yorkshires thoroughly, and are satisfied that they cannot be excelled as a profitable hog to raise. They are very docile and mature rapidly. Send for prices and catalogue to

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.

Poland-China and Berkshire
HOGS.



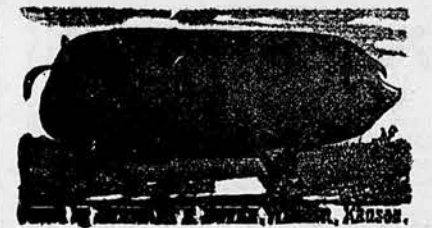
We have for sale a fine lot of Poland-China and Berkshire Pigs, from 2 to 6 months old. Ours is the Largest herd of pure-bred Swine in the State, and the very best strains of blood of each breed. If you want any of our stock write us and describe what you want. We have been in the business many years, 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.

EMPIRE BREEDING FARM,

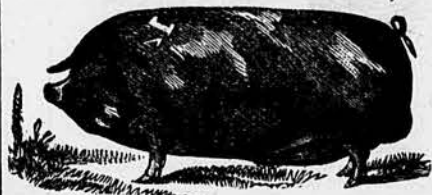
G. M. EMRICK, M. D., Brookville, Ill. 18 Holstein-Friesian Bulls, 100 Victoria Pigs for sale at living rates; now is the time to procure choice stock. 30 varieties of Fancy Poultry. Write for what you want. **JAMES FAGER, Manager.**

Acme Herd of Poland-Chinas



We are having a splendid lot of pigs for this season's trade, bred by "Challenge 4939" and "Kentucky King 2661." 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.



Owned by **ISAAC WOOD, Oxford, Sumner Co., Kas.**

ISAAC WOOD, Oxford, Kas.—PIONEER— The sweepstakes herd of the Southwest for 23 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 pedigree 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.



RANKIN BALDRIDGE,
Parsons, Kansas,

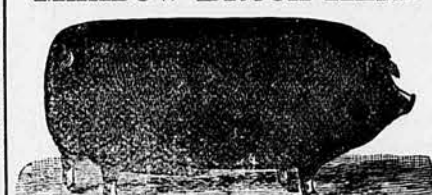
Breeder of Pure Poland-China Hogs. This herd is remarkable for purity, symmetry, and are good breeders. Black Jim, a prize-winner, bred by B. F. Dorsey, heads the herd. Stock recorded in Central Poland-China Record. Correspondence invited.

THOROUGHbred, POLAND-CHINAS



As produced and bred by **A. C. MOORE & SONS, Canton, Ill.** The best herd in the world. We have made a specialty of this breed for 28 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 16 sows and 10 males we are breeding from. Our breeders are all recorded in American P.-C. Record. Pig all eligible to record. Photo cost 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.

MEADOW BROOK HERD



OF POLAND-CHINA SWINE.

Breeding Stock recorded in American and Ohio Records. Tom Duffield 1875 A. P.-C. R., at head of herd. Always space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.

JELLEY & FILLEY, Proprietors,
KINGMAN, KANSAS.

How Balloons are Floated.

To understand how the balloon rises, you must know that it is filled with something lighter than the air, so that it must rise, as a light cork rises to the top of the heavier water, at the same time that a stone, and some kinds of very heavy wood will sink. As hot air is lighter than the common kind, a toy balloon may be made of a paper, in a hollow globe form, having a weight, to steady it, with a torch to heat the air, hanging below the opening in the lower part, the warm air filling it, causing it to rise, remaining till the torch goes out, the contained air becoming as cold as that outside. The common balloon is made of silk, ropes, etc., filled with hydrogen gas, about fifteen times lighter than air, so confined that it cannot escape. If large enough, several men go up in it, taking in also bags of sand, which they can throw out (a little at a time, and not the whole bag, the reason for which I will allow my young reader to guess, if there are men and boys just under them), this being done when they rise so high that the hydrogen and men become just as heavy as the same volume of air, at that height, the air growing lighter as we ascend.

The reason that the balloon seems to move against the wind is because the upper wind does not always blow in the same direction as that near the earth. It sometimes occurs that there are various currents of the wind, so that two clouds seem to meet, though one may be much higher than the other, both moved by different currents. Unless there is some machinery controlling the balloon, it will move with the wind.

But, how can the men in the balloon come down just when they may wish? They might jump out, coming down in a very much shorter time than it takes to go up. But a safer way is to open a valve made for that purpose, allowing a part of the hydrogen gas to escape, regulating the escape as they think best, descending slowly or more rapidly, having the weight of the balloon and its size in air about the same. If they see there is danger of dropping into the water, or in some bad place, they will stop the escape of the gas, and if they wish to rise a little higher, to get into a current of wind that will bring them over to a better spot, they throw out a part of their remaining sand, dropping when they think it safe, though I should think it safer and wiser to remain on the surface of the earth, traveling on foot, or by railroad!—Western Plowman.

Aim not too high, at things beyond thy reach,
Nor give the rein to reckless thought or speech.
Is it not better all thy life to bide
Lord of thyself, than all the earth beside?

Thus, if high Fortune far from thee take wing,
Why shouldst thou envy councillor or king?
Purple or homespun—wherefore make ado
What coat may cover, if the heart be true?

Then, if at last thou gather wealth at will,
Thou most shalt honor Him who grants it still;
Since who best doth poverty endure,
Should prove, when rich, best brother to the poor.

The soil within the field was hot and dry,
The corn had long for water cried in vain;
With wistful gaze I watched the cloudless sky,
When all at once the south wind seemed to sigh,
"The driest day is just before the rain."

Oh, ye to whom misfortune grief imparts,
Despair not yet nor fretfully complain;
But bravely check the rising tear that starts,
And let this thought revive your drooping hearts,
"The driest day is just before the rain."
—Albert Bigelow Paine.



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AND EVERY SPECIES OF ITCHING, Scaly, Pimply, Inherited, Scrofulous, and Contagious Diseases of the Blood, Skin and Scalp, with Loss of Hair, from infancy to old age, are positively cured by the CUTICURA REMEDIES.
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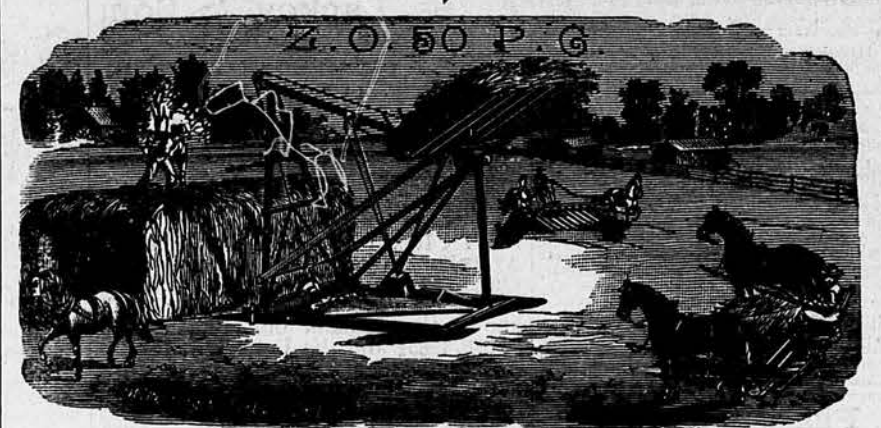
Manufacturers of Steam Engines, Boilers, Ice Machinery, and Refrigerating Machinery.



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Twenty to forty acres of Hay put up in one day, at a saving of from 50 to 75 per cent. The hay is not touched with fork until on the rick in splendid shape for stacker. They make the farmer perfectly independent, even with a large crop of hay on hand, at a time when it is difficult to get reliable help, at great expense.

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ACME HAY HARVESTER CO., Manufacturers, Peoria, Illinois.

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TOLL YOUR OWN GRIST!!

"MANVEL" WIND ENGINE

SIMPLE, DURABLE, SELF-REGULATING, NOISELESS. STOCKMEN AND FARMERS CAN

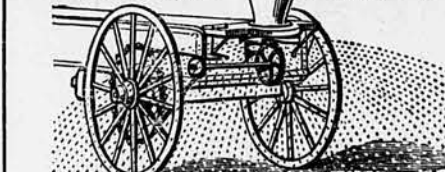
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AND GRIND ALL THEIR GRAIN with a machine without a cog, friction clutch, or ratchet, and at the same time Pumps all their water for Stock. FULL LINE OF PUMPS, TANKS, IRON PIPES & FITTINGS kept on hand. Parties requiring a Wind Mill should examine this machine, built for service, and write, stating the kind and amount of work they want done, to

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STRAYED OR STOLEN.—On June 23, a Chestnut Sorrel Horse; pony-built, 14 hands high, 10 years old, brand J. V. on left shoulder, shows white collar mark. \$10 reward for return to F. M. Newton's grocery store on sixth and Chandler streets, Topeka.

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W. M. FINCH, of North Topeka, south of engine house, has three imported English Shire stallions that will make the season of 1885. Also for sale by same party, Plymouth Rock eggs. For particulars add. him.

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In order to close partnership, we will sell cheap, 31 head of High-grade Short-horn Bulls. 5 head of Thoroughbred Short-horn Bulls. All raised in Jackson county, Missouri. J. W. & JNO. D. ROBINSON, Independence, Mo.

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Our herd numbers 130 head of well-bred Short-horns, comprising Cruickshanks, Rose of Sharons, Young Marys, Arabellas, Woodhill Duchesses, Lavinias, Floras, Desdemonas, Lady Janes and other good families. The well-known Cruickshank bull **BAMPTON'S PRIDE 49854** and the Bates bull **ARCHIE HAMILTON 49792** serve our herd. We make a specialty of milking Short-horns, the Arabellas being specially noted as milkers. Good, useful animals of both sexes always for sale. Premium Berkshires very cheap.

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A. H. LACKEY & SON
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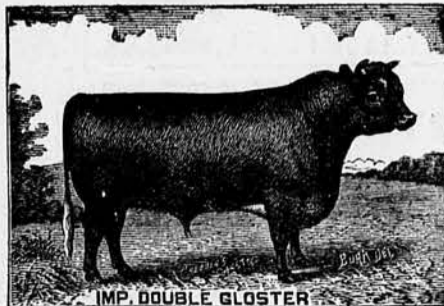
75 HEAD OF GOOD SHORT-HORN COWS, HEIFERS AND YOUNG BULLS. The offerings comprise Rose of Sharons, Young Marys, Cruickshanks, Arabellas Blossoms, and all sorts that are useful for the purposes for which Short-horns are bred—beef and milk. They are mostly young cows and heifers, and all old enough have calves or are in calf by the splendid English bull imported Grand Duke of Barrington 3d (4644) or the prize Cruickshank bull Bampton's Pride 49854, or the pure Princess bull Blythedale Prince 42931, or others as good as any in the State of Kansas. Every animal, except young calves, is recorded. Every animal offered and receiving a bid will be sold.

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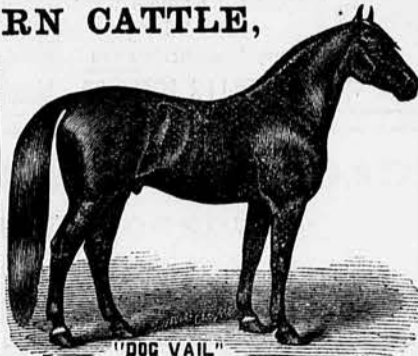
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It is called the "Starved Rooster Thresher" because it puts the grain in the half bushel instead of the straw stack, and leaves none in the straw-stack for chickens to fatten on as is the case with other Threshers.

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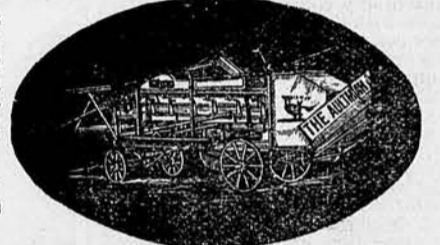
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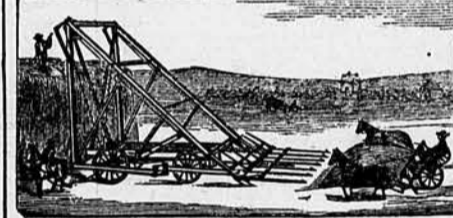
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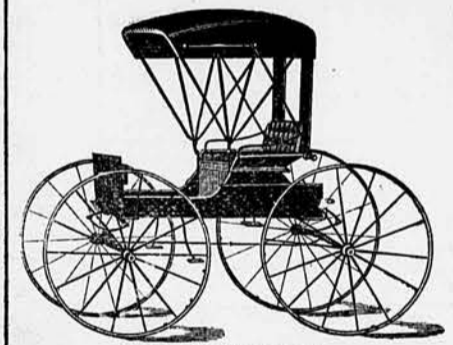
Will save 50 to 75 per cent. in the cost of putting up hay over the old way. Does away with the hard labor of putting up hay; hay not touched with a fork from the time it leaves the mower until it is on the stack; is put up better than it can be done by hand, so that hay keeps better and is worth more. The cost of a Stacker and two Gatherers saved in putting up every seventy tons of hay! No farmer or ranchman 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 Descriptive Circulars and Price Lists.

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