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Keep the Soil Fertile.

The habit of cropping land continuously from year to year without returning anything to the soil in the way of manure, exhausts the fertility of the best soils. It is a ruinous habit; it will break the strongest farmer, and run out the best farm. Among our readers all the old soldiers of the civil war remember seeing fields without number that had grown up in persimmon and sassafras in Southern States. The soil had been impoverished by continuous cropping, and were thrown out to the common. Many exhausted farms in that region, and especially in Virginia, North Carolina and Tennessee, have been reclaimed and restored to fertility. They were purchased at nominal values by shrewd farmers from the North and put in good condition for work.

It is not, therefore, an impossible task to restore worn-out lands; but it is a much better and cheaper way to keep them fertile. There is no need of wearing out soil. If a man will think a moment, he will discover that it is not natural to take from the soil continuously and return nothing. The forest grows from year to year, and so does the grass; but every autumn the leaves and blades drop on the ground and rot there, returning what was taken, or are burned, leaving the same in ashes. Let it be remembered that all which grows upon the earth's surface does not come out of the ground. Take a crop of wheat, corn, or trees, and burn it. The ashes left includes nearly everything that was transported from the soil into the growing plant; what passes off in smoke and fragrance was absorbed by the growing plant from the atmosphere and its changeable elements. Hence it is that if we make manure of our straw, hay, fodder and grain, and put it back into the soil we restore nearly all that our growing crops removed, and what is lacking we may supply by green manuring—that is, plowing under growing grass, weeds, etc., and by an occasional application of mineral fertilizers, as lime, gypsum, etc.

This matter of preserving the fertility of soil has been practiced in the Eastern States by the farmers there ever since the country was settled. The writer of this was born and reared on an old farm in Pennsylvania, one that was cleared out by his grandfather a hundred years ago, and that same old farm, having been in continuous cultivation ever since, is to-day in better condition than it ever was.

Here is a good article on the subject from one of the best agricultural papers in New England, the *American Cultivator*, and we submit that it is well worth study by farmers in Kansas:

Many who use commercial fertilizers most freely do it with some doubt as to whether they are the best or cheapest means for maintaining fertility. The concentrated manure is generally drilled in with the seed, so that most of its strength goes to making the crop to which it is applied. If the limited amounts so used were plowed under as other manures are, their effect would be inappreciable. If we applied commercial fertilizers to the soil in quantities sufficient to produce permanent effects, it would involve an expense which no farmer could afford. Used to make a crop these fertilizers pay their way, often with even better effect on soils adapted to their use. The best methods of maintaining fertility, however, are left for after consideration.

In buying commercial manures a farmer gets in nothing more than he pays for. What he gets is, or should be, in such available form that he can secure immediate returns from it. This is necessary with

manures the entire value of which is to be paid for at once. To increase fertility a farmer should be able to get some fertilizer that he does not have to pay for in cash, and a part of which he can afford to leave as reserve capital to be drawn on in future. It is an old proverb which says that nobody can get anything without paying its price. Expecting something from nothing is reckoned extreme absurdity. But this rule has some exceptions, to the extent that the farmer who works with the forces of nature may justly hope to have his own labors so supplemented that he can reap vastly more than he has sown.

In sowing or planting grain there is always a belief that the crop will be enough more valuable than the seed to pay for labor, manure and other expenses. Unless this is done the farming is a failure. In the long run the same failure is sure to result if fertility is not maintained. In a state of nature land is steadily, though slowly, growing more fertile. The decay of grasses and weeds on or in the soil supplies plant food faster than uncultivated crops can use it. When cultivation begins the larger growth of plants takes up more fertility than decaying vegetation supplies. There are, however, recuperative crops, like clover, which return more to the soil than they take from it. By sowing clover liberally it is possible to make the land continually improve through a judicious use of manures made on the farm itself.

The conviction is growing among farmers that a larger seeding of clover is the cheapest means for maintaining soil fertility. This does not supersede other manures, whether home-made or purchased. One of the most satisfactory results from using phosphate on wheat is that it insures a good clover catch and a largely-increased growth, both of clover and grasses, after the grain is off. The benefit of the fertilizer is thus extended to the second and third years. And when a farmer secures a good crop of clover on a field, he must be a poor manager if the land is not richer for years after for the fact.

The beneficent effect of clover is due to several causes. One of the most obvious is the depth to which its roots penetrate the subsoil, bringing up stores of mineral plant food which would be unavailable to other crops. As the decaying roots admit air and warmth to the subsoil they disintegrate it still farther. Where clover is extensively grown its subsoil roots decay and form waterways for the escape of water, which would otherwise stagnate on the surface. Aside from this, the mulch which a good growth of clover makes in summer is promotive of fertility. It is something more than a mulch. With the greatest care in handling clover hay more or less of the leaves and stems will be broken off and fall upon the ground, to be quickly covered by the second growth.

It is probable that more plant food is put into the soil by a growth of clover in its various stages for less cost than a farmer can get in any other way. It does not necessarily imply loss of use of the land while it is being improved. A crop of clover hay to be fed on the farm will, in most places, pay the interest on the value of the land where it is grown. So great are the benefits of clovering land that we have known nurserymen to grow a crop of wheat and seed it with clover on land worth \$500 or more per acre. One cultivator remarked, in explanation of this process, that the growth of clover in the soil enlivened and enriched the soil as it was not possible to do with stable manure. The latter made the surface soil unduly rich for the growing of trees, while the subsoil into which the roots run was cold and inhospitable.

The value of clover for soil improvement is far in excess of anything else used as green manure. Clover is rich in nitrogen, and it is probable that part of this supply is derived from atmospheric air, either decomposed directly by the leaves under certain conditions or from air decomposed in the soil under its mulch of clover growth. No matter which of these theories is the true one, there is no doubt that a great increase in nitrogen takes place in all soils where a crop of clover has been grown. This nitrogen, abundant as it is in nature, forming 80 per cent. of the air we breathe, is, in its available forms as plant food, the most difficult of all to secure in sufficient supply.

We have stores of potash and phosphate rock from which these mineral elements can be obtained in almost inexhaustible supply. Nitrogen as a manure is scarce, and seems to be growing scarcer every year. In supplying available nitrogen for crops, either as ammonia or as a nitrate, the clover plant not only gives us a cheap manure, but the one of which farmers are in most pressing need.

Potato Culture--Mulching.

Kansas Farmer:

In the *FARMER* of the 29th ult., I see an article on potato culture. I beg leave to take some exceptions to it (though in the main it is instructive to young, inexperienced farmers.) Your article says good potatoes are sometimes raised by mulching without cultivation; but good farmers do not resort to this practice. My fifteen-years' experience in southwestern Kansas proves the mulching theory to be the only true method of raising a sure crop of good tasted winter potatoes in this climate, and prairie hay off of stack tops and bottoms make the best mulching. It is firmer and retains moisture longer than straw.

I never use a mulch for early potatoes. They should be planted as early as possible in spring, by plowing in the fall, furrow deep, drop the seed 12 to 16 inches apart; then put one-half shovelful of well rotted manure on each piece of seed; cover with the plow. Just before they make their appearance we harrow crossway; that levels the ground, destroys the small weeds if they have started, and leaves it loose and mellow for the potatoes. As soon as they are all out of the ground we throw the earth from the row; in four or five days we throw it to the row again, and work once a week until they come out in bloom; then, if the weather is dry the earth should be plowed from the row, then turned back the same day.

I have often heard it said we can't raise potatoes in Kansas. To all such remarks I would say, I never fail. Plant the earliest varieties, and plant early. Don't make it a secondary matter, but cultivate thoroughly. Poor, sandy land will produce the best crops of potatoes if manured in the row as above mentioned.

Winter potatoes we plant by dropping the seed in every furrow; plow three inches deep; spread on the mulch six or eight inches if it is spoiled hay; if dry straw, twelve or fourteen inches. It will settle down in a few days so there is just sufficient to retain moisture and keep the scorching hot sun from over-heating the earth, which makes the potatoes strong and unfit for table use. Rolling ground is best to mulch on, but flat land may answer if it is thrown up in narrow beds, and the dead furrows well cleaned out to allow the water to run off, so as not to stand and scald and rot the seed. Some of the best crops I have raised here were planted the 20th to 30th of May. The seed should be cut some days before planting.

Wichita, Kas.

A. J. Cook.

Grass and Corn for Hogs.

The published statement of Prof. Shelton's experiments in feeding pigs has given rise to very general discussion, and will, we have no doubt, be the means of stimulating a disposition among farmers to experiment in the same direction. We have a letter from J. M. Boomer, a successful farmer and stock raiser of Brown county, this State, offering thoughts on the subject. He says:

"I have read with interest my friend, Professor Shelton's experiment with feeding pigs with alfalfa and corn and what one-half an acre produced; but I think that he wants a little help, for had he fed double the amount of corn and then given the corn credit for producing so much pork according to his feeding in the winter—(but in Brown county we can make more pork with the same amount of corn than in the winter even if the hogs have a warm place to eat and sleep)—he would have proved that his half acre of alfalfa was worth double that he did in feeding as he did.

Now I affirm that the Professor has not proved what he has asserted, that the half acre of alfalfa hay made 388 pounds of pork, but a little over one-half of it. Take his figures: The first 29 days when any animal will make their best gain taken from dry to green feed, 13 pigs made a gain of just one pound per day; then take the next 30 days, corn being fed with alfalfa, 10 pigs made a gain of 236 pounds.

So we see that if the Professor had had alfalfa enough he might have made his pigs gain 154 pounds in 154 days; but he has proved that one-half acre of alfalfa, with 1700 pounds of corn has made 717 pounds of pork.

I will further say that I think that if the Professor had put 13 more pigs of the same kind and weight into dry lot and fed the same amount of corn to them, that they would not have gained any more than those would on alfalfa alone which would have made 308 pounds; but on feeding alfalfa and corn together he got 717 pounds of pork, being 409 pounds in favor of the mixed feed. I think, in fact I know, that other kinds of clover grasses will produce like results.

I am glad the Professor is making and publishing these experiments, but I object to his giving credit all on one side when he proves that it don't belong there. I agree with him that grass is worth as much for hogs as for cattle, and don't feed your hay pasture so close that there will not be any for winter pasture, but have a pasture that hogs can have access to in the winter, and I will assure you that they will use it to their advantage and your profit; for they will be there unless it is very cold or so covered with snow that they cannot get to the grass. I have sent to-day to the *Indicator* some experience with grass and corn fed to hogs.

A Nebraska farmer's method of raising potatoes may be suggestive to Kansans. He takes a board eighteen inches wide and as long as the width of the planter, places a four or six inch strip around this, forming a shallow box, removes the boxes from the planter and sets a shallow box in their place, then attaches a tin tube to the back side of the box and immediately at the rear of the planter runners, running down nearly to the bottom of the runner. He then cuts his potatoes down to an eye, places two boys on the planter in such a position as to conveniently drop the pieces of potatoes in the tubes. A strong team should be used so that a steady motion can be had. The planter should be set so as to run deep, and the potato eyes dropped, a single one in a place about one foot apart. A little care is necessary in watching the tubes, which may clog occasionally, but as the boys and drivers are in positions to see at once when the tubes are clear, little trouble will be experienced in that way. By this way of planting potatoes the rows may be plowed as easily as corn rows, and with the same implements.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.
 May 22 and 23—Jas. E. Richardson, Kansas City, Mo., Short-horns.
 May 26—Leavenworth Short-horn Breeders' Association.
 June 3—Col. W. A. Harris and the Giffords, Short-horns, Manhattan.
 June 30 and July 1—James Richardson, Short-horns, Kansas City, Mo.
 October 28—Hon. T. W. Harvey, Burlington, Neb.
 November 3 and 4—Inter-State Short-horn Breeders, Kansas City Fat Stock Show.
 S. E. Ward & Son, Short-horns, first Friday of Kansas City Fat Stock Show.

Contagious Diseases of Cattle.

The theory of contagion is but little understood. Indeed, most people never think of it at all unless their attention is called to the subject by the outbreak of disease in their family or neighborhood. Every farmer ought to keep himself well posted on the advances made in pathological science (philosophy of disease), as it relates to animals as well as to persons. While in Kansas there are no marshes or swamps or great turbid rivers to generate miasma and cause disease, there are other conditions which operate, and particularly with stock, to produce disorders, and some of them more or less contagious.

There seems to be something in the animal structure which, when operated upon by certain external conditions or combinations of condition, proceed at once to grow into disease and sometimes produce death. Henry Stewart compares the animal system to a soil apparently free from vegetable growth, but still charged with dormant seeds of weeds which are waiting for some favorable conditions, some warm shower and sunshine to burst into sudden and vigorous growth. This is the view taken by physicians and physiologists as regards the nature of many of these so-called germ diseases *ab initio*. There are many cases of these diseases of which no apparent outside origin can be even suspected that has relation to infection or contagion. There are sufficient causes, however, to warrant the belief, or certainty, that the dormant seeds of disease which are always present in the system, waiting for development by favorable conditions, have been quickened into active life by these exciting causes, just as the soil, apparently clear and entirely free from pernicious growth, is quickly covered with an eruption of verdure from the effects of warmth and moisture.

Our cattle are often taken by disease in a night or a day. They appear to be in perfect health, are in good condition, and have a contented, cheerful look, and in an hour or two begin to droop, the eyes cloud over, the ears droop, the back rises—the animal is going down with one or other form of anthrax. So, too, a man, when perspiring freely, sits in a cool draft, becomes chilled and in a few hours is taking typhoid fever and is rapidly on the way to the grave. What are now popularly termed malarial diseases follow a torpid state of the liver brought on by exposure to unfelt influences of atmosphere or of food or drink or all of them, and often by noxious vapors in and about the house or sleeping apartments.

People do not, as a rule know anything about the cause or nature of disease. And this is not to be wondered at, because men ordinarily have little time to devote to what appears to them to be scientific matters which require long and careful study that can be given by professional persons only. This is a great mistake. Any man or woman of ordinary intelligence may know as much of the theory of common diseases, and of those termed contagious, as he needs to know in order to guard against the

approach of sickness. A dollar or two invested in a good book on the particular subject will pay for a statement of all that men know in that direction up to date. And a man of observation may learn a great deal by taking notes as he goes. Anatomy and physiology ought to be taught in our public schools at every term, and farmers' clubs ought to have lectures on this class of subjects before them two or three times a year. Knowledge of this kind would assist greatly in suggesting preventive measures, and there is much more in prevention than in cure of dangerous diseases.

It was pointed out some time ago by the Department of Agriculture that swine cholera was utterly exterminated and had disappeared. But yet, as usual, says the writer above quoted, when the feeding season with all its unwholesome conditions and environments has begun, cholera appears here and there with the prevailing characteristics and results. No doubt each case is a center from which the disease spreads, until, like the rings in a pool caused by the dropping of the rain upon it and the whole surface is soon in commotion, the disease sweeps over wide localities and invades every herd. It is to be regretted that the dangerous and ineffective practice of vaccination is recommended, or rather suggested. It has been very conclusively shown that this merely perpetuates the disease, especially as regards the fatal pleuro-pneumonia, and tends to divert attention from the indispensable sanitary precautions which alone can avoid the exciting causes of the diseases.

The usefulness of these precautions is conclusively shown in the present variety of epidemic diseases in the well-drained, more clean and wholesome cities, where formerly they ran fearful riot and slew thousands upon thousands of victims, whose lives were sacrificed to the filth and foulness with which large cities then overflowed. Sanitary precautions should be to the veterinary surgeon, as well as to the physician, what hoeing and clean cultivation are to the farmer; to destroy the seed or the germs of the organisms—weeds in either case—which lie dormant in the blood in the one and in the soil in another; for it is abundantly clear that the seeds of disease exist in the blood, waiting for favorable chances to germinate, just as those of the weeds exist in the soil, and that the diseases are not always sown after the manner in which we sow corn.

The best medicines known for stock are (1) grass, (2) pure water, (3) salt. If these are furnished in abundance, and if animals are not permitted to drink filthy water, and eat dusty, dry grass, or mouldy hay, or dry, woody fiber of any kind, and if they have reasonable protection against heat, cold, rain and storms; in short, if the animals are well kept, there is little danger from disease of any kind, and contagion is not so much to be dreaded. It is true, however, that when it does come, it does not strike the scrubs and least valuable individuals first. The best are quite as frequently among the first victims. This fact makes it all the more important that farmers take the best possible care of all their stock.

When a contagious disease appears, let the affected animals be separated at once from the well ones. See that the bowels and bladder perform their functions properly, and feed light, soft, nutritious diet, as long as the animals will eat anything. When they die, bury them deep at once, throw some fresh lime over the bodies and cover, or, if it be more convenient, burn them.

Save time and money by using Stewart's Healing Powder for cuts and sores on animals. Sold everywhere, 15 and 50 cts. a box. Try it.

Sheep as Meat Producers.

Anything reasonable or suggestive now on the question how to make sheep more valuable, is heard or read with interest. Dr. H. Reynolds, of Massachusetts, some time ago wrote a good letter to the *New England Farmer* on sheep as meat producers. The Doctor thinks that in this respect sheep have not attracted as much attention from American farmers as the subject deserves, and he discusses it at considerable length. Among other things he says that when the price of wool was high, wool production was sure to command more attention than meat production, although it is doubtful if it was the more profitable. Now that the price of wool has fallen off, the advantage of mutton raising should receive greater attention. In no country, probably, is sheep raising made more profitable than in Great Britain, and their meat production receives the principle attention. The great aim in England is, and has been for a long time, to produce the largest and best sheep possible, and in so doing, the best wool has been produced. Large size and early maturity is aimed at, and so high a degree of success has been attained, that the English breeds are the best mutton sheep in the world. The English feed well, care well for their sheep, and bring them to early maturity. This is what American farmers need to do.

More early lambs, and of larger size, should be produced, and good mutton should be obtainable at all seasons of the year. A large portion of the year, good mutton is about as much out of season as berries are. If a constant supply were provided, the consumption of this meat would be largely increased, and the demand also increased. In regard to the mutton supply the *American Agriculturist* says: "There is a lamentable dearth of good mutton in the village and rural markets, as we know from a personal experience of thirty years and more. Lamb is quite plenty in the summer months, at the retail price of twenty to twenty-five cents, and mutton in the fall months at a little less price than good beef, but the rest of the year it is hardly to be had at any price, as if it were a thing out of season like strawberries in December. We ought to have mutton the year round, so that delicate stomachs that eschew veal in spring, and fresh pork in winter, can have a change from beef and poultry to mutton chops at their convenience." It would be for the farmers' interest to arrange so as to supply the market, at all times during the year, with good quality of mutton or lamb. Sheep are easily fattened, and enough might be fed so as to sell a part each month of the winter, spring and early summer. High prices would be realized and thus render the operation profitable to the farmers.

Good feed is requisite to make good mutton. The remarkable success of English farmers in the production of the nicest mutton, is largely due to the abundant feeding which they practice. Let English sheep be fed and cared for as American sheep generally are, and the mutton would not be recognized as English mutton. If American farmers would feed as generously as the English farmers do, a marked improvement would be effected in the mutton. Even the Merinos, which are generally regarded as our poorest mutton sheep, by good feeding, can be made to produce a very good quality of mutton.

In regard to this matter a writer not long ago said: "Our one American sheep is a wool sheep, good for very little for mutton, and yet a well bred and well fed Merino produces mutton

but little inferior to that of the vaunted Southdown. It is food and not breed that makes meat, and if we should feed our grade Merinos as well as the English farmers feed their Southdowns, giving the juicy, highly flavored Swede turnip, with plenty of corn and hay, we could show as fine legs and saddles, and as highly flavored meat as the Englishman can with his "downs." Undoubtedly good feed will do very much towards improving our mutton, but the greater improvement can be effected by the use of the best English breeds to cross with ours.

Of the English mutton breeds, the Southdown is one of the best for general use. When Southdowns are used to cross with our common breeds, a great improvement is effected. A writer in the *American Agriculturist*, not long ago, said: "A Southdown ram, running with a flock of Merinos or common sheep, will bring grades giving an excellent quality of lamb and mutton, though not equal in flavor to the purely bred. If these grades are put with a Cotswold ram, we have a sheep much increased in size, with an excellent quality of mutton. This cross gives a carcass from one-quarter to a third larger than the grades, and sometimes one-half. The lambs mature early, and are great favorites with the butcher. We have found no better cross than this in our sheep breeding. It is not necessary now to pay fancy prices for good breeding rams, either of the Southdowns or Cotswolds. They are quite widely distributed, and can be had at prices within the reach of every thrifty farmer. To get the best services out of a ram, he should not be left to run loose with a flock, as is the common practice, but should be kept by himself, on generous feed, and let out when the ewes are in heat. Kept under this restraint, he will serve a large number of ewes, and the offspring will be more vigorous." Systematic efforts should be made to improve the mutton qualities of our sheep so as to increase the profits of sheep husbandry. What will be the best method of improving each flock will be a study for each owner.

The Merinos, so long as wool brought a high price, were profitable on account of their heavy fleeces, with little regard to their value for mutton, but now, with low prices for wool, they are a much less desirable kind of sheep to possess. What to do with the numerous flocks of Merinos, is a very important question with their owners. By crossing them with good mutton sheep, it is believed that they can be so far improved that they will be nearly, if not quite as profitable as other kinds of sheep. The Merinos being of small size, they should be crossed with good mutton sheep of large size, so as to increase their weight, and improve the quality of their meat. The Cotswolds are evidently well adapted to crossing with them. The Cotswolds are hardy and vigorous, well adapted to our climate, and if well fed, and provided with dry quarters under foot, will endure exposure to our cold winters as well as any sheep we have. The ewes are good breeders, and by crossing the rams with Merinos, the Merinos would be improved in this respect. What improvement can be effected by crossing Cotswolds with Merinos has been shown by Mr. Joseph Harris of Rochester, N. Y., a well known agriculturist. He says: "I am decidedly of the opinion that the coming sheep of the country will be what I will take the liberty to call 'American Cotswolds.' I have hitherto called these sheep 'Cotswold Merinos.' This designates their origin. But the time has now arrived when the name loses its significance. For instance, I have Cotswold-Merino lambs with three or four crosses of pure Cotswold blood in them. In other words these lambs have 93½ per cent. of pure Cotswold blood in them, and only 6½ of native or Merino sheep. The next cross will have only 3½ per cent of native or Merino blood,

and the next only a little over 1 1/2 per cent.

"A few years hence, American Cotswold sheep will be shipped by thousands and tens of thousand every week to the English markets. There is no reason why they are not now shipped in large numbers, except the fact that they can not be found. We do not raise enough of them or feed them well enough. Our beef cattle are better than our mutton sheep. The intelligence and skill of the American sheep breeders has been largely directed to the perfection of the Merino sheep. Wool and polk have been the subjects aimed at, and great success has attended their efforts. There are no better fine woolled sheep in the world to-day, than can be found in the United States."

The Treatment of Scab in Sheep.

Probably no one thing, since the introduction of sheep into the States and Territories of the West, has been such a bar to the development of sheep husbandry, as the disease called "scab." In the State that I represent, for nearly a decade there were various methods of treatment adopted for the disease, the use of which was attended with varying success. The first method, used in 1870 by sheep-breeders in this country, was a decoction of twenty pounds of leaf tobacco, five pounds flowers of sulphur, and one and three fourths pounds of arsenic to one hundred gallons water. The mixture was boiled, then reduced to a temperature, before use, to from 200° to 220° Fahr. The next two dips commonly used were "Schmidt's chemical dip," of St. Louis, and what has been known as the "Hemlock dip." The former dip was the more frequently used during a period of about ten years. All the above dips were very expensive when sheep in large bodies had to be treated and could not with certainty be classed as disinfectants. The writer of this for nine years used the first named dip, only occasionally using the two last named dips experimentally. Beside the heavy expense attached to the use of this dip, sheep that came in contact with infected sheep, would most invariably retake the scab, proving conclusively to my mind, that there was not enough sulphur employed in the mixture in proportion to the tobacco and arsenic. It will be readily observed that if we increase the quantity of sulphur we materially increase the expense of dipping the sheep. If a shower occurred immediately after dipping, all its virtue was washed from the wool, and the toll, labor and expense went for naught. These forms of treatment were used till the year 1879, when I introduced a treatment called "Sulphur and Lime," which has proven an efficient remedy in the hands of all those who have properly used it, and its light expense compared to the cost of all other dips now in use is a very important consideration.

THE NECESSARY APPARATUS.

In handling large bodies of sheep infected with the scab, it is essential to have, preparatory to dipping, a boiling vat, a dipping vat and draining stage. The boiling vat can be made of two-inch plank, four feet wide, four feet deep and twelve feet long, allowing the ends of the plank towards the chimney to project from four to six inches, so that a piece of sheet iron can be nailed to this projection facing the chimney walls. Mortar or adobe can be filled into the space between the plank and sheet iron, thus rendering a fire under boiler perfectly safe. The bottom of this tank should be covered with heavy sheet iron, and it should rest upon walls made of rock, if no bricks are within easy access, eighteen inches from the ground, with R. R. iron crossing every two feet, so that the pressure of the water contained in the tank will not be too heavy. A dipping vat should be made twelve inches wide at bottom, increasing to twenty or twenty-two inches wide at top and from twenty to twenty-four feet long, resting in the ground, from four and one-half to five feet deep. Upon the end facing the draining stage there should be an incline of an angle about thirty-three degrees, with slats eight inches apart, so that sheep can get a firm footing when coming to the draining stage. The draining stage usually is made large enough to hold two pens of sheep of about fifty in each, so that the first pen can drip while the second pen is being dipped.

METHOD OF TREATMENT.

To one hundred gallons water use twenty-five pounds flowers of sulphur and ten pounds of quick-lime. The sulphur can be put into tank as soon

as water is pumped. The lime should be slacked in a separate barrel and the liquid poured into the boiling vat, taking care that no slaggy pieces of lime will cake upon the bottom of the iron boiler. The water should boil well before letting it out into the dipping vat, and time allowed for it to cool before dipping. This preparation usually can be made the day before the sheep are to be washed and more water added to boiling vat, keeping the mixture in proportion as above stated. A pen in the form of the letter V, large enough to hold fifty sheep, should receive the sheep at end of the dipping vat. Each sheep, when the incrustation or yellow dandruff is seen on flesh, must be thoroughly sacrificed with a curry-comb or some hard brush with frequent applications of the liquid used at from 110° to 125° Fahr., and for fear of getting too hot, not above the degree last mentioned. We are now ready to dip, which, after tests are made, is to be commenced slowly, and continued till all the flock are dipped. Rushing sheep through a vat too see how many can be dipped in a day will only double the care and expense of attending to the flocks, while the chances are that the disease will continue to infect the sheep and all the work must be done again. The worst infected sheep that has ever been brought to my notice can be safely cured by a first and second dip, the second dip following from ten to fourteen days after the first. In the year 1879 I used the above immersion, and have had no further trouble with scab; dipping then over six thousand sheep. After treating, they were taken to a range where there had been no infected sheep, and were fed with salt and sulphur in the proportion of one part sulphur to twelve parts salt. As an illustration of the efficacy of this treatment, I had recently purchased the well-known flock of registered sheep of L. S. Drew, near Burlington, Vermont, with forty-eight head of E. Townsend, of Genesee County, New York, and four months after dipping I could rub sulphur particles from wool taken from these sheep upon sheets of white paper. In this manner the ability of the insect mite to run down the fibre of wool to propagate in pores of the flesh was entirely destroyed.

This method of treatment can be used in all localities where herds are small by simply reducing dipping works in proportion to size of the flock. The tendency of dipping, with all sheep, is to put them back in flesh, no matter what dip may be used; and it seems a fallacious theory to me when men claim that dipping sheep has a tendency to do good. I never dipped a sheep yet which was not injured in flesh by so doing. The secret of success in treating scab in future will be for sheep producers to get a remedy which they know is efficient and endeavor to introduce it generally, instead of experimenting with some of the many quack remedies that are so frequently advertised. The mixture above described is cheaper than tobacco, flowers of sulphur and arsenic, and twenty-five per cent cheaper than "Cooper's dip," now in use in some portions of the West, or any other dip used within my knowledge, and bids fair through its efficiency to supersede all others when it becomes more thoroughly known. I will here state I think the safety of this method in curing scabby sheep lies in the fact of the adhesiveness of particles of sulphur to a fibre of wool.

After an experience of seventeen years in handling and breeding sheep, I am convinced that if it were possible for flock-masters to get efficient herders who would apply the following remedy as a hand treatment when scab is first discovered, there need be little cause for ever dipping sheep. We have not arrived at that stage of sheep husbandry to do this, while many flock-owners will continue to use their favorite dip. Should there be evidence of the scab, apply immediately to the sheep infected a mixture of two-fifths turpentine and three-fifths fish oil. The oil will hold the turpentine to the body of the sheep or part infected while its virtue seems to be in the fact that it extends over a very large part of the skin that shows no visible sign of the scab mite.

While I do not intend to advocate these methods as being the only curatives of scab, for their economy and the non-poisonous effects of the dip mixture, should it be swallowed by sheep while being dipped, I commend them to the favorable consideration of sheep men.—Ivory Phillips, in American Sheep Breeder.

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, \$2.50 per year. A copy of the paper will be sent the advertiser during the continuance of the card.

HORSES.

THE IMPORTED CLYDESDALE STALLION—"KNIGHT OF HARRIS" (No. 655 Clydesdale stud book), will stand this season at the stable of the undersigned, three miles west of Topeka (Sixth St. road). He is one of the best Clyde horses in America. Sire Chieftain; grandsire, the great show stallion Top-mau. To insure, \$25. H. W. McAFEE.

CATTLE.

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.

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 Polled Cattle. Stock for sale. Correspondence solicited. R. R. station, St. Marys, Kas.

DEXTER SEVERY & SONS Leand, 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.

WOODSIDE STOCK FARM,—F. M. Neal, Pleasant Run, Putawatomie Co., Kas., breeder of Thoroughbred Short-horn Cattle, Cotswold Sheep, Poland-China and Berkshire Hogs. Young stock for sale.

H. S. FILLMORE, Green Lawn Fruit and Stock 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.

DR. A. M. ELDSON, 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. Mall, 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.

English and Merino Sheep, Bronze Turkeys, Light and Heavy Plymouth Rock fowls. Eggs for hatching. Catalogue free. R. T. McCullough & 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 dense wool. Fine wool a specialty. Come and see our flocks or write us.

A. F. WILLMARTH & CO., Ellsworth, Kas., breeders of Registered Spanish Merino sheep. "Wooly Head" at head of flock. Choice rams for sale. Satisfaction guaranteed.

SWINE.

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

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

SWINE.

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.

F. M. LAILL, Marshall, Mo., breeder of Registered Poland-China swine. Forty ready for sale. Plymouth Rock eggs, \$1.00 for 15.

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

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

POULTRY.

MRS. T. W. BAGSDALE, Paris, Mo., breeder of Light Brahma Chickens and Bronze Turkeys—the best. Eggs, \$2.50 for 15.

BAKER & MYERS, Sabetha, Kas., breed Buff and Partridge Cochins, Plymouth Rocks, Houdans, W. Leghorns, W. C. B. Polts, Langshans, W. F. B. Spanish, B. B. R. Game Bantams. Also Pekin Ducks, and Black-and-Tan, St. Bernard, and English Collie Shepherd Dogs. send for prices.

GEO. H. HUGHES, North Topeka, Kas., 14 first prizes (Felch and Pierce, judges.) on W. F. B. Spanish. Eggs, \$3 for 15; 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, \$2.50. 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 784.

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

EGGS FOR SALE—From Light Brahmas, Buff Cochins 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. McCom, 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. Fugley, Pittsburg, 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 Brahmas, Partridge Cochins, Plymouth Rocks. Eggs in season. Stock in fall. Write or prices. Wm. Hammond, box 190, Emporia, Ks.

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

S. R. EDWARDS, Emporia, Kas., breeder of high-class Plymouth Rocks and Partridge Cochins. Eggs, \$1.50 per 13. Correspondence cheerfully answered.

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

MISCELLANEOUS

PROSPECT FARM.—H. W. McAfee, Topeka, Kas. For sale cheap 15 registered Short-horn bulls, 1 to 3 years old. Also, Clydesdale horses.

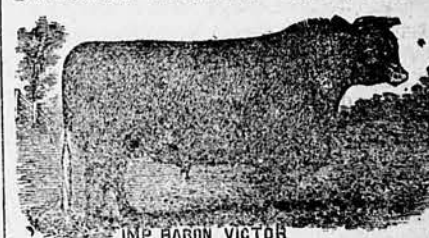
MERINO SHEEP, Berkshire hogs and fifteen varieties of high-class poultry of the best strains. Bucks a specialty. Harry McCullough, Fayette, Mo.

REPUBLICAN VALLEY STOCK FARM.—Henry R. Avery, Wakefield, Clay Co., Kas., breeder of Parcheron 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.

THE LINWOOD HERD

SHORT-HORN CATTLE



IMP. BARON VICTOR
W. A. HARRIS, Linwood, Kansas. The herd is composed of VICTORIAS, VIOLETS, LAVENDERS, BRAVITH BIDS, SECRETS, and others from the celebrated herd of A. Cruickshank, Siltyston, Aberdeenshire, Scotland. GOLDEN DROPS and Ulys, descended from the renowned herd of S. Campbell (Elmular, Aberdeenshire, Scotland). Also YOUNG MARYS, YOUNG PHYLLIS, LADY ELIZABETH, etc. Imp. BARON VICTOR 4222, bred by Cruickshank, and Imp. DOUBLE GLOSTER head the herd. 6 1/2 miles west of Leavenworth Co., Kas., is on the U. F. R. R. 27 miles west of Kansas City. Farm joint station Catalogues on application. Inspection invited.

STEWART'S HEALING POWDER. CURES ALL OPEN SORES, CUTS FROM BARBED WIRE FENCE, SCRATCHES, KICKS, CUTS, etc. Sold Every-where. 15 & 50 cts a box. Try it! STEWART HEALING POWDER CO., ST. LOUIS

FORESTRY--NO. 6.

Effects of Forests on Landscape and Climate.

Having considered this subject of forestry in all of the economic points of view in which it would be expected to receive most attention by and be of most interest to farmers, the writer, before considering the kinds and varieties of trees most desirable to plant and cultivate, and the best time and manner of planting, cultivating, etc., desires to dwell a little upon the advantage of forests to the climate of a country and the beautifying effects upon the landscape.

Wherever considerable tracts of forests are found the extremes of climates are less severe and noticeable. Extreme heat or extreme cold, is less frequently experienced, while sudden and violent wind storms of the nature of cyclones and tornadoes are by no means so frequent. Sudden changes from hot to cold or the opposite are not often known in well wooded sections of country and wherever experienced are much less severe than in open countries. The forests and woods control the air currents by interposing an obstacle to their too free movements, rendering changes slower and preventing unpleasant and damaging consequences by equalizing the temperature and preventing its too sudden changes which form so unpleasant and unhealthy feature of the climate of our State. Violent wind storms result from the constantly accelerated force acquired by cold air currents where no impediment is offered to their sweeps over the country, so that they constantly accumulate power and develop finally into hurricanes and tornadoes which are of a destructive character. Where much woodland is found these cold air currents and waves resulting from the accumulation of moisture and vapor clouds in the air when rapid evaporation is going on from the earth's surface, are disturbed and broken up by contact with the trees of timberland intermixed with their already somewhat cool air tending to produce an equilibrium in the atmosphere and preventing the damage to crops, buildings and other property so common in country devoid of timber. Winter wheat would no doubt do much better and feel the effects of severe cold weather far less if sheltered on the north and most exposed sides by good tracts of woodland to check the force of severe north winds; frost heaving occurs most in open land, in fact is very little experienced within the limits of timber, and much less on land sheltered to some extent by trees. The protection to the crop also increases and continues its growth in the late fall, giving it a firmer root and a thicker top to cover the ground, both of which help to prevent frost heaving. It is a generally conceded fact that a compact surface is an advantage to any small grain crop, and every farmer knows that winter-killing occurs most and to a greater extent on loose soils when the frost heaves the ground easily. Therefore, any agency that has an influence to compact or keep the earth compact and prevents the damaging action of frost, is a beneficial one to the wheat and similar crops. The writer has observed the beneficial effects of shelter from timber land to crops in the far East where woodland is abundant and its protection taken advantage of by farmers in cultivating crops susceptible to the adverse influences of cold winds.

It has been the endeavor to show also that plenty of timber land aids the more even and equal distribution of rain over the country and therefore aids largely in the prevention of drouthy weather, where the timber exists in considerable quantities. It is hardly necessary, however, to enlarge upon this branch of our topic since it has been considered in a former writing. The climate of a country depends of course upon, and is controlled by the amount of and the regularity of the rainfall, the changes of weather, the degree of heat and cold, temper of the winds, etc., and the endeavor has been to show that the presence of forest or timberland exerts a large degree of influence upon all of these agencies in the manner explained, and if the reasoning be correct forests and woodland must have a beneficial effect upon crops, improving, increasing and regulating them. There can be no question but that crops depend principally upon climate, other influences being equal, and whatever regulates the climate affects the crops.

The great improvement tracts of forest

trees make in the appearance of the country, the beautifying effects upon the landscape, is a feature of the subject of forestry of too much importance to overlook. In a prairie country like Kansas, devoid, except along the few streams, of woodland, there is too much of sameness and monotony in the surface of the country to render it always attractive and interesting to the view. The life of the farmer is necessarily one of continued sameness partaking somewhat of the monotonous, and if his surroundings are of the same nature, his life becomes one of dreariness, wanting in interest and attraction. Contentment in life, particularly the farmer's life, is one of the necessary requisites of success, and no person can feel contented with his lot unless his surroundings are of a reasonably pleasant nature. It is in the power of the farmer to make his situation and his surroundings pleasant and agreeable by the proper adornment and embellishment of his farm, particularly that portion surrounding his dwelling. His contentment and success depend also largely upon the degree of pleasure and interest his family take in their home. Upon all these things depends further the happiness of the occupants of the farm and the farmer's home. Pleasant surroundings bring contentment, and contentment happiness, which are always followed by a fair degree of temporal success.

There is perhaps no way to so easily and cheaply beautify the farm as by the liberal and judicious planting of trees, whether fruit or forest trees. Both add to its natural beauty and are alike profitable at the same time. Let the home be surrounded with a proper number of shrubs and trees, not too crowded, and the grounds kept green with a good surface of grass, dotted, perhaps, with flowers, and the farm house cannot but be an attractive place and one of interest to its occupants. Supplement this with a good sized tract or field of forest trees, or better, with two or more on other parts of the farm, and it may be made a beautiful place. And beside the feature of beauty, we have their beneficial influence upon the climate, shelter to crops and stock, and the other advantages that have been cited as the result of tree planting in large quantities, all of which add to the profit of the farm.

Were these suggestions carried out generally by the farmers throughout our State, the country would present a vastly improved appearance, the climate be largely benefited, and the occupation of farming rendered much more pleasant and profitable. The Kansas farmer is inclined to spend too much time off of the farm, and anything in the way of improvement and adornment that will tend to attract and hold him at home is to be desired. These conditions not only effect their temporal, but their intellectual and moral faculties as well, making the farmers better men in all respects, ennobling and raising their calling and give dignity to farm life. FORESTER.
Winfield, Kas., May 15, 1885.

Thoroughbred Stock Sales.

The result of last week's sales was more gratifying than those of the previous week. Higher prices were realized and a much better class of cattle was offered. Buyers seem to have accepted quarantine regulations in a matter-of-fact way, and propose to go ahead and buy what they need. It is quite evident that the State of Missouri is losing countless thousands of dollars by not protecting her stock interests and eradicating the insidious disease in her midst. The heavy cattle men on the range cannot afford to run the least risk of getting pleuro-pneumonia on the range, for should it once get a hold there, it never could be suppressed, and the ranch interest would be forever ruined. As a consequence, Kansas is now enjoying a bonanza trade with this class of first-class cash purchasers; and being inadequate of supplying the demand, good prices are realized as a consequence.

The public sale at Weston, Mo., by the Platte County Short-horn Breeders, on May 18th, was considered a good sale, although prices ran low. The cattle were thin in flesh and poorly bred. The good ones sold well. The highest price realized was \$200, for a five-year-old bull bred by C. E. Leonard. The general average for sixty-nine head was \$67; forty-eight bulls at \$64 and twenty-one females at \$75.

The Short-horn sale of W. T. Hearne, of

Lee's Summit, Mo., held on May 21st, was a good one—the best of the season so far in the West. The cattle were in excellent condition and well-bred. The attendance was good, and the bidding, under the promptings of the auctioneer, Col. Muir, was lively, and the sixty-three Short-horns catalogued sold readily for the neat sum of \$10,470, an average of \$166. The highest-priced bull was a Young Mary, and brought \$220. The highest-priced female was a Young Mary, and brought \$370. Eight cows sold for \$300 and over, and belonged to the Young Mary, Phyllis, or Rose of Sharon families. Fifty-four cows and heifers made an average of a little less than \$170, and thirteen bulls averaged a little over \$102. Everything considered, Mr. Hearne was well pleased, and Short-horn men generally were more encouraged.

The Short-horn sale advertised in this paper by S. H. Sawyer & Sons and Elbert & Fall, was held May 19th, at Albia, Iowa, and seventy-two Short-horns sold at an average of \$131. Forty-two cows and heifers made an average of \$138, and thirty bulls at \$122.

Gossip About Stock.

The estimated aggregate value of all live stock in the United States on January 1, 1885, was \$2,456,425,983.

Hiram Ward, of Burlingame, Kas., has sold his entire Short-horn herd to W. D. Miner & Son, a neighbor of his, and an extensive breeder of Herefords and Short-horns.

Jas. Richardson, Roanoke, Mo., claims June 23 and 24 for his forthcoming Short-horn sale at Kansas City, in place of the sale recently advertised and withdrawn. He will offer a splendid lot of cattle.

The imported Short-horn bull, Grand Duke, of Waterloo, (51,878) owned by Fisher & Kendrick, of Newark, Mo., has been sold for \$700, to one of our Missouri subscribers, Walker & Roberts, of Pleasant Green, Mo.

There were 1,000 more Short-horns sold at auction in 1884 in this country than in 1883; 4383 head of these cattle sold in 1884 for an aggregate of \$875,078, an average of \$19.65, against \$205.56 for the previous year.—*Indiana Farmer*.

Hon. Frederick Dillings, Woodstock, Vt., has become a member of the American Southdown Association, and has sent for record the pedigrees of his imported and American-bred Southdowns. The above named association meets at Springfield, Ills., June 3, 1885.

The fourth annual meeting of the American Southdown Association will be held in the Leland Hotel, Springfield, Ill., on the 3d of June, 1885, at 7:30 p. m. Southdown breeders and others in attendance at the Central Illinois series of sales on that day are cordially invited to be present.

For very good reasons Dr. Robert Patton, of Hamlin, Kas., has postponed his forthcoming sale from June 18 to July 1st. The Doctor proposes to close out a herd and it is important that farmers should be present to secure the advantage of a few bargains while the depression of prices lasts, for it will soon be over.

Our correspondent, Phil. Thrifton, Springfield, Ills., sends the following notes: Some of the leading farmers and stockmen in Sangamon county, Illinois, have obtained license for a new fair association, with capital stock to the amount of \$10,000. They propose holding a fair the coming season, September 27 to October 2.

Parties who expect to use recorded Southdown rams on their flocks next fall will do well to look them up soon. The supply among breeders now is far less than the demands will be in August and September next. Buyers who defer selecting until then will have to be content with unrecorded rams or the use of early spring lambs.

Latest returns to the statistician at Washington, D. C., show an increase in the number of horses and mules in nearly every State in the Union. The average increase in horses is about four per cent. Compared with 1st year the number is 11,564,572 head, against 11,169,683 head, an increase of 394,889. Values have decreased from \$74.64 to \$73.70 per head, a difference of 94 cents. The shrinkage in prices is much less on horses than on any other class of live stock, being between one and two per cent. The aggregate

value of all the horses in the country amounts to \$652,282,947, against \$833,734,400, an increase of \$18,348,547.

The death of that renowned and highly valued Hereford bull, Randolph, owned by the Wyoming Hereford Association, is a large loss to this enterprising company as well as to the whole Hereford interest. He had few equals as a sire that did more to advance the Hereford "boom." A sixty-five pound tumor was removed from the bull before his death.

T. D. Thatcher, of Topeka, the State Printer, has purchased of E. A. Smith, of Lawrence, Kas., one of the very best butter-making Jersey cows in the State. No strict record has been kept but Mr. Smith believes that if an effort was made to push her to a test that a national fame would be made for this cow, for with ordinary treatment she has made for a considerable period 17½ pounds of butter weekly.

The excitement among cattle breeders, caused by the outbreak of pleuro-pneumonia in Missouri, having subsided, the Springfield Jersey Cattle Club yields to the desire of many western breeders of Jersey cattle, and decides to hold its annual sale at Springfield, Illinois, on Wednesday, June 24, 1885. As heretofore announced this will be strictly a breeders' sale of healthy, well-bred and useful A. J. C. C. animals.

F. D. Wight, President of the Colorado Wool Growers' Association, comes out with an earnest and ringing letter to the sheepmen deploring the time of meeting of the National Association on account of such a busy time with sheepmen. He wants a united and hard pull made by sheepmen everywhere for the restoration of the tariff of 1867. He urges eternal vigilance in this matter and advocates a sacrifice of time and money to that end, or we may expect a still further reduction of the wool tariff.

On June 3, at Manhattan, Kas., Col. W. A. Harris and C. M. Gifford & Son will sell the best lot of Short-horns ever offered in Kansas. It will be unquestionably the best chance of the season to secure first-class animals. It is safe to say of the thirteen bulls catalogued, that a better lot were never offered in the West. From a personal knowledge every one is of unexceptional breeding and quality suitable to head a good herd.

Corn planting in Central Illinois was about half finished by the middle of May. The spring being late and cold, farmers broke their ground before it was dry enough to work well. Hence much of the corn planted before the 15th of the month was not as well put in as it should have been. The ground has been working better since then, and the later plantings have been more carefully done. Seed corn generally believed to be good.

We call attention to the new swine ads. of J. V. Randolph, Emporia, Kas. He has been breeding pure bred swine so long and successfully in Kansas that mention is almost needless. However, we are pleased to state that with his stock boars Quantrell 4,205 and Jayhawk 3,895, bred to his extra lot of brood sows he has this year, the finest lot of pigs that he ever offered. With commendable pride he invites everybody to come and see him and get a bargain in a Poland-China or a Berkshire pig.

The eternal vigilance exercised by Kansas in protecting her great stock interests, not only affects "poor old" Missouri, who is cursed with a perverse Governor and senseless Legislature, but greater discontent is manifested in Texas. The stockmen of the Texas Panhandle propose to emulate the example set by Kansas as far as lies in their power. Information is received of the new move on the part of cattlemen in the northern part of the Texas Panhandle to prevent the driving of southern Texas cattle over their ranges. A herd passing northward was stopped at Tascosa, on the Canadian river, by the sheriff under a writ of trespass and the matter has been carried into the courts with the intention of making a test case.

Mann Boudoir Cars.

The Wabash is now running the celebrated Mann Boudoir cars between Kansas City and Chicago. This is the only line running these cars in the West.

Experiments made in Paris show that the crocodile can bring its jaws together with the force of over 300 pounds.

A Strange Reason.

A subscriber requests us to discontinue his paper. He says: "I like your paper as to the information it gives pertaining to methods of farming in this State; but you are too well pleased with present political systems. You think Cleveland very honest, representing honest systems. I do not; but do think it is time for the farmers of Kansas to look a leedle out on this political business."

There is some more of the same kind, but we do not understand it. Really we do not know what our critic means, except upon an arm's-length guess. This paper never advocated any political system of which Mr. Cleveland is a representative. If Mr. Cleveland represents any political system, the people have not been informed upon the subject, unless, indeed, it be in his advocacy of the practical demonetization of silver, and the KANSAS FARMER took occasion to criticize Mr. Cleveland's position on that subject in the first issue after the "silver letter" was written. This paper advocates the free and unlimited coinage of silver. Mr. Cleveland is opposed to that, and so is a portion of his party. Democrats are not united on that subject, and therefore Mr. Cleveland, as the head of that party, does not represent a system of finance. He advocates a reform of the civil service, to the end that competency and fitness shall be regarded as better qualifications for office than party zeal. The great mass of people of all parties have been favoring that doctrine a long time. It has grown into almost a necessity. This paper has commended Mr. Cleveland for his opinions and for his conduct in this particular, and has said that his slowness in removing officers for purely partisan reasons is a good sign. It shows that his professions were sincere.

Our correspondent must have a grievance that he does not understand himself or he could state his case better, at least so that it could be understood. This is the third subscriber we have lost in three years and a half because of our opinions. Two of them made their objections perfectly plain. The KANSAS FARMER is opposed to dram-shops and therefore favors enforcement of the prohibitory liquor law. That was our offense, as stated by the two other gentlemen. This man says we are too well pleased with present political systems. Strange reason, indeed. We would like to know what ails him.

Topeka Stock Yards Sales.

The representative sales of live stock at the Topeka stock yards for the week ending Saturday, May 30th, are as follows:

Forty light sheep at 2½ cents per pound; seventeen stock hogs at 3¼ to 3½ cents per pound; eleven grade Angus yearling heifers, from \$25 to \$30 each; thirty grade Hereford yearling heifers, at \$36 each; one thoroughbred yearling Short-horn bull at \$75; nineteen yearling steers from \$21 to \$23 each; twenty-six two-year-old steers, from \$29 to \$30 each; six head stock cattle, \$25 to \$27; nine fat steers at 4½ cents per pound; thirteen fat cows and heifers, weighing 900 to 1,170 pounds, from 3 to 4 cents per pound; four ponies from \$52.50 to \$60—average \$57.50; two work horses at \$100 each.

Book Notices.

THE BAD BOY AT HOME.—This is one of those books that ought not to be taken into any family. It is not funny, it is not instructive; it is not amusing or entertaining. It is silly, insipid and harmful, because, beside its having nothing good in the matter, it spoils our language by torturing it into words and sentences utterly unlike what is used by any boy. A copy is sent us for notice. The best thing to say of it is that the whole edition ought to be burned. Boys are worth too much to be wasted on such stuff.

Near the equator perpetual snow covers the mountains at the height of 15,207 feet; in latitude 60 deg., it is found at 3,818 feet, and in 75 deg. at 1,016 feet. The main cause of this is not that the solar rays possess less heat in the higher regions, as the contrary has been proved, but that the portion of the earth's crust projecting far up into the atmosphere, as is the case with high mountains, possess less of the interior heat of the earth, being more subject to cooling by radiation, which has caused their temperature to descend to such a very low degree that even a midday tropical sun can not raise it to 32 deg. F.

Importance and Method of Tree Planting.

At the last meeting of the Northern Horticultural Society, Mr. W. L. Porter read the following interesting paper on the importance of tree planting. He said:

"It is hard to estimate the importance of the subject upon which I attempt to write. It is the planting of trees which has made many spots of this far Western desert mere beautiful and desirable than the mind can picture. It is a subject of so much interest that our State and National Governments have given it much consideration and have wisely set apart a day for the planting of trees. And I believe it would be profitable if every man, woman and child in Colorado would strictly observe Arbor Day and at least plant one tree during the time. What grand monuments some of the trees are that our forefathers set. At this very moment my mind wanders back with pleasure to some of the beautiful roadsides in the East, shaded by the arched limbs of the sugar maple and elm. As we walk beneath their shadows we bless the memory of those who planted them. In nearly all work there are two ways of doing—a right way and a wrong way, and it seems to me that in the planting of trees the wrong way is as often pursued as the right. The first important step in tree planting is the lifting of the tree from the soil, and when we consider that the roots are the feeders from which it gets its sap and life, and that the roots extend as far from the trunk as do the branches, and that the roots receive nourishment from the soil through the small terminal rootlets, then we may at once see how important it is to lift the tree with as many of these small rootlets as possible. If we could remove a tree with all of its roots and the thread-like rootlets and place them again in the soil as they were before, the tree would receive no check, hence the nearer we can approach this condition the greater our success. But if we do the best we can, as a general thing we cannot save more than a third of these life-giving roots. Now when we consider that the leaves are respiratory organs giving off many pounds of moisture per day, and that the supply is as much lessened by the cutting of the roots, something must be done to lessen the evaporation also. Therefore the top must be cut back in proportion as the roots have been destroyed. There should be nice judgment used in thinning out the top, for in the performance lies the shape of the future tree. In this dry sunny climate the importance of cutting back is greater than in the East where the climate is more moist, as the evaporation is greater. For an example of the importance of the pruning process I will quote from Mr. Thomas' Fruit Culture: Some years ago an orchardist carefully transplanted 180 apple trees into good mellow soil. The roots had been cut rather short in the digging. The tops of one-half of them were shortened back so as to leave only one bud of the previous season's growth. The heads of the others were allowed to remain untouched. The season proved favorable. Of the ninety that had their heads pruned only two died and nearly all made fine shoots, many of them being eighteen inches long. Of the ninety unpruned eight died. Most of them made but little growth, and none more than six inches. Both the first and the second year the deep green and luxuriant foliage of the pruned trees afforded a strong contrast to the paler and more feeble appearance of the other."

The tree thus prepared, the next in order is the planting. The nature of the tree should be well studied as to the kind of soil suited to it, the amount of moisture, etc. The soil should be well enriched and thoroughly loosened before the trees are brought on. The hole should be dug amply large. The tree should be placed about the same depth as it was previously and the soil well worked under it with the hand so as to get the earth well packed about the fibrous roots. I think the puddling method is to be much preferred. If irrigating water is convenient a small stream can be run into each hole, then a slight churning up and down of the tree will perfectly mould the soil around the tiniest root. Dry earth should always be thrown on top to prevent the sun's rays from cracking the soil. If the tree is large it should be well staked to prevent the wind from loosening the roots. In most cases, however, I prefer to set small trees. From two to three feet high suits me best. The small tree can have much better roots in proportion to its size. The shape of the top is not so

much injured by the cutting back and in most cases will bear fruit as soon as the larger trees set and the health and symmetry of the tree is always better.

The time to set trees must vary according to the different species. In this climate I prefer to set nearly all trees in the early spring, and even if I receive fruit trees in early autumn I should cover them in root and branch and save them the exposure to our severe climate. Then set them in early spring. I consider the best time to set the evergreen is when it puts forth its sap to form new growth.

The tree should be raised with as near all its roots as possible, taking roots and earth. If it is to be moved any distance it should be sewed up in canvas so as to keep the earth firm about it. Persons may say 'I have taken all these precautions and yet lost all or nearly all my trees.' This is often the case. The caring for the trees the first year after transplanting is of more importance than even the planting. And here the most careful study of the tree should be made—its adaptability to moisture, dryness, heat, cold, etc.

It is safe to say that all trees need a sufficient amount of moisture to keep up a vigorous growth. How many of us have seen our pet trees when transplanted put forth their new leaves and give us every promise that we should be rewarded for our pains and labor. In a single day we would be surprised to see their leaves droop and wither, and perhaps not recover. There are many causes for failure in tree planting and many reasons why great care should be taken. There are a few rules I think we should all be governed by:

First.—Never buy anything but the best trees. Never accept inferior nursery stock if it can be had at one-fourth the price.

Second.—Always buy trees as near home as possible.

Third.—Never allow the roots of trees to become exposed to the air in transportation. A few minutes of hot sunshine on the roots will destroy their life.

Fourth.—Never allow the earth to become dry and baked about the tree.

Fifth.—Let every one appoint himself a committee to encourage the planting of trees."—*Colorado Farmer.*

Mulching Trees and Shrubs.

Mr. A. S. Fuller, in *American Agriculturist*, writing on the subject above named, comments as follows:

A very noted English arboriculturist says: "Mulching consists in laying a circle of litter around newly-planted trees to retain the natural humidity of the soil." This is certainly a very brief and incomplete description of both the operation and the benefits to be derived therefrom. It is, however, about as much as has been claimed for it by tree-planters in this country, and for these and other reasons comparatively few persons think that mulching trees is sufficiently beneficial to pay for the cost of material and its application. To say that the material applied as a mulch is merely "to retain the natural humidity of the soil" is certainly claiming very little for one of the most beneficial operations which the tree-planter can practice, especially in all hot and naturally dry climates, or in one like that existing throughout the greater part of the United States.

In mulching newly planted trees, or those set for some years, we not only prevent suffering for want of moisture during the dry weather in summer, but enable them to obtain those elements, which they require for nourishment and growth. In selecting a material for mulch, one of a fibrous nature, or at least one that will not become compact and hard, after being beaten by heavy rains, is always preferable to any other. The more plant food the material contains, the better, and for this reason coarse litter from the stable or barnyard has no superior for this purpose. Meadow hay may be ranked next in value, then straw, corn stalks, bog hay from low lands, and thence downward in the scale to pine or basswood shavings or sawdust. Almost any material that will shade the surface of the soil, and admit air and water, will prove of great benefit to newly planted trees, and frequently restore to health the old and feeble, or those stunted in growth from lack of moisture at the roots, and those fertilizing elements, that can only be absorbed and utilized when presented in a liquid or gaseous form. Even small stones may answer.

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.

The Horse Stable.

It would be very unreasonable to expect every farmer in Kansas to have a good stable for horses, but it is quite in order to keep an eye fixed on such a stable as we would have if we were as we are not. It is a fact, too, that farmers generally do not pay as much attention to the horse stable as they ought to do. It is vastly more important than most people believe. We agree with a late writer in the *American Agriculturist* that the condition and health of a horse depends very much upon the kind of stable it is kept in. There are horses which suffer from disease of the eyes, from coughs, from scratches and other skin diseases, all of which are produced by the pungent foul air in the stables. Farmers and others who have horses, will take pains to keep their carriages and harness protected from the strong ammoniacal air of the stables lest the leather may be rotted or the varnish dulled and spotted; and at the same time they will wonder why their horses cough, or have weak eyes or moon-blindness, or suffer from other diseases, which, if they would only think for a few minutes, they would readily perceive are due to the foul air the animals are compelled to breathe every night in the year while confined in close, badly ventilated stables. The remedy is very easy. The stable should be kept clear; this will prevent the greater part of the mischief; and it should be well ventilated. The floor should be properly drained, so that the liquid will not remain on it, to be absorbed, and decompose, and produce the pungent vapors of ammonia, which are so injurious to the eyes, nostrils, throat and lungs, and this liquid waste should be carried away to some place where it can be absorbed and utilized. The floor should be washed off at least twice a week with plenty of water and then liberally sprinkled with finely-ground gypsum (plaster) which will combine with the ammonia, and fix it. A solution of copperas (sulphate of iron) will have the same result. Lastly, the floor should be supplied with absorbent litter, which should be removed when it is soiled. Ventilation should be provided in such a way as to avoid cold drafts. Small openings, which may be easily closed with a slide, may be made in the outer wall near the floor, and similar ones near the ceiling, or in the roof, through which the foul air can escape. Pure air is of the utmost importance to the well-being of horses. As an instance of it may be mentioned the fact that in the English cavalry stables a complete system of ventilation reduced the average loss of horses from the deadly disease, glanders, from one hundred and thirty-two per thousand yearly, to nine in the thousand; and when a similar improvement was made in the French army stables, the percentage of death was reduced in a similar ratio, with a still larger decrease of milder ailments.

The proposed railway from London to Bombay will, it is estimated, extend over a distance of nearly seven thousand miles, and this distance, it is estimated, can be traversed in nine days, or on an average of thirty-five miles an hour. The route contemplated is through Paris, Madrid, Gibraltar, Tangiers, Tunis, Tripoli, Cairo, Bassorah, Kelat, to Kurrachee and Bombay. Use will be made of the existing railways in France and Spain, and steam transit will be established from the Bay of Gibraltar to Ceuta, in Morocco, from which latter point will begin the international railway, the works of which will have to be constructed in Morocco. This line will then form a junction with the system of railways under the administration of the French railway company in Algeria and Tunisia. Thence the route will continue through Tripoli and form a junction with the Egyptian railway system. From Egypt, the route to India will be continued to the Euphrates, and then along the coast of the Persian Gulf to Kurrachee; thence to Bombay, Calcutta, and Madras.

The Home Circle.

Alone With Conscience.

I sat alone with my conscience,
In a place where time had ceased,
And we talked of my former living
In the land where the years increased,
And I felt I should have to answer
The questions it put to me,
And to face the answers and questions
Through an eternity.

The ghosts of forgotten actions
Came floating before my sight,
And things that I thought were dead
Were alive with a terrible might,
And the vision of all my past life
Was an awful thing to face,
Alone with my conscience sitting
In that solemnly silent place.

And I thought of the faraway warning,
Of a sorrow that was to be mine,
In a land that then was the future
And now is the present time.
And I thought of my former thinking
Of the judgment day to be,
But sitting alone with my conscience
Seemed judgment enough for me.

And I wondered if there was a future
To this land beyond the grave,
But no one gave an answer
And no one can come to save.
Then I felt that the future was present
And the present would never go by,
For it was but the thought of my past life
Grown into eternity.

Then I woke from my timely dreaming
And the vision passed away,
And I knew that the faraway warning
Was a warning of yesterday,
And I pray that I may not forget it
In this land before the grave,
That I may not cry out in the future
And no one came to save.

And so I have learned a lesson
Which I ought to have known before,
And which, though I learned it dreaming,
I hope to forget no more.
So I sat alone with my conscience
In the place where the years increase,
And I try to think of the future
In the land where time will cease,
And I know of the future judgment
How dreadful so ever it be,
That to sit alone with my conscience
Will be judgment enough for me.
—London Spectator.

From a New Contributor.

This is my first attempt to write anything for a paper, so will not make a very long visit this time.

I have been a reader of the KANSAS FARMER for a number of years, and have enjoyed reading it very much, especially the Home Circle. It is with regret that I see so few of the ladies write, for I enjoy reading their letters.

This is a very busy time of the year, so many are making their gardens, raising chickens, cleaning house, etc. We have had good luck with our chickens so far, have 170 now. Will some of the Home Circle tell me the best way to raise chickens without the mother hen? It is very cold and damp here now. COUSIN AGNES. Burrton, Harvey Co., May 14, 1885.

How the Dead-Letter Office is Filled.

While I was in the "dead letter" department the other day, one of the clerks engaged in opening letters—at a table near by called to the gentleman who was entertaining me. He went to him, and immediately beckoned for me to follow. "Now, what can be done in this case?" he says. "Here is a letter, this instant opened, and you see what it contains?" There was a clean, new \$20 bill, neatly folded and wrapped in a piece of perfectly blank, brown paper, not a mark of pen or pencil to show from whom it was sent. The letter had been advertised as unclaimed, and was dead, and the examination of its contents made it more completely dead than before. "We have nothing but the post-mark, and even that is almost obliterated; but our expert will take hold of it and do the best he can with it. There's a pretty slim chance in the case. I guess Uncle Sam will get the money. This reminds me of my own experience. A few years ago, when I was opening letters I found one just like this, except that the amount was \$30, and on the paper wrapped around it was written in pencil, "A friend. Matthew vi: 3." I looked that up and found it to be: "But when thou doest alms, let not thy left hand know what the right hand doeth." The letter was addressed to a woman, and it was clearly a case of charity. I really felt bad that we could not succeed in finding either party, and that money is in the treasury to-day." The number of letters opened last year containing currency, checks, drafts, and negotiable paper, was over 34,000. The amount of actual cash taken from letters was nearly \$39,000, and the value of checks, etc., representing money, about \$1,600,000. During the year the number of pieces of mail matter that reached the Dead-Letter office was nearly four and a half millions. The exact number was 4,440,822. This is about 14,200 for every day.—Washington Letter.

The Question of Amusements.

Several members of our little coterie have requested my views upon the subject of amusements for the young, some specifying one form of recreation and some another. While I do not hesitate to record opinions which have been deliberately and thoughtfully formed, and have the courage of my honest convictions, I am well aware that mothers in many homes will read my words, and accept or reject my conclusions. For that reason, and because in this, as in all I write for our little paper, I am most anxious to uphold the side of right and truth and exert a beneficial influence in the sacred realm of home, I have given this subject more than usual thought, looking at it from more than one standpoint; for we must realize that Truth, though steadfast and unchangeable, yet presents many aspects. I am not so old I have forgotten I was once young and fond of pleasure; nor so young that I am blind to the evils of amusements through the fascinations they exert upon the inexperienced. I consider amusements a necessity to physical and mental well-being. What is more natural to a child than play? And when the simple amusements of youth are outgrown and labor and study make inroads upon physical and mental strength, it is nature's cure to re-create wasted energies by rest and recreation. We cannot put "old heads on young shoulders;" I would not if I could. And if children do not find their homes in sympathy with their desire for recreation, they will find it elsewhere, perhaps where it may not be free from impure and demoralizing influences. We may dam the course of a stream till it lies placid and unrippled, but desires natural to human nature, and cherished in our hearts, are apt to break out under the removal of restraint, as the stream resumes its course, but with the impetuosity of a torrent, when its barriers are broken down.

It seems to me that the true distinction to make is not against amusements in themselves, but rather against their abuse and their surroundings. Amusements which are perfectly innocent when pursued in moderation at home or in proper society; which are pleasant relaxations, not harmful, but helpful in that they cultivate social graces, if carried to excess become dissipations which demoralize physical and mental strength; or highways to evil through association with the corrupt and vicious, to the injury of reputations and morals. It is the associations and the excess that make the evil. Churches and colleges and christian associations realize this when they add billiard rooms to their gymnasiums and reading rooms; they provide the amusement, and render it harmless,—nay, more, beneficial—by the associations.

How far the christian can consistently enter into the world's amusements has always been a mooted point. I believe it a question totally outside of churches, to be settled between God and every man's conscience. What is a snare and a temptation to one may be none whatever to another. Because I am weak I have no right to say another must be weak also; because my courage is high against one temptation, I dare not say others may not fall by it. Possibly because most churches are permitting this liberty of individual conscience, instead of insisting upon a decalogue of their own making, is the reason that, as "Fidus Achates" asserts in another column, there is so little difference, outwardly, between christians and "world's people." The quoted injunction "Be not conformed to the world" might be offset by another: "Make to yourself friends of the mammon of unrighteousness." The "world" to which Christ would have His disciples conform, was a very different world from the world of the 19th century. It was a pagan world; its amusements brutal, sensuous, debasing—feasts of shameless debauchery, chariot races where the victor won his laurel amid the groans of his dying or maimed competitors, the bloody battles of the arena between beasts and gladiators hardly more human than the beasts. But the world was not christianized and civilized by the withdrawal of christians from all companionship with it, but because they lived in it; of it, with it, and each "kept his conscience." And I think Mr. Moody, the evangelist, carried this idea of an individual liberty of conscience when he made that famous answer to the convert who asked if she could, consistently with her new profession, attend the theatre with her husband: "Give Christ the first place, and I care not who takes the second."

And then comes the further question, since amusements may lead to evil, even to the final destruction of soul and body, is it not best to avoid them entirely, shun them as temptations of the "destroyer of souls?" Perhaps we might say yes to this, were it not for the countless thousands who pursue such amusements moderately and harmlessly, giving the lie to the inference that because some go down into sin through them, all who indulge must or will; and but for the further fact that many who are carefully kept from them, when left to themselves indulge to an extent which effectually does away with the theory that restrictions restrain; or in other words, that to deny a child a coveted pleasure robs him of the desire for it, or the inclination to take it when he can get it. When a young person is taught that an amusement is wicked which he sees others pursuing without loss of respect or prestige or influence in the community, he is apt to question why what is so wrong for him is so harmless to another, and an explanation is extremely difficult not to say unsatisfactory. When he gets the opportunity, he will try its effect upon himself; and when the false standard of con-

science is blunted, the danger is a rush to the opposite extreme. Moreover, there is in every amusement a certain fascination which charms by its novelty till use dulls it. While that fascination is strongest, danger is greatest; desire is apt to lead too far, perhaps into improper company; but when "the craze," that is, the novelty, is over, the amusement is far less dangerous. Now is it not wisest to let this keen delight be satisfied under the eyes of parents, so that when the lad goes into the world, these temptations he will inevitably encounter are robbed of half their charm? Would it not be best to let the children have their games, their "progressive euchre"—which really is not so "awfully awful"—and their little dances, at home, under parental control as to companions and restrictions as to hours? When "society news" kindly informs the world that the Bishop's daughters attended a little dancing party in somebody's parlors, because there is a dance at Arbeiter Hall next night nobody infers they were there, or thought of going, or ever will go. And it does not follow that because respectable farmers' sons and daughters meet in suitable places to indulge in amusements suited to their years, we shall find them in the haunts of vice thereafter, unless led by a taste or tendency which would take them there anyway.

We do not refuse to teach a child to read because there are bad books printed; nor when we see him absorbed in some volume, judge from his interest he must be reading something Anthony Comstock would be glad to get his hands on. No child ever learned to walk alone by always clinging to its mother's hand; no young person was ever made strong by being carefully kept from temptation. The idea ought to be, seems to me, less to hedge about by arbitrary restrictions than to cultivate self-reliance, the power to discriminate between good and evil, and individual power of judgment, so that it may play its part in the enjoyment of pleasure as in life's other relations. A great many very good people, unhappily, can see no difference between the use and abuse of a thing; perhaps I should rather say they are so blinded by prejudice that they will not see a distinction.

Just at present, roller skating is the great "craze." No one will pretend to say there is anything wrong or sinful in the act of skating itself; what we must look at are the surroundings, the associations. Dr. Talmage, in a recent sermon on skating rinks, in which he took for his text "The noise of the wheels over against them," [Ezekiel III. 13.] says:

"It is the best thing or the worst, as you make it. Some of these rinks have already been the means of helping invalids, and invigoration of the feeble, and innocent pleasure to thousands of young, middle-aged and old. Some have broken up families, set surgeons to work at perilous operations, created life-long ailments, and are responsible for eternal misfortunes."—*Beatrice, in Michigan Farmer.*

A Dinner for Two Cents.

There is an organization in London for furnishing poor children with a dinner for a penny (two cents); and from a recent published report it seems to have proved a successful experiment, in a pecuniary as well as beneficent sense; so much so, in fact, that another society has undertaken to furnish dinners to poor children in the poorest and most populous part of London for half a penny. It is said that the children who take their meals at the penny establishment show a marked improvement in health, are more regular in attendance at school, and accomplish better work in their studies than when they commenced their new regimen. It may interest philanthropists who are engaged in ameliorating the condition of the poor in our large cities, to know the materials of which these dinners are composed. The bulk of the ingredients is, of course, vegetables and bread, potatoes and peas holding a prominent place. Both meat and milk are used in moderate quantity.

From the report just made it is calculated that each child receives about twelve or fifteen ounces of soup or other kind of nutrient each meal, and this quantity contains from one to one and a half ounces of meat. The children enjoy their dinners, and appreciate the kind attention they receive at their meals. When one considers how scanty and unpalatable is the food furnished to many poor children at their homes in the great cities, like London and New York, it is not surprising that the poor neglected children thrive better, learn more at school, and are happier for a hot, palatable dinner and a kind word from the attendants.

The last experiment of furnishing a half-penny dinner for the very poorest children from the most squalid parts of London has not been established long enough to determine if the receipts will meet the expenses, but it promises well, and the supporters of the enterprise are confident that it will nearly pay its way.

As many as 303 children were fed on the first day; the number has to average about 566. A choice within a certain limit is given, and care is taken to make the food agreeable and wholesome. The first course consists of a rich stew or bacon sandwiches, the second of bread and jam or bread and cheese. That the children find the dinner ample to satisfy their hunger is shown by the fact of their continued attendance and the little waste made. It is demonstrated that with the cook's wages, cost of gas and implements excepted, there is no loss, and that they can be made self-supporting.

The penny and half-penny dinner associations of London suggest a plan which it

seems might be advantageously adopted in our large cities, and, if conducted on the economic scale of the London societies, not only poor children, but unfortunate adults, might be relieved of much suffering without imposing any tax upon our benevolent citizens.

Any one wishing to know more of the penny dinner enterprise may obtain copies of a pamphlet on the subject from Messrs. Alexander and Shephard, 21 Castle street, Holborn, London. It is sold for one penny.

Cocaine.

The new anæsthetic cocaine, which has become so famous in connection with Gen. Grant's case, is a preparation made from the leaves of a Peruvian shrub called by botanists *Erythroxylon coca*. It is not related in any way to the cocoanut, nor to the cocoa tree which produces chocolate and broma. The plant is not rare, in fact it is extensively cultivated in Peru, Bolivia, and other parts of South America. Before the war between Peru and Chili, those countries produced 50,000,000 pounds of the leaves annually. The leaves are now sold at wholesale in New York at from \$1.75 to \$2.50 per pound. The cocaine or muriate of cocaine, used as a medicine, exists in the leaves in very small quantities, and the process of extraction is expensive, so that the remedy as used by General Grant costs about seventy-five cents a teaspoonful.

The Peruvian Indians have long chewed cocoa leaves to enable them to withstand hard labor, hunger and thirst. It is said that its power consists in benumbing the stomach so that it is insensible to the lack of food and drink.

Cocaine was first used in this country in operations on the eye, which it was discovered was rendered insensible by its use, so that a piece of steel could be cut out of the eye ball without any pain being felt. This led to the employment of the drug in troubles of the ear and throat. When applied in the form of a spray to the throat, or when brushed over the back part of the throat, after a few minutes instruments may be freely used without producing pain or any sensation of nausea which is so disagreeable and annoying under ordinary circumstances. The sense of taste is abolished temporarily when the entire tongue has been brushed over with a 4 per cent. solution. This much is known about cocaine. Whether it will cure as well as deprive of sensation the diseased or injured surfaces to which it is applied, remains to be seen. We may say that already imitations are being sold, and some of these preparations are absolutely dangerous. In muriate of cocaine properly prepared the world has gained a great boon, one of the few discoveries which go to lessen the burden of human suffering.—*Champion.*

Therefore, dear birds, in leafy woods ye warble,
And you, my children, by the rivulet
Play, laughing merrily, because the world
Is sound at heart, however it seems to all,
God-fronted, dragon-trained, 'tis but the marred

Image in souls, who travail yet ungrown,
Who, ruffled, slowly waver into rest.
And why we arise and fall, no mortal knows,
Save that by change alone the unchanged abides;
Love breathes amid the ruin of dead wrong.
For a moment only of our infinite life
With one wild wing-pulse cleaving earth's
rent air.

Oh! lift we one another from this hell
Of blindly battling ignorance to God!
—Noel.

Thou art the Opener, open thou the door:
Thou art the Teacher, teach my soul to soar:
No human masters hold me by the hand:
They pass away—thou bide-t evermore.

I cannot reach the Road to join with thee:
I cannot bear one breath apart from thee:
I dare not tell this grief to any man:
Ah hard! ah strange! ah longing sweet for thee!
—Omar Khayyam.

Man hardly hath a richer thing
Than honest mirth, the which well-spring
Watereth the roots of rejoicing,
Feeding the flowers of flourishing:
Be merry, friends!
—John Heywood.

Pity is the virtue of the law,
And none but tyrants use it cruelly.
—Shakespeare.

Consumption Cured.

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

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The Young Folks.

The Way to be Happy.

A hermit there was, and he lived in a grot,
And the way to be happy they said he had
got.
As I wanted to learn it I went to his cell,
And when I came there the old hermit said,
"Well,
Young man, by your looks you wish some-
thing, I see;
Now tell me the business that brings you to
me."

"The way to be happy they say you have got,
And as I wish to learn it, I've come to your
grot;
Now I beg and entreat if you have such a
plan,
That you'll write it me down and as plain as
you can."
Upon which the old hermit went in for a
pen,
And brought me this note when he came
back again.

"'Tis being and doing and having, that
make
All the pleasures and pains of which men
partake.
To be what God pleases, to do a man's best,
And to have a good heart, is the way to be
blest."

Welcome the words of hope they bring,
These petaled heralds of the spring,
In lavish freshness, as they spread
Beneath the pine boughs overhead.

And hark! the first wee sparrow's song
On western breezes borne along!
Thus spring from winter's cold caress
The flowers, the song and loveliness.

—*Youth's Companion.*

On Top of a Volcano.

[Letter in Chicago Inter-Ocean.]

The capital of Costa Rica sits in a fertile
nest, surrounded by a group of slumbering
volcanoes, which now and then get restive,
spit a little fire, vomit a good deal of lava,
ashes and sulphur, and give up things gener-
ally for a while, after which they lie
dormant until the people have forgotten the
excitement and require something to gossip
about at the club. Earthquakes are so com-
monplace that they occasion no disturbance,
for the houses are built so as to stand any
amount of shaking, and people get accus-
tomed to most anything. They do not regard
an earthquake there with half so much
alarm as we do a thunder shower in this
country, and the newspapers seldom men-
tion them when they come. There was a
little one the other night which made the
ground tremble, but we didn't know what
was the matter the next morning, as it
seemed only like a heavily-loaded wagon
going through the streets. Loose articles on
the tables scampered around a little, and the
curtains in the windows swayed, but none
of us were frightened, for we didn't know
there was any trouble on hand.

It has been six years since a volcanic
eruption took place, and then no damage
was done; but forty years ago the neighbor-
ing city of Catargo was entirely destroyed,
and the people dread to have that sort of
thing repeated. The interval has been so
long now that the next entertainment is
expected to be of unusual interest, but no
announcement is ever made in the public
papers, and the uncertainty whether you
will wake up in the morning under a pile of
brimstone and ashes instead of the ordinary
blankets, gives life here a zest which super-
stitious people do not enjoy. The more in-
telligent ones do not expect disaster; the
calamity never occurred but once and may
not be repeated for 1,000 years, but the ig-
norant and superstitious, with the horror
always in their minds, are continually look-
ing for signs in the sky or in the atmosphere,
and will continue to do so, probably, until
they know better.

I asked one of the waiters at the hotel the
other day if there was any danger of San
Jose being destroyed if one of the volcanoes
got the stomach ache. He replied that he
didn't suppose there was any particular dan-
ger, but he always said his prayers every
night, and perhaps it is well for us all to
imitate his example.

There are five active volcanoes in Costa
Rica, according to the geography; Irazu,
which is 11,500 feet high; Turrialba, which
is 10,350 feet high; Poas, DeBarba and
Miravalles, which have not been measured,
and several smaller ones whose craters have
shown evidence of former activity, but have
emitted nothing since the memory of man.
To be considered active a volcano does not
have to keep belching out fire and smoke all
the time, for they must have vacations like
the rest of us; but an extinct one is that
whose crater has been permitted to fill up
with debris and never shows signs of life.

Not having had the advantage of volcanic
acquaintance, and being ambitious to look
into the crater's mouth, I determined to ex-
plore Irazu, the highest here, and in com-
pany with Mr. H. Remsen Whitehouse,
secretary of the United States legation in
Central America, and a nephew of the late
Bishop Whitehouse, of Chicago, I made the
ascent.

I went by rail to Catargo, the city which
was once destroyed, and there got horses,
provisions and a guide. We followed up a
cart road, thick with dust for a few miles,
then entered the cornfields and rode through
them for several hours, stopping at the

cabin of a native to get corn for our horses
and a cup of coffee for ourselves. This was
the last house on the mountain, and leaving
it we went through the gentleman's pasture
and struck into a forest as dense as a forest
can be. There was a good moon and it lit
up the tree tops with a weird and fantastic
light, while the great festoons of moss which
hung from the branches and almost obscured
our way were almost livid where the rays of
moonlight struck them. Through this we
kept climbing until the horses were ex-
hausted and the moon went down. There
was little sleep for any of us, as the situa-
tion was so weird, and the noises our advent
awakened so strange to our ears.

At 3:30 we were to be called and continue
the ascent so as to reach the top of the
mountain by sunrise. We were all awake
long before the time, and leaving the ham-
mocks hanging, and stripping ourselves of
every possible encumbrance except over-
coats and food, we were in the saddle
promptly and followed the guide as he
plunged into a darkness that could be cut
with a knife. The path then went zigzag up
the mountain side, like the trail of a goat.
Just as the guide was turning one of these
corners, where the slope of the mountain
side was almost perpendicular, his horse
stepped upon a rotten log, which concluded
to roll down the precipice, and Mr. White-
house and his horse went too. Nobody saw
this decidedly novel acrobatic adventure.
It was too dark to see your hand before your
face; we were creeping along, feeling our
way step by step, with arms outstretched to
prevent contact between the trees and our
heads.

And I knew that something was rolling
down that bank at the rate of 500 revolu-
tions a minute, and from the location of the
start it was evident that Whitehouse was
having some further equestrian experience.
I heard the rolling stop far down below me.
I heard a horse shake himself, and the tin
cup and accoutrements rattle, and I knew
that they were safe. Then the climb was
resumed and we got out of the woods just in
time to see the sun rise out of what looked
like a world full of soapsuds. The moun-
tain rose like an island in a shoreless sea of
clouds, great banks of foamy vapor rolling
and plunging in the wind that always rises
with the dawn, as the surf does on the
shoals. The wind was bitter cold, and it
swept over the volcano with a fierceness
that penetrated our very bones, but the sun's
rays were hot and piercing, and soon burned
out the clouds, and the picture changed into
a scenic panorama that has few equals in
the world. Below was spread out all Costa
Rica, and the surf-fringed shores of two
oceans. Sky, sea and lands were one vast
rainbow, mingling tints of blue and green,
and the most unpoetic eyes could not behold
it without awe and wonder. Following the
crest of a ridge of pumice stone and ashes,
which had been thrown out in ages past,
and were as regularly piled as if the hands
of man had dumped them there, we looked
down on one side into a gorge 3,000 feet deep,
to the foot of which a stone would roll with-
out meeting with an impediment; and into
the other with a basin formed by the moun-
tain side, and the heaps of ashes that lay in
a regular winnow around it—a basin about
500 feet deep and quarter of a mile across
from the top of one bank to the top of the
other. The bottom was honeycombed with
craters, where it looked as if the earth had
broken through in irregular circles. There
were seven or eight of these craters, some of
them centuries old, the last and largest hav-
ing opened within the memory of living
men.

The older ones were black and half filled
with ashes cast from those of later origin,
while "the one," as the guide called it—
perhaps a quarter of a century old—was bot-
tomless as far as we could see, and its walls
were yellow with sulphur and white with
half-burned limestone. It was dangerous to
go near the edge, the guide told us, for the
banks are concave, as we can see, and thin
crusts of earth reach over them; but we cast
huge stones over and heard them strike the
sides of the crater as they went down into
an abyss which man has never measured.
How long they were in reaching the bottom
and what they found when they got there
would be interesting to know, but this vol-
cano has never been scientifically examined,
and very few people have ever been to the
crater's edge.

The ashes were fresh and crisp, and there
was no sign of vegetation for a distance of
1,000 feet or more down the outside bank,
against which the wind was constantly
blowing, and where one would think it
would lodge dust and seeds from the forests
so near and so numerous. The wall of ashes
rose at least 500, and in some places 600 feet
around the crater, and the guide, who said
he had visited the place at intervals during
the last thirty years, said that most of them
had accumulated since the last eruption, six
years ago. He accounted for their freshness
and the lack of vegetation by the theory
that the crater was constantly casting forth
in small quantities ashes without an erup-
tion of any force, and that they were carried
this far by the force of the internal explo-
sion, aided by the wind, as the heap was
higher on the opposite side of the crater
from the direction in which the prevailing
winds came.

He said the people were constantly re-
porting having seen puffs of smoke by day
and flashes of flame at night coming from
the volcano, but he had never observed any-
thing of the kind himself, as he lived on the
opposite side of the peak below which the
crater opens. There was a very marked
odor of sulphur in the crater while we were
there, and the guide, who crawled close to
the edge, reported vapor coming from the

bottom, but the rest of us could not perceive
it. There were many evidences of recent
discharges, however, one of the most pro-
nounced being the presence of flakes of sul-
phur on the ground, which must have been
deposited there since the last rainfall.
Earthquakes are frequently felt, though not
in such force, while the volcanoes are active.
This is accounted for by the fact that gas is
not admitted as fast as it accumulates, and
that when it gathers in quantities sufficient
to reach the sparks from the subterranean
fires, it explodes in the caverns and causes
an oscillation of the earth above. These
explanations are very plausible and gener-
ally accepted as true, although, as I have
said, the phenomenon has never been stud-
ied by men of scientific reputation, who
might find here an interesting and prolific
field for research.

The descent from the summit was made
rapidly, of course, and was interesting only
in observing the perils we had uncon-
sciously passed over in the darkness. It is
said that fools will rush where angels fear
to tread, and looking back upon a trail
whose hidden dangers were disclosed to us,
the members of our party are willing to con-
fess the truth of the adage and promise
never to go again.

Land of the Dog Pony.

Dogs in the territories of the northwest
have but one function—to haul. Pointer,
setter, lurcher, foxhound, greyhound, In-
dian, mongrel, miserable cur or the beautiful
Esquimaux, all alike are destined to howl
under the driver's lash, to tug wildly at the
moose-skin collar, to drag until they can
drag no more, and then to die. The dogs
are put one after another in tandem fashion.
A complete train numbers four, but three,
or sometimes even two, are used. The train
of dogs is harnessed to the cariole, or sled,
by means of two long traces, between which
the dogs stand one after another, the head
of one dog being about a foot behind the
tail of the dog in front of him. They are
attached to the traces by a long collar, which
slips on over the head and ears, and then
lies close on the swell of the neck; this col-
lar buckles on each side of the traces, which
are kept from touching the ground by a
back-band of leather, buttoned under the
dog's ribs. The back-band collar is gener-
ally covered with little brass bells and gayly
colored ribbons. Great pride is taken by
the half-breed drivers in turning out a train
of dogs in good style.

The fact is patent that in hauling the dog
is put to a work from which his whole na-
ture revolts, with the single exception of
the Esquimaux, and to haul with him is as
natural as that of a pointer to point. The
hauling dog's day is a long tissue of trail,
for from the first streak of dawn to the close
of the day he is harnessed and at hard labor,
with but one meal a day of two pounds of
pemmican, or a frozen whitefish or two, as
the intense cold increases and the dogs die
out. The half-breed drivers, too, are brutal
fellows, and belabor their teams without
mercy at times. This inhuman thrashing,
the frantic howling of dogs, the bitter and
terrible cold, make up the mode of winter
travel.

From the first covering of snow the whole
surface of the plain is one vast sheet of
white, so bright and glistening as to render
men blind, and sometimes crazy, by the
continual glare. Not a sound is heard over
this immense waste, save now and then at
night the sharp bark of the coyote wolf—
not a speck or even a bird dots the blue
vaults of heaven, nothing but solemn still-
ness and immense cold, culminating about
midwinter at from 40 deg. to 44 deg. below
zero, or over 70 deg. of frost. The cold be-
came piercing and a bitter frost sweeps
across its surface. In midwinter the snow
falls every day, with a high westerly wind,
veering toward the north, and thick with
poidra, dry ice specula hard as gravel, and
blizzards jump up all of a sudden in seem-
ingly pleasant weather—commencing with a
gale and increasing to a hurricane, the wind
blowing at the rate of from forty to fifty
miles an hour, while the thermometer reg-
isters from 35 deg. to 40 deg. below zero,
with the clouds of snow dust, hard as bullets,
the effect can well be imagined. Men are
silent; their lips are blue and refuse to ut-
ter the words they feel. Where the skin is
exposed it becomes frost-bitten; eyes and
nostrils are glued together, and icicles hang
from the eyelids. To touch a knife with
the hand would burn like a coal of fire.
The hot tea freezes while it is being drunk,
breath freezes instantaneously into solid
lumps of ice, and 40 degrees below zero
means death, in a period whose duration
would expire in the hours of a winter's day-
light, if there was no fire or means of kind-
ling one on the trail.—*Butler's Book on
Manitoba.*

The New York Tribune gives an interest-
ing account of two Hindostan letters.
They were received by Postmaster Pearson,
of New York, but no one could be found in
that large city that could translate the ad-
dress, and the letters were returned for bet-
ter direction. Postmaster Pearson sent
them to Mr. Myler, of Allegheny City, stat-
ing that there was only one man in the
country who could read the direction, Pro-
fessor S. S. Kellogg, of the Western Theo-
logical Seminary. Postmaster Pearson asked
Mr. Myler to use his influence with Profes-
sor Kellogg to secure a translation, and if
successful to return the letter to him. The
letters are covered with strange letters, wax
seals, postage stamps and marks, the only
writing decipherable, being the word Amer-
ica. They were registered at Bights, In-
dia, some time in February, were in the

dead letter office at Bombay twice, the last
time on March 2, and have probably traveled
at least twice the distance around the globe.

Frame your mind to mirth and merriment,
Which bars a thousand harms and lengthens
life.
—*Shakespeare.*

Not what you eat, but what digest,
Gives you your strength, you'll find.
Not what you read, but comprehend,
Is what improves your mind.

The Bangor Commercial relates that a
man in that section lately received several
hundred dollars back pension. He has
quite a large family and had been very poor.
The first thing he did after receiving his
pension money was to buy a trotting horse, a
harness, wagon, and the usual amount of
boots, hoods and other horse trappings.
His friends conclude he is now poorer than
he was before receiving the windfall from
Uncle Sam. If there is any one thing a poor
man needs it is surely a trotting horse.

The Albany Journal describes a laugh-
able occurrence in that city the other even-
ing. A lad was riding a horse which had
just finished the work of the day and still
had on his harness. The boy became
alarmed at the rebound which the animal's
speed occasioned, but instead of clecking
him called for help. A workman returning
home, dinner pail in hand, ran to the rescue,
seized hold of the breeching of the harness,
and ran along behind trying to stop the
horse, when the beast kicked the man sev-
eral feet into the air and sent his dinner
pail in another direction. When the man
finally reached the ground from his aerial
flight he landed in the mud in a horizontal
position, face downward. Meanwhile the
boy had found the soft surface of the road
from the back of the horse, which proceeded
on its way unhindered. The man who tried
to stop a runaway horse by holding him by
his breeching probably will not try that
novel method again.

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The KANSAS FARMER has frequently suggested that meat-packing and canning establishments must, in the nature of things, come farther west. Experiments have been made in Texas, and now, as we see by the Colorado *Live Stock Record*, work of that kind is begun in Denver. Robert Allen, several months ago, commenced canning beef in a small way, and soon found that his facilities were not equal to the demand of the trade.

The report of the Professor of Agriculture—E. M. Shelton—is before us, accompanied by a note from the Professor stating that a large edition of this report has been published by order of the Board of Regents of the Agricultural College, with the object of diffusing as widely as possible among the farming community the results of experimental work done upon the College farm. Copies may be had on application to Prof. E. M. Shelton, Manhattan, Kas.

A new-comer, in subscribing for the KANSAS FARMER, writes: "I have moved here from the great State of Ohio, where it takes nearly all a man can raise to pay his taxes, most all of which is to pay for the support of idiots, insane, deaf, dumb, blind, paupers and reform schools for girls and boys, the greater part the production of whisky, which flows almost as free there as water does here. Taxes there about 70 cents an acre, here 10 cents. I can get better prices for fat hogs and cattle here than I can there, though not so much for grain; but as I feed all my grain, that makes no difference."

A New Law Question.

A very interesting question in law is now being discussed by lawyers and people generally in Kansas. It involves, as is alleged, an infringement of constitutional rights. It arises upon a construction of section 8 of the prohibitory liquor law, which empowers a County Attorney to call witnesses before him to testify concerning their knowledge of offenses against the law. Four cases have thus far been acted upon by four different Judges, and they are equally divided. Judge Guthrie, of Topeka, holds the law to be constitutional and valid, as does Judge French, of Fort Scott, while Judge Crozier, of Leavenworth, and Judge Foster, of the United States District court (Atchison), hold the law to be a violation of fundamental rights and therefore unconstitutional and void.

It is urged that this section attempts to confer judicial powers upon the County Attorney, and that that violates plain constitutional principles because he is allowed a fee in every case of conviction on trial; that is to say, that because the County Attorney is allowed a fee in cases of conviction of persons implicated by the testimony taken before him, he is thereby interested in the result, and cannot, therefore, constitutionally, be clothed with any judicial power in the case or any part of it. Judges who hold this way assert that such a proceeding is about equal to paying a juror to favor conviction in a case that is tried before him.

Those who hold the law to be good assert that the power given under this law to a County Attorney is the same in substance as that always exercised by grand juries, and that in so empowering him the people save the expense of a grand jury. As witnesses are called before a grand jury and compelled to testify, they may be required to do the same thing before any other officer designated by law, provided they are protected against admissions or the effect of testimony that would tend to criminate themselves, which this law does. There is no substantial difference, this side argues, between proceedings before a grand jury (which were always regarded as lawful) and those authorized in this law to be had before County Attorneys. They who hold this way believe that the powers conferred upon the County Attorney by the new law are not judicial in any sense; that they were not so intended by the Legislature that passed the act, that they are purely ministerial and might be conferred upon any other officer; that the only substantial difference in this respect between the new law and other laws in force centuries is, that under the old laws a prosecuting officer either examined such witnesses as he could persuade to testify voluntarily, not under oath, or such as were compelled to appear before a grand jury to swear and testify, whereas, under the new law he is authorized to bring the witnesses before himself and compel them to testify. He is allowed a fee under the new law; so he was under the old. If he is interested now, so he was then. The only difference, then, is that he could not then compel witnesses to tell what they knew about the commission of crime by other persons, whereas now he can.

The KANSAS FARMER believes the people have a right to protect themselves against the secret movements of criminals; that for this purpose they appoint prosecuting officers, and tribunals to discover offenses and to ferret out the persons who, there is reasonable ground for believing, are the guilty; and that whatever power the Legislature believes to be necessary for that purpose, may be conferred upon prose-

cuting officers. When farmers lose their horses by stealth or poison, it would be strange, indeed, if there were no way to hunt up the villains that did the dastardly work and have them punished. It seems that some of our people care more about shielding rascals than punishing them. When a notorious ruffian is acquitted through the agency of powerful lawyers working for pay, it often happens that he is congratulated upon his deliverance from the falling hand of justice. A man may steal millions of money from the people and he is commended rather than condemned. What rights the people have is wholly lost sight of in hunting up some technical and formal objection behind which to shield men who despoil the honest citizen and live off the sweat of the poor. It is time that we turn our attention to these scoundrels who infest society like leeches and larvae upon animals and plants.

So, under this law. The record of the dram-shop is in tears and blood; its course is marked by wrecks of homes, men destroyed, women crushed and children left desolate; its history is a rehearsal of wrong, fraud and crime. The verdict against it is, that it is evil and only evil, and that continually, and the judgment is, that it shall be banished. The people have so declared four different times by their votes at general elections; and the people have said through their Legislature that when men persist in open and wilful violation of a law that has been so frequently and determinedly acted upon by the people and approved, there shall be some means and those not expensive, whereby the law-breakers may be identified in order that their unlawful business may be suppressed and they punished to the end that the public law may be respected.

Publishing the Stray List.

The Dodge City *Live Stock Journal* exclaims—

What a shame it is that all stray notices must, according to our law, be published in the KANSAS FARMER, a paper almost unknown in the State, and very rarely ever quoted from.

If the editor of that paper will take the trouble to step into the office of the Clerk of his county, he will find a complete file of the KANSAS FARMER containing a list of all the strays taken up in the State. The FARMER is mailed to that office, and to every other County Clerk's office in the State, free of charge. It is there for the convenience of persons who wish to keep track of the stray animals without subscribing for this or any other paper. If the editor aforesaid will look up the stray law he will find that this is required. The publishers must send a copy of the paper regularly to every County Clerk's office, and it is there to be filed, the same as any other legal document, for the public information. If any citizen of the State wants to keep posted on the strays without expense, all he needs to do is, to visit the County Clerk's office at his leisure.

This newspaper howl about publishing the stray list is as senseless as it is common, and it is only because people have not studied the matter. The money received at this office for publishing stray notices has not averaged more than ten dollars a week the last four years.

We have received a sample of the "Tea Plant" mentioned last February by a correspondent. We take it, without careful examination, to be what is commonly known in Western prairie regions as "Red Root." We have forwarded it to Prof. Popenoe, of the Agricultural College, and hope to have his report soon.

Claims for Glandered Horses.

The following bit of information which we clip from the *Commonwealth* will have interest for some of our readers:

The late Legislature made it the duty of the Attorney General to audit the claims of Sheriffs and others for expenses incurred in killing glandered horses and burying them, disinfecting, etc., under the provisions of the law passed at the special session of 1884. General Bradford has already about one hundred of these claims, that have been forwarded to the Live Stock Sanitary Commission, approved, been sent to the Auditor of State, returned to the parties, because the matter had been taken out of his department, and have now been received at the Attorney General's office. The claimants, in a great many instances, do not appear to have understood the meaning of the law, and have made long tours of inspection, charging mileage, and piled up costs, until the claim is beyond reason. In other cases, the value of the animal has been counted as an expense, which the appropriation does not intend. Gen. Bradford is corresponding with parties in the counties from which the bills are sent, with a view to learning the facts, and will audit the claims as he obtains the desired information. He has, since recovering these claims, adopted the plan of having the Live Stock Sanitary Commission certify to him that the services were performed by their order.

Rainfall in Kansas.

The *Globe Live Stock Journal*, published at Dodge City, gives a tabulated statement of rainfall in that locality by months continuously since January, 1875. We give the totals for the years separately: 1875, 10.69 inches; 1876, 15.40 inches; 1877, 27.89 inches; 1878, 17.96 inches; 1879, 15.43 inches; 1880, 18.12 inches; 1881, 33.55 inches; 1882, 13.14 inches; 1883, 28.50 inches; 1884, 30.36 inches. The heaviest rain fell during the months of May, June, July and August, of the period of time named, giving 150.45 inches for said four months for time covered by the table. The lowest rainfall was in 1875, being 10.69 inches, and the highest occurred in 1881, being 33.55 inches.

The average rainfall for the five years 1875 to 1879 inclusive, is 17.15 inches; the average for the next succeeding five years (1880 to 1884) is 24.73. The total rainfall for the ten years is 211.04 inches, an average of 21.1 inches.

The annual average rainfall in the last seventeen years at Lawrence, as kept at the State University, is 34.65 inches, making a difference between the average, at the two points named of 13.55 inches. Lawrence is in Douglas county, about forty miles west of the eastern line of the State; Dodge City is in Ford county, about 100 miles east of the west line. Lawrence is about 125 miles north of the south line of the State, and Dodge City is about fifty miles north of the same line. The difference between the longitude of the two places is about 260 miles, and the difference in latitude is about seventy-five miles.

The reader can understand from these figures why some kinds of grain do not grow as well in the western part of the State as they do in the eastern part. This applies particularly to wheat and corn, though in some seasons both of these grains have done well as far west as Russell and Ellis counties.

Professor Riley must be suppressed. He says we will soon have to entertain two sets of visitors—the 13-year and the 17-year locusts. And by way of making the news interesting he says it is the first time in more than 200 years that these two distinguished bodies have called upon the people the same year.

Growing Trees in Kansas.

Nothing, probably, is more important, as a general proposition, to the people of Kansas than the extensive growing of trees. A great deal of work has been done in this direction on the great prairies of the West. Nebraska has planted millions of trees, and Kansas has planted more. Still, we have made but a beginning. A report recently issued by the Department of Agriculture at Washington contains much valuable information on the subject. That part of it furnished by Mr. F. P. Baker, of Topeka, is specially interesting. Quoting from a correspondent of the *Atchison Champion*: "Mr. Baker has carried on an extensive correspondence, not only with observers in Kansas, but also with those in other States and Territories, and has thus gained a large amount of accurate information from new fields, and has interested in tree planting thousands of people who had not before given it any special attention. The newspaper is the best medium for reaching the people, and the press of Kansas talks unceasingly on the importance of planting trees, forest, shade and fruit. It is the one theme upon which we all agree; we believe in the theory; we personally and practically adopt it, and we have already lived long enough to see our cities thickly gemmed with trees, and every prairie in eastern Kansas the lovely home of the orchard and the home-made, hand-planted forest. This tremendous revolution has already changed some two hundred thousand acres of dry, sun-baked, cracked and fissured high prairie into moist and shady woodlands, the home of birds and cattle, and the parent of millions of spontaneous springs, brooks and creeks. In a fair, free, stand-up fight, we have whipped the climate and driven it howling from the field. It vents its hellish rage on the border in cyclone twisters and water-spouts; but the cyclone must go. The same enterprising and gallant spirit that drove the ruffian, the guerilla and town-burner from Kansas will also speedily abolish the storm fiend, his natural and brutal ally.

"It is only recently that the National Government has given any attention to the planting of trees and the preservation of forests; it is not yet fully awake; it is rubbing its eyes, stretching its limbs and getting ready to get up. When it does it is a giant in peace as well as in war—and this little affair of trees will be attended to as it never was before. The great floods in the Ohio will be stopped; the treeless desert will become a juicy plain. The State of New York, within ten days, has legislated in behalf of the Adirondacks; other States and the Nation are sure to follow this wise example.

"Mr. Baker's report gives a list of the most suitable trees to plant in every county in Kansas. Black walnut leads in almost every list; the next in order are the cottonwood, box elder, white ash, soft maple and catalpa; many others are given.

"The unsuccessful trees are also tabulated by counties; the most failures are reported with soft maple, chestnut, Lombardy poplar, black locust, hickory and hard maple—in this order.

"In like manner, the insects, animals, and other unfriendly agencies are tabulated by counties, in two lists.

"The time for gathering seeds and planting them, for planting trees and the preparation and care of the ground are treated at length."

This office is in receipt of a pamphlet containing a compilation of favorable notices given by newspapers of Norman J. Colman during his candidacy for the office of Commissioner of Agriculture, together with recommendations by agri-

cultural societies, members of Congress, etc. This may be well enough, yet it seems to us that if those fine things had been collected and turned over to some member of the family with instructions to paste them in a scrap book in order to preserve them and thus keep them in the family, it would have been in better taste. The people saw those things once, and at the time that they were doing the work they were sent out to do. We see no good to be done by sending them out a second time. We have no objection to the good things said of Col. Colman. This is written because we doubt the propriety of sending out such matter after it has once appeared appropriately.

Cleveland Bay Horses.

Our readers know we have a good side for these showy, well-formed, active horses. We have frequently given it as our opinion that the use of the Cleveland Bay stallion on our common mares would get about the best animal for the farmer's use.

Recently we read a statement to the effect that the Cleveland Bay is a myth; that he is much like some Kansas railroads, begin nowhere and end nowhere, and appear chiefly on paper. This comes, we suppose, from some interested quarter, and may be treated as an advertisement. For purposes of heavy draft, the French, English and Scotch draft horses are the best in the world; but for the lighter work on farms, in our judgment, there is no breed better than the Cleveland Bay. The *Texas Farmer* gives as good a description of him as we have seen and it is short. It says: "Among the most popular candidates for general favor for utility purposes, where size and action are desired, the Cleveland Bay stands in the front rank. This horse originated through a demand in the days of stage coaches in England over the hills and moors, where great endurance, fine action and much strength were required to rapidly transfer passengers and their baggage in the large and heavy coaches of that day. A writer in an exchange gives a very interesting article, in which he says that the Cleveland Bay was produced in the first instance by crossing the thoroughbred race horse on large, active, clean-legged Yorkshire mares, and the desirable characteristics fixed by the judicious mating of the best specimens, till the breed was established and could be relied upon to transmit those qualities, which in the science of the principles of breeding, English breeders have been for over a century the champions of the world. They resorted to the race horse to tone down the coarse features and imbue the offspring of the Yorkshire semi-draft mares with pluck and endurance, and create the Cleveland Bay, and when it was desired to still farther reduce the size and not lessen the capacity—in a word, condense the horse and retain all his established characteristics—manifestly the most judicious thing to do was to infuse more thorough blood, which was done with marked success, the produce, having more elegance of form, rather more speed, supported by energy and endurance possessed by no other horse except its sire, making the *ne plus ultra* gentleman's coach and carriage horse. The modern or improved Cleveland Bay stands from 16 to 16½ hands, and weighs from 1,200 to 1,450 pounds."

A Pittsburg writer makes the assertion that in fifty years, or perhaps half that time, coal will not be carried from the mines to its place of destination in bulk, but only its actual heat energy will be transported, and that by wire a process which, he says, can be accomplished by converting coal into heat, the heat into motion, and the motion into electricity; a storage battery at Cincinnati would take it up as fast as generated at the mines, and from this battery it could be taken and converted back into motion and heat, or changed into light.

The Wheat Supply.

Henry Clewes & Co., New York city, in their circular of date May 15 inst., give the following facts and inferences:

The surplus of the crop of 1884 is variously estimated from seventy-five to 100 million bushels, and until recently speculators operated on the belief that this would equalize the crop of 1885, with its reduced yield, and make it sufficient for all requirements. Even now this is an open question and tends to prevent violent fluctuations considering the very grave character of the recent advices.

The condition of the European crops, except in central Europe, is favorable, particularly for the English. The Indian yield is set down as having been 260,000,000 bushels, against estimated requirements of 235,000,000 bushels. The movement from the Baltic ports has increased considerably, and since January 1st, from Odessa has been 6,750,000 bushels, or 1,500,000 bushels greater than for the corresponding period last year.

The average price for English wheat in 187 towns in England and Wales last week was 34 shillings against 37 last year, and 41 shillings in 1883. At the corresponding dates June wheat in New York was \$1.02 in 1885, \$1.01 in 1884, and \$1.22 in 1883. The movements towards points of accumulation in this country from July 28th, 1884, to May 2d, 1885, as compared with last year, has been 90,500,000 bushels vs. 61,370,000; meanwhile the visible supply is 18,000,000 greater.

As to the future of values, they will probably be made by the legitimate demand and supply situation, and however great may be the reduction in the yield, with the apparent excess in requirements over last year, a market must be found outside of America for a large part of the product. While speculation is likely to establish a higher market, it cannot be maintained unless these conditions prevail. There are many elements to influence prices which will not be determined until harvest.

Inquiries Answered.

CASTRATION.—At what age is it best to castrate a colt, one or two years?
—At one year.

AT CALVING TIME.—In answer to a query made by a reader some time ago, a friend sends the following: I noticed in your last issue in the "Veterinarian" a request for information as to what will make cows clean after calving. A safe and sure remedy which I have used several times, is a handful of flaxseed in bran-mash, twice a day till a cure is effected.

Will chestnut trees do well in Kansas? We have a fine row of them just set out this spring, one-year-old plants; they are doing well; but we are told that they will not live over a year or two in this State.

—This is not a good region for chestnut trees; but they do sometimes succeed. If your soil is sandy and well drained, and if you will put an extra layer of loose soil about the trees, say six inches deep along the row, and extending out four or five feet on either side, you will probably save your trees.

THUMPS.—I have some shoats which are very short-winded or breathe very short, with mouth open, when a little extra exercise; have to open mouth to breathe; also are weak in back or hind parts; stagger and can scarcely walk; they lie or stand on their front feet and sit on their haunches or in a sitting position. Castrated them a few weeks since; swelled pretty smart yet. Appetite good.

—Your pigs have thumps, a disease similar to heaves in horses and asthma in men. Feed light and laxative food, for a time. A clover pasture would be just the thing for them.

WATER PIPE.—I have some gas, or water pipe, to carry water to stock. Now, should it be painted or covered with something to prevent rusting, or will it last long enough without? It is common iron pipe; perhaps you have a better knowledge of such things than some others. Some say never mind it; others say it ought to be covered with coal tar, or pitch, or something of the kind. I would rather put it down as it is, as it is cheaper and less trouble.

—Water pipe is always prepared with special reference to its use. You could not paint it on the inside; so that if paint were needed, you might as well make the pipes of painted boards. Put it down just as it is. If the water is clean, there is no danger of any sediment forming at the lowest point in the pipe. The movement of the water will prevent that. But do not send muddy water through. If the water is not clear it would be better to run it through a straight pipe into a reservoir and remove it from that by pump.

Weather is better the last few days—not so wet as it was. The temperature, also, has risen perceptibly. Let no farmer be discouraged because the rains have delayed his work, or perhaps rendered it useless. There is plenty of time yet in any part of Kansas to raise good summer crops of all kinds. The writer raised a good crop of corn one year the seed of which lay in the ground from early in May until the 26th day of June without sprouting because of drouth. That was just twenty-five years ago. The rain came, and on the first day of July the young plants appeared. We had good, well-matured corn in September following.

THE MARKETS.

By Telegraph, May 25, 1885.

STOCK MARKETS.

New York.

BEEVES.—Receipts 181 car-loads for the market, 92 car-loads for exportation and 17 car-loads for city trade. Common to choice steers sold at 5 25a6 25, extra and fancy 6 30a6 50.
SHEEP.—Receipts 48 car-loads. Fair trade. Clipped sheep sold at 2 60a5 00, common unshorn do. at 5 00a5 25, clipped yearlings at 5 25a6 25, unshorn do. at 6 20a6 70.
HOGS.—Receipts 78 car-loads; 4 00a4 50.

Chicago.

The Drovers' Journal reports:
CATTLE.—Receipts 6 300, shipments 3,000. Market active and values at Friday's prices. Shipping steers 4 00a4 40; butchers' steers 2 60a4 50, Texans 3 75a4 60, stockers and feeders 3 60a3 80.
HOGS.—Receipts 3,600, shipments 4,000. Market weaker. Rough and mixed 3 80a4 00, packing and shipping 4 90a4 15, light 3 90a4 20.
SHEEP.—Receipts 1,800, shipments 500. Market strong and 10a15c higher. Inferior to choice shorn 2 50a4 00, common to choice woolled 3 40a 4 70.

The Drovers' Journal special Liverpool cable quotes American cattle steady, best grades realizing 14½c per lb.
St. Louis.
CATTLE.—Receipts 1,400, shipments 1,000. Scarce firm and some sales higher. Light to good 3 50a4 50, heavy 4 65a5 60, choice heavy steers 5 65a5 65, good butcher steers 4 60a5 00.
HOGS.—Receipts 8,500, shipments 1,600. Market lower, weak and slow. Yorkers 3 90a4 60, packing 3 75a3 95, butchers' 4 00a4 10.
SHEEP.—Receipts 1,100, shipments 900. Fair to good clipped muttons 3 25a4 00, good to extra 4 00a4 50, common natives 2 00a2 75, Texans 2 00a3 50, spring lambs 1 50a3 00 per head.

Kansas City.

CATTLE.—Receipts since Saturday 1,071. Sales ranged from 4 55 for butcher steers to 5 10 for ship-pers.
HOGS.—Receipts since Saturday 8,840. Extreme range of sales 3 55a3 75, bulk at 3 60a3 65.
SHEEP.—Receipts since Saturday 364. Sales: 43 natives av. 111 lbs. at 3 40, 79 natives av. 79 lbs. at 2 25.

PRODUCE MARKETS.

New York.

WHEAT.—No. 2 red, 1 03½a1 04.
CORN.—Ungraded, 53a55½c.

Chicago.

The speculation in wheat to day was very limited, and trading on the regular board stopped rather heavily. This was accounted for by the absence of foreign news, the British exchange being closed. There was nothing in the domestic situation essentially different from what has been known to traders for a week past. The receipts here were somewhat larger, and this, in addition to fine weather for the growing crops, caused a somewhat weaker tone until the afternoon, when the feeling was somewhat stronger, and the market closed for the day a shade higher than Saturday.

WHEAT.—Sales ranged: May 88¼a88½c, June 88½a89½c.
CORN.—Cash 46¼a46½c, May 45¾a46¼c.
RYE.—Dull, No. 7, 71c.
BARLEY.—Nominal.
FLAXSEED.—Quiet, No. 1, 1 138.

St. Louis.

WHEAT.—Lower and only moderately active. No. 2 red cash 1 05, June 1 04½a1 05.
CORN.—Lower and weak with more sellers than buyers. No. 2 mixed cash, 47a47½c.
OATS.—Lower and dull. No. 2 mixed cash, 37c.
RYE.—Lower; offered at 74c.

Kansas City.

Price Current Reports:
WHEAT.—Daily elevator receipts 6,487 bus, withdrawals 3,111 bus, in store 585,966. Lower values prevailed to day and the market continued dull. May sold ½c lower at 82c. June opened weak at 83½c and declined ½c further to 83c. July sold at 85½a85¾c against 86½a86¾c Saturday.
CORN.—Daily elevator receipts 1,124 bus, withdrawals 1,123 bus, in store 67,596. Cash ruled weak but improved trading was had. Cash sold unchanged but weak. No. 2, cash 1 car at 43c. May 42½c bid 43c asked. June 5 000 bus at 43½c.
OATS.—No. 2 cash 34c bid, 37c asked.
RYE.—No. 2 cash, 60c bid, no offerings.
BUTTER.—Receipts continue large and the market weak. Quality good. Dairies are more plenty and lower. Grocers are getting outter at nearly their own prices.
We quote packed:
Creamery, choice..... 14a16
Creamery, fair to good..... 11a13
Choice dairy..... 9a10
Fair to good dairy..... 7a 8
EGGS.—Supply liberal, demand light, and market ½c lower and weak at the decline. We quote at 9½c.
CHEESE.—We quote new Eastern out of store: Full cream, 13½a14c; part skim, 8½a10c; skims, 5½a7c.
POTATOES.—We quote home grown in a small way at 60a75c per bus. Consignments in car loads: Early Rose 6a65c. White Neshannock 75a80c, Peachblow and other choice varieties 80a85c. Small lots of choice stock to the country higher.

Horticulture.

How to Combat the Codling Moth.

A prize essay by Prof. J. W. Robson, Cheever, Dickinson county, Kas., and published in *Vick's Magazine*.

During the past thirty years this destructive insect has been spreading with amazing rapidity in all orchards of the Northern and Western States. Visit horticultural exhibitions, and you will find among the selected fruit too many specimens disfigured by the burrowing of this caterpillar. For several years Kansas and Nebraska entirely escaped its depredations; but this destructive insect enemy can now be found in nearly every orchard.

There are two broods every year, in this latitude. The first brood, having passed the winter in a chrysalis state, appears in the moth state in the month of April; the moth appears a month later in the States east of the Mississippi river, and lays its eggs in the blossom end of the newly-formed apple. In general there is but a single worm in each apple, but two are sometimes found in one and the same fruit. Most of the infected fruit, when the larvæ has burrowed into the core and got its full growth, falls to the ground; and about the middle of June the larvæ eats its way out, and usually climbs the trunk of the tree, on which it constructs its cocoon under loose scales of bark. While some of the first caterpillars are leaving the apples, others are but just hatched from later deposited eggs, and thus the two spring broods run into each other. The second brood of moths, in the course of a few weeks, comes of these cocoons and lays its eggs in the more matured fruit, many of which, owing to their greater size, hang on the tree till gathered. The larvæ proceeding from these eggs eat their way out of the fruit in the same manner as the first lot of larvæ, and construct their cocoons in the same hiding places, and in the same manner; and it is this second generation of larvæ that live in their cocoons through the winter, and come out in the moth state in the following spring, to infest the fruit of our apple orchards and lessen its market value. To check and control the insect pest the following practices are successfully employed:

1. As already noted, the greater portion of the early infested fruit falls prematurely with the worm to the ground; hence, much can be done toward diminishing the numbers of this little pest by picking up the fallen fruit as soon as it touches the ground. Hogs and sheep are turned into the orchard by some to eat the fallen fruit, but we have never found them useful nor practicable allies among the low-stemmed trees.

2. But there is another remedy which is always practicable, and more infallible than the use of hogs and sheep; it is that of entrapping the worms by the use of paper bandages. Common straw wrapping paper, 18x30 inches, can be bought for sixty cents a bundle; each bundle contains 240 sheets, and each sheet folded lengthwise upon itself will give us eight layers between two and three inches wide, and of sufficient length to encircle ordinary sized trees. It is easily drawn around the tree and fastened with a tack, and so cheap that every orchardist can afford to use it. Strips of old woolen or cotton cloth make excellent traps, and do not tear so easily in handling as brown paper; fasten these around the tree about two feet from the ground. Pack the crotch of the trees full of newly-cut grass; in a few days this will become as compact as a piece of felt. The traps being all set, visit the trees every week; slip up the band and look on the bark underneath it for the cocoons of the insect. They may be known by their being about the length of a finger nail, constructed of a white gauzy silk. Destroy all you can find on the bark; pass the band through a clothes wringer, replace it in its old position, and pass on to another tree. At the same time do not forget to inspect the crotch, as this is a favorite place of concealment for those worms that come out of the apples that are still hanging on the tree. This process must be continued from the first week of June until the first week of October.

These three materials for the construction of traps are all good, and the orchardist will be guided in his choice by individual circumstances. The philosophy of the band method is simply this: the worm dislikes the light; in quitting the fruit, instinct leads it to

crawl down or up the tree in search of a cozy nook in which to spin its cocoon. The shelter of the bands afford the hiding place it seeks, and in ninety and nine cases in a hundred they accept the lure provided. To make this system perfectly effectual, the following rules must be rigidly observed: 1. The bands should be placed around the tree by the 1st of June. 2. They should be examined every week. 3. The trunks of the trees should be kept free from scaly bark. 4. The ground around the trees should be kept clear of weeds and rubbish.

3. Like all old-fashioned orchardists, I believe in attracting several species of useful birds, and enlisting their unwearying services in the warfare upon this pestiferous insect. A close study of the wants and habits of these little workers, if their wants are supplied, will soon induce them to make the orchard their home. Small boxes or long-necked gourds nailed to the limbs of the trees will invite the blue bird to build his nest. As the destroyer of the larvæ of the codling moth and multitudes of other noxious insects, this bird stands without a rival. The black-cap titmouse should also receive encouragement. Hanging the entrails and fatty offal of slaughtered animals on the branches of the trees will bring large numbers of these hardy little birds into the orchard. The long-necked gourds will afford roosting places during the long nights of winter, while the days will be spent in hunting up the insects which lurk in the bark and branches of trees. A few stakes driven into the ground at different points in the orchard will attract the king bird, and perched on these, like a sentinel, he will stand from "early dawn till dewy eve," ever and anon making rapid sweeps after every passing insect. The forked limbs of the umbrageous apple tree will always attract the orchard oriole, who is an industrious worker, and an unfailing insect detective, and therefore the true friend of the orchardist.

4. Many of the caterpillars of the second brood yet remain in the apples, even after they are gathered, and these wormy specimens are barreled or put into bins with the sound ones, and stored away. From them the worms will continue to issue, and they generally find plenty of convenient corners about the barrels and boxes and the joists overhead in the cellar. Hundreds of these cocoons will, some years, often be found in the fruit room, and these, if unmolested, would be sufficient to abundantly continue the species for another year. And when we consider that every female moth which escapes in the spring lays from two to three hundred eggs, and thus spoils as many apples, the practical importance of thoroughly examining, in early spring, the roofs of the cellar and all barrels and boxes becomes at once apparent. All cocoons found should be at once destroyed. A naked light placed in the cellar for a couple of hours, evenings, during the month of April, will attract and destroy those that have been overlooked.

During fifty years' experience as an orchardist in Illinois and Kansas, I have never failed to successfully combat the codling moth by putting into yearly practice the remedies here recommended, thus securing bounteous crops of perfect fruit.

Missouri State Horticultural Society.

The semi-annual meeting of the Missouri State Horticultural Society will be held in Butler, Bates County, Missouri, June 9, 10, and 11, 1885, upon invitation of the Bates County Society.

It is the desire of the officers of the Society that we make this a very pleasant and profitable meeting. To do this every member must stop his work and make an extra effort to be present. You certainly can spare a day or two for the interest of the Society, and you will go home "enthused" with new life in the horticultural work.

The secretaries of the local societies will be expected to make a report of their proceedings and of papers read during the last six months, etc. Members from places where there are no societies will please report for their counties the condition of fruits, and other items. All the standing committees will bring in their respective reports in writing—this is their duty.

Papers on any subject of interest to the Society will be gladly received, and we hope nobody will feel the least delicate in bringing or sending essays to the meeting. This is as much your work as ours, and you can give us your experience, success or failure, that others may profit by it. Write them,

notify the secretary of the subject, and bring them with you to the meeting.

The papers that are to be read before the Society will cover a variety of subjects, and cannot fail to interest and instruct everyone. A programme can not be fully made out at this time, but will be arranged at the meeting to suit the members as they come.

Once more we urge upon you all to secure members for our Society. We want workers; get their names and give them to us. Every member will receive the State Reports for 1888 and 1884, either of which is worth the membership fee (\$1.00).

It is desired, also, to have a good exhibition of strawberries and flowers; so be sure to bring your fine specimens of fruits and flowers. After the meeting ice cream and cake will be furnished, the strawberries will be eaten, and a good social time will be enjoyed by all. Premiums will be awarded as follows: For best box of each and every variety of strawberries considered worthy, \$1.00; second best, 50 cents. Premiums of \$1.00 for first, and 50 cents for second, will be awarded to each of the following: Best hand, table and vase bouquets; best basket, wreath and collection of cut flowers.

The railroads have given us reduced rates. Full fare will be collected in going, but only one-third fare on the return. The Missouri Pacific Railroad require a certificate from the Secretary, and you will have to purchase a round trip ticket at one and one-third rate.

The Bates County Society promise free entertainment to all members—and in fact to all who attend. Come, then, and bring the ladies with you.

Once again we urge you to make an extra effort and come and meet with us.
L. A. GOODWIN, Sec'y,
J. C. EVANS, Pres't, Westport, Harlem.

Hart Pioneer Nurseries,

[Established, Dade Co., Mo., 1857; Ft. Scott, Kas., 1865; Incorporated, 1884.]
FORT SCOTT, : : KANSAS.
A full line of Nursery stock, all warranted true to name. No substitution of varieties to our purchasers. Reference: Bank of Ft. Scott. For other testimonials see our catalogue.

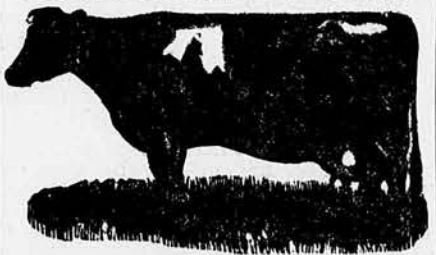
TOPEKA SEED HOUSE.

Orchard Grass,
TIMOTHY,
CLOVER, :: BLUE GRASS.

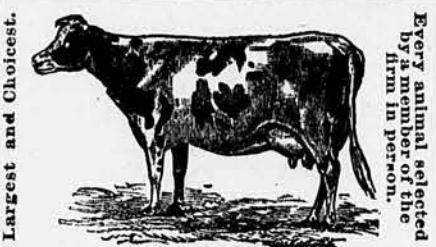
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—AND—
Duroc Jersey Swine.



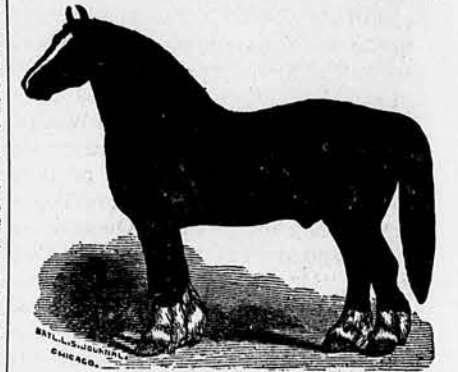
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Over thirty yearly records made in this herd average 14,212 lbs. 5 ozs.; average age of cows four and a-half years. In 1881 our entire herd of mature cows averaged 14,164 lbs. 15 ozs. In 1882 our entire herd of eight three year-olds averaged 12,388 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 11,566 lbs. 1 2/5 ozs.

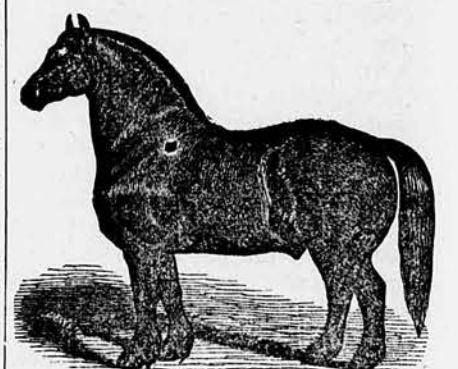
BUTTER RECORDS.
Nine cows averaged 17 lbs. 5 1/2 ozs. per week. Eight heifers, three years old, averaged 13 lbs 4 3/4 ozs. per week. Eleven heifers, two years old and younger, averaged 10 lbs. 3 ozs. per week. The entire original imported Netherland Family of six cows (two being but three years old) 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.

OVER ONE HUNDRED
CLYDESDALE, ENGLISH DRAFT
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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 sweetstakes on Clyde-dale stallions and sweetstakes 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.
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PERCHERON NORMAN, CLYDESDALE
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All stock registered. Catalogues free.

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—OF—
A. H. Lackey & Son,
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BREEDERS OF
SHORT-HORN CATTLE
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BERKSHIRE SWINE.

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 **BARMPTON'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.

HOLSTEIN
CATTLE.

550 Head on Hand.

Every animal selected by a member of the herd in person.
Largest and choicest.

The Veterinarian.

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

BONE SPAVIN.—In answer to a number of inquiries recently received in regard to the best treatment for "bone spavin," we state that firing, blistering, and absolute rest of the patient, is the treatment most likely to prove successful. In order to obtain the best results of the treatment, it is necessary to have the operation performed by some one who has had a practical experience in operating.

PUS IN THE GUTTURAL POUCHES.—One of my horses that I have had for a year has some disease that I feel anxious about. He has a cough, occasionally followed with running at the nose of a thick, whitish color, that seems to come only when the head is very low. It comes with a rush, as though something had broke loose, and lasts only for a few minutes. When he is standing in the stable his nostrils are clear and look all right. He has been affected in this way ever since I have had him. [From the fact that the discharge takes place only when the head is in a dependent position, it is probable that the discharge is due to a collection of pus in the guttural pouches. This can be relieved by a surgical operation, which no one but an expert can attempt.]

HORSE LAME IN FOOT.—Last summer or fall I noticed that my gelding went a very little lame, after being shod; the sole of the foot was very flat; he soon recovered. The next time I had him shod my smith rasped a little from the sole, which was slightly convex. He drove well for a day or two and then went lame again. On examination I found that the sole near the toe had a slight crack, and on putting the point of my knife very gently into it, he would flinch. When he was led from the stable, he would strike the ground first with his lame heel. In a few days he seemed nearly all right again. I then had wide web concave shoes put on both feet, but did not cut from the foot any crust or sole. In a short time he went all right again and continued so until a few days ago, when, his foot having grown long and wide, he did not travel well. My blacksmith pared it off, but did not cut the foot in the least, except to shorten the toe perhaps one-fourth to one-half an inch. He immediately went lame and is still lame.

When taken from the stable to-day, he threw this foot far out and struck first one on the heel and then the toe. His feet do not seem to be flat; his heels are not low; the crust in front is perhaps a very little hollow; the sole is smooth and looks firm, but convex. If the shoe was not concave, it would rest on the sole; the frogs in both feet are large; his heels are wide; he does not seem to have very much bars. The foot that is troublesome is the near one. It seems somewhat warm to the touch. [The horse can be made sound, but not in a week. He will need care in shoeing. His shoes will require changing now, and perhaps at different times, and twice or three times blisters must be applied. But all this will really be of but little trouble or expense, and he will only lose eight or ten days of usefulness at each blistering. First, he must be shod strictly as follows: Wide webbed bar shoes made of good weight; then a strip of iron to correspond with curve and width of shoe, of equal thickness, while shoe at toe must be drawn out at ends so that when welded to shoe the latter will be twice as thick at toe as at heels, the thickness gradually tapering back to quarters. The shoe is not to be concave; thus the broad web will for a time form a pressure on sole, and it may hurt him some at the start. After shoeing, soak feet in warm salt water several hours, and one to two hours per day after, for four days at least. Then apply golden blister around feet from top of hoofs to fetlocks. The blister will render the secretions of the foot healthy, and gradually the convexity of sole will disappear and a new growth of healthy horn will start down from the coronet, thus obviating the hollow condition in the front wall, known as seedy toe. After the blistering is over, say in ten days, begin soaking in warm salt water again; and repeat three times a week. He may be used with same shoes, but work must be slow, and begin at about ten days after blistering, or later if he is not needed then; but moderate exercise will be beneficial any way.]

It is much better to be a good farmer than to be a large one.

Radish tops, chopped fine and mixed with the soft food, make excellent green matter for chicks.

As the summer comes on it must be borne in mind that shade of some kind is absolutely essential if the health of stock is to be promoted.

Potatoes should be got out of the pits or bins some time before they are used for seed. Exposure to light for a while before planting is very important.

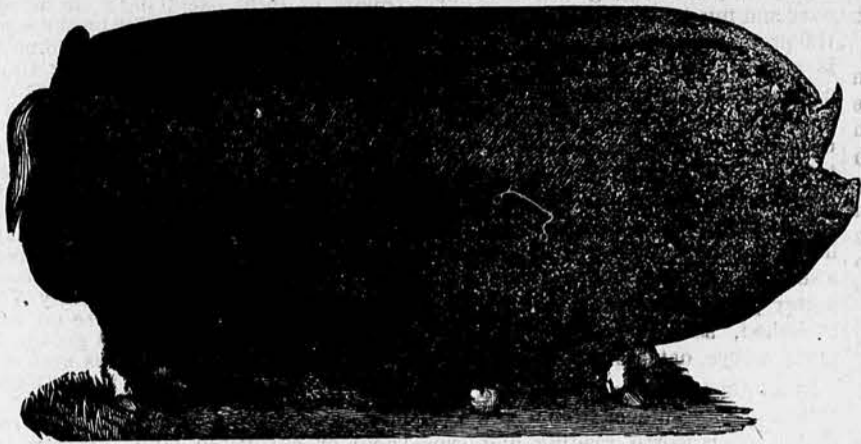
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IMPROVED POLAND-CHINA HOGS
Of the Highest Type.

All well pedigreed. Correspondence solicited

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 88 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

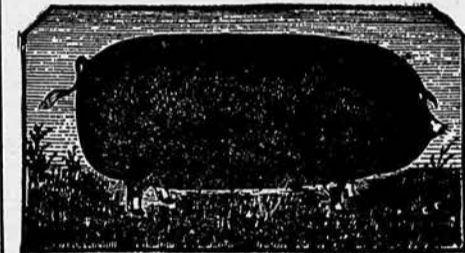
A. W. ROLLINS, Manhattan, Kansas.



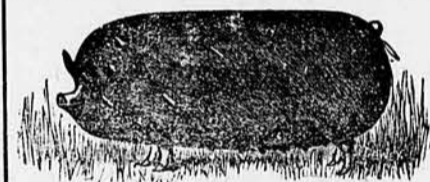
EARL OF CARLISLE 10459,

A son of Imp. Royal Carlisle 8433 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 trusted 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
JAMES ELLIOTT, Abilene, Kansas.



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—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.

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

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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. GIBSON & CO.,** West Chester, Chester Co., Pa. Send stamp for Circular and Price List.

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FOR 1885.

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TIMBER LINE HERD
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If you want
A YOUNG SOW,
Bred to our crack Boars;

If you want
A YOUNG BOAR
Pig;

If you want
A YOUNG SOW
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If you want
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Eggs, at \$1.50;

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SHORT-HORN
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From \$100 to \$125.

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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,
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Acme Herd of Poland-Chinas

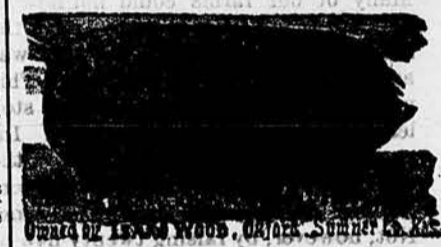


We are having a splendid lot of pigs for this season's trade, sired by "Challenge 4939" and "Kentucky King 2681." Orders taken now. Pedigrees gilt-edge and stock first-class. We claim that our "Challenge 4939" is the best boar in Kansas, "for money, marbles or chalk."
STEWART & BOYLE,
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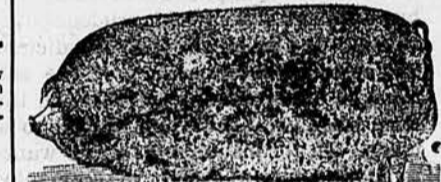
Dr. Thomas Blackwood,



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,
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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 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.



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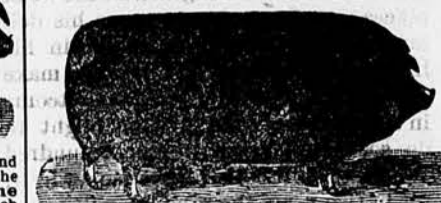
Breeder of Pure Poland-China Hogs. This herd is remarkable for purity, symmetry, and are good breeders. Black Jim, a prize-winner, bred by B. F. Dorsey, heads the herd. Stock recorded in Central Poland-China Record. Correspondence invited.

THOROUGHbred POLAND-CHINAS



As produced and bred by **A. C. MOORE & SONS, Canton, Ill.** The best hog in the world. We have made a specialty of this breed for 38 years. We have the largest breed 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.

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 space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.
JELLEY & FILLEY, Proprietors,
KINGMAN, KANSAS.

In the Dairy.

A Talk on Farm Economies.

Economy is a necessity if thrifty men would remain thrifty. What may be done at a profit on land that is worth five or ten dollars an acre would ruin an owner if done on land worth seventy-five or a hundred dollars an acre. On the vast ranges of the West, men use and allow ten to twenty acres of land to one cow or steer. But most of those lands are in Territories and not taxed, and where they are taxed in States it is upon a valuation so low as to amount to little. But where lands are taxed at twenty-five to fifty dollars per acre, it does not pay to give a ten-acre lot to one cow. The cheaper the land is the more waste and extravagance can be endured; on the other hand, the more valuable the land is, the less waste can be borne. On five-dollar land cattle may be fattened in the field and waste feed enough to keep as many more; but on one-hundred-dollar land they must be stall-fed, and the manure saved.

In Kansas our farmers are fast coming to the days of forced economies. Many of our farms could not now be purchased for fifty dollars an acre, the same land, too, that twenty years ago was assessed at three dollars an acre. This makes it absolutely necessary to stop leaks and husband every resource. Instead of allotting ten acres to a cow, the work must be brought down to one acre for one animal; and it can be done. Not, however, by raising twenty-five or thirty bushels of corn to the acre, or a ton and a half of timothy, or red top, or clover. Nor can it be done in any way on poor land, or even on land of medium quality. The ground must be in the best possible condition for plant production. This implies not only fertility, but drainage and careful, prudent cultivation. It also means that a judicious and economical preparation of the soil must be undertaken in advance of the time when great drafts upon it are to be made. If, for instance, a farmer wants to adopt a careful system of economies in 1890, he ought to begin now his soil preparations. Draining, manuring, expulsion of weeds, sanitary arrangements about the premises, means of protection and shelter for animals, methods for preparing food and saving manure, accommodations for comfort and health of stock; these things require time and thought, for a man must learn the cheapest, quickest and best way of doing the preparatory work. Economy must run through the entire system, but economy does not mean stinginess, or close-fisted meanness. It includes sometimes the broadest liberality, and what would seem to some persons extravagance. Whatever is needed in any business for its more successful management ought to be done. That is economy, no matter what it costs. In building up a business on the farm, it is necessary to make every acre pay its way; whatever is needed to put the acres in working condition, must be done without regard to labor or expense. Business is built up by fortifying the base of action. Strengthen all the weak places. A farmer's acres are his dollars. Out of them he must obtain his living and his gains. If he can make one acre produce fifty dollars outcome in a year rather than five, he ought to do so, even though it cost a hundred dollars to do it. He makes money by it, for in two years the produce will repay the expenditure, and all the invested capital is left unincumbered.

There is no department of agriculture where the intrinsic value of close economies is seen to better advantage than in soiling cows as a means of producing

milk for use in butter and cheese-making. In pasturing, grass is tramped over and much of it never used at all in the production of milk. If, however, it is cut by hand and fed to the cows in comfortable, clean and well-arranged quarters, only as much as is needed is used; the rest continues growing undisturbed. The ground once cut over soon recovers itself with a fresh growth, and thus, by soiling, the farmer may harvest half a dozen crops of certain grasses in a season. He may use, and this is the better plan, after the system is well established, several different kinds of grass, as rye, oats, millet, sorghum, etc.

In another place we publish a good article on this subject from a New York writer. It is worth reading, and especially in connection with the thoughts we have presented in this.

What is Soiling?--Soiling Crops.

A dairy farmer in New York wrote what follows for the *American Agriculturist* for June, from which we copy:

It is a well-known fact that, as labor is the source of all wealth, the more labor that can be usefully applied to any process, or industry, the more profitable it can be made. This is quite true as regards soiling, a method of feeding dairy cows. Soiling is the practice of growing crops to cut green, and feeding them to cows. It is evident that this involves more labor than the growing of grass and the feeding of this by pasturage. But the product is much larger than that of pasturage, and it is just here that the principle above mentioned applies. There are several very prolific crops which can be used for soiling, and some of these crops mature so quickly for use, that two, or even three, can be taken from the same ground in one season; thus producing from one acre as much as thirty tons of nutritious fodder, which is several times as much as can be taken from one acre of grass. The first of these crops, in order of succession, is rye sown in the fall, and cut for feeding as soon as it is in blossom, which will be in April or May. A fair yield of rye will be six to eight tons of green fodder per acre. As soon as a strip of ground is cleared of rye, it should be plowed, manured, and planted with early sweet corn, the rows being two and one-half feet apart, with the seed dropped (three together) every twelve inches in the rows. This corn is planted in succession, as the rye is cut off each week. In the meantime, oats, or oats and peas, are sown as soon as possible, to be ready for cutting in June or July. A field of clover or orchard grass is a part of this system, to be cut and fed as soon as the rye is finished, early in June or in May. The clover or grass continues until the earliest corn is ready, when all trouble is over, and all through the dry hot summer there is available a great abundance of rich, succulent food, which keeps the cows up to their full capacity in milk and cream. The succession of corn is followed by later plantings on the first-cleared ground, and on the ground cleared of oats or oats and peas, until the middle of July, when Stowell's Evergreen corn is planted, for fall feeding, and to cure for use in winter. This late crop is planted in rows three feet apart, with four or five seeds, dropped at intervals of fifteen inches. The yield, with liberal fertilizing, has been as high as twenty tons of green or five tons of dry fodder per acre. The main dependence for winter feeding is a crop of mangels sown in May or early in June. Thus the whole year is rounded out; the winter feeding consisting of the roots, with the hay and fodder left over from the summer feeding. Ample provision is made for the winter by having a sufficient supply of these fodder crops. The manner of feeding these crops is as follows: Two days' supply is cut at first, and drawn to the barn. One-half is kept in the barn for the next days' feeding. It is best to have the fodder wilted before it is fed, and never to feed any of it when it is wet with rain. It is advisable, therefore, in case of threatening rain, to get a sufficient supply to last until the weather clears off again. The second day, one day's rations are cut and carried in, always having at least one day's feeding in advance. Where twenty cows are kept, one smart boy will do all this work of cutting the fodder and feeding the cows, costing no more than two and

one-half or three cents a day per cow; a small sum that is all repaid by one quart of milk extra daily from each cow, or several times over by the saving of manure by keeping the animals in the barn at night and at feeding times; or in the yards or feeding lots; and once more, by the saving of feed in avoiding the trampling and fouling of grass by pasturing. The profit is in the increased yield by reason of the comfort, the quiet and contentment of the cows; the large extra yield from the area of land by reason of the repeated crops; the avoidance of waste of feed; and the very large saving in manure, and the greatly-increased fertility of the soil. There is always manure on hand to use for every crop that is grown. It is quite possible under this system to keep twenty cows on thirty acres; some dairymen who have become expert by practice, have kept one cow to each acre of cultivated land. Where this complete system cannot be conveniently practiced, partial soiling may be made exceedingly useful in affording fresh green feed in the summer and fall, when the pastures are dry and bare, and thus greatly prolonging and increasing the yield of milk.

The Busy Bee.

Queer Freaks of Bees.

A bee-keeper called this morning, saying: "I'm a novice in the business, although I've kept bees in the old-fashioned way many years, and I would like to have a talk with you about them. I wintered my bees in the open air, and lost few until March. I had in the neighborhood of 100 colonies last fall, many of them in box hives. My bees had a queer freak this spring. One warm day, when I was away from home, about forty colonies swarmed out, clustering together, forming a monstrous swarm. When I came home, I put some of them into a hive full of comb and honey, with a queen which I had found with them. I discovered one other queen, which I hived the same way, giving as many bees as could enter the hive. The remainder I put into a hive without seeing a queen. These last mentioned stayed forty-eight hours, and out they came again, scattering over the ground. I lost sight of them; but in two weeks I discovered bees flying in and out of a brush pile, the returning ones carrying pollen. On investigation I found a large swarm, and that they had built comb. The next day I put them into a hive, and they have been doing splendidly ever since.

"I was worried out with my bees last summer," he continued, "and one day a swarm clustered on a thorn bush. I stuck a box-hive into the bush, and never looked at it again. Passing there this spring I noticed bees, and found a good colony which had wintered in that box-hive without any bottom. What do you suppose made my bees swarm out?"

"I do not know," I replied. A queer frenzy seizes a colony sometimes in early spring, and they rush out, exciting other colonies, until the whole apiary is in the air. I have heard of large apiaries being ruined in this way. I saw a swarm in the air this spring, and it entered one of the best colonies in the apiary, and a lively fight was soon in progress. Having a lighted smoker in my hand, its blast was soon played on them, and this presently followed by a spray of sweetened water from the hose of a watering-pot. The covering of the bees was removed, and the spray directed upon them. There was no more fighting, but on opening the hive a few days afterward, the queen was missing, and there were queen cells in abundance. She had lost her life in the fray. As this colony is one of the best in the apiary, I shall save as many of the cells as possible. When a frame of brood and bees is removed from a queenless colony, and it has a queen-cell upon it, the bees will remain; but if a frame of brood and bees be taken to form a nucleus from a colony containing a queen, all of the bees excepting a few quite young ones will return to the parent hive, not leaving enough to hover and protect the brood. I shall divide the colony into nuclei, giving a frame of brood with a cell the eighth day after the queen was destroyed. Young queens may be expected the tenth day, and the first one that emerges will think it her first duty to destroy all coming aspirants to the throne. If there is more than one cell upon a frame, I shall remove all but one, and use them in

other nuclei, previously formed. If a nucleus is formed, and a cell given at the same time, it would be destroyed; but if the nucleus has been formed long enough for them to have built cells of their own, it would be respected. . . . It rained all day yesterday, and I left the hives containing comb from dysenteric bees uncovered. Many of the combs were sticky and offensive, but the rain washed them white and clean. I will give them a chance to dry, taking care that the sun does not melt them.—Mrs. Harrison, in *Prairie Farmer*.

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" 231, 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 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.

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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The Bostrom Automatic Level Co.,
Nashville, Tennessee.



Treatise on TERRACING free. Send for circular.

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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 Powers. The finest goods of their class on the market, and at bottom prices.



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The best in the world. The knife is Steel, and tempered, and is fastened to lever with three bolts, and can be easily taken off to sharpen. The length of cut is regulated by the 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.



NEWARK MACHINE CO., Columbus, O.

Sheep-Shearing Rules.

One of the most experienced and careful breeders of Australia furnishes the following rules for government of the shearing barn, which will apply equally well in this country, where the lack of systematic shearing and preparation of wool is the source of greater loss than many suspect:

In sheep-shearing the position in which the sheep is held constitutes the greater part of success; and when this difficulty is overcome very little practice will enable almost any one to remove the fleece with fair success. In fact the proper position of the sheep constitutes, to shearing, the same importance as does the selection of a well-bred ram to the production of good wool, and is a matter of equal importance to the owner and shearer—to the owner by less injury to the sheep, which will, if properly held, escape many cuts which would otherwise be inflicted, and will also incur less danger of being internally injured, it is a matter of great importance; to the shearer it not only gives less labor but a better result in every respect.

The sheep, in the first instance, should be carried out of the pen and carefully laid on the floor. If it is not intended to enforce this, or indeed any rule, it should be excluded from the agreement. Although it does not injure a sheep to be carefully taken out by the hind leg, shearers have a very injurious method of twisting the leg in throwing the sheep when out of the pen, and one that is very liable to either break the leg or dislocate either one or other of the joints. Therefore, every man should be compelled to carry his sheep from the pen by placing one hand under the brisket and lifting the sheep bodily from the floor; this should be done even with grown wethers.

The belly wool should in all cases be removed first, detached from the fleece, and thrown into the middle of the floor. The crutch should then be thoroughly cleaned, and all the trimmings taken off the inside of the hind legs. It is also advisable to have the wool taken from the outside of the near hind leg at the same time. The fleece should be opened up the neck, commencing at the brisket. In no case allow the fleece to be opened half-way up the neck, or as some shearers do, under the lower jaw. While opening the fleece, both blades of the shears must be kept under the wool and close to the skin; otherwise a wide strip of wool, sometimes three or four inches wide, will be cut in two and rendered almost useless; in shearing the first side of the sheep each blow should be continued round until the backbone is passed; this avoids the second cut caused by the blow up the back, which should not be allowed, as the "cutting through" which results considerably depreciates the value of the wool. This habit, we are sorry to say, is gaining favor among shearers every day, and is one that any sensible man will check at once.

When the shearer has shorn the first side and is in the act of shearing the tail, it should be closely observed that he does not press his knee or foot on the sheep, as it is at this time that the animal is most at the mercy of the shearer; and the latter, if he be of a cruel or vindictive disposition, can, with less chance of being observed, easily inflict unnecessary and, in many instances, permanent pain to the animal. It is also very easy for a shearer to leave a quantity of wool on the last side by not shearing round sufficiently far enough to cut what he left in taking off the belly wool. This, however, rarely occurs, except with inexperienced men, or men who are attempting to work beyond their speed.

The person who has the supervision of a lot of shearers should refrain as much as possible from useless fault-finding. When he has occasion to speak, let it be to the point, sharp and decisive. Continual fault-finding causes discontent among the men, and considerably reduces that prestige which all managers should possess. Correct a shearer once, and if he requires correcting a second time, let that be the last; dismiss him at once. If a manager allows his men to see that he means what he says he will get his work done far better and much more agreeably.

"Running," or "ringing," in shearers' phraseology, is a practice which should always be discouraged where it is desired to insist upon a good clean cut, as it increases the speed, and therefore decreases the quality of the

shearing, not only of the men who are trying to outnumber each other, but has a deteriorating effect upon that of all the men employed.

Do not allow any shearer to tread upon or tear his fleece. This a careless man is very liable to do, especially when turning out his sheep after shearing. If a man turns a sheep out without tarring the cuts, send him out to do so, or make him bring the sheep back on the board. Have any serious wounds sewn up and well tarred, as the wound heals quicker and is not so liable to the attack of flies. Make every shearer let you know when he meets with a sheep whose horn is growing into its head or eye, and at once saw it off with a small saw kept in some handy place. The horns of the rams should be carefully looked to at shearing time, as they often grow into the sheep and get broken while fighting.

Do not allow the boys engaged in picking up the fleeces to do so until the sheep is turned off the board, as a great part of the fleece is sometimes held by the sheep resting on it, just prior to being turned out, and is consequently torn off. Have the board swept as soon as the shearer finishes his sheep and before he takes another from the pen. All the belly wool must be picked up as soon as thrown aside by the shearer and kept separate. Two or three baskets placed in the center of the floor will be found useful for this purpose, to be emptied at every spell. Have the piece-wool divided into first and second pieces, all the stained pieces, or dags, going with the locks.

During shearing, care must be taken not to over-crowd the shed, as sheep are often injured and sometimes smothered through this. It is a great fault with many people, especially if the weather looks threatening.

All the sheep should be carefully branded after shearing. Tar is generally used, but common fat and lamp-black answer equally well and do not injure the wool so much.

Avoid dogging the sheep while in the yard as much as possible, and let their time in the yard be as limited as possible.

Capacity of an icehouse may be computed by calculating the number of cubic feet in the house and dividing the result by thirty-five.

Kansas Seed House.

FRESH SOFT MAPLE SEED,

Sacked, at Express office here, per bushel, \$2.00; by mail, postage paid, per pound, 40 cents.

All kinds of Sweet Potato, Cabbage, Tomato, Cauliflower, and House Plants, of our own raising, true to name, for sale. Price lists mailed free on application.

Seed Potatoes, Millets, Cane Seed, Buckwheat, and all kinds of Grass Seeds, always on hand. Send for prices.

F. BARTELDES & CO., Lawrence, Kas.

May 19, 1885.

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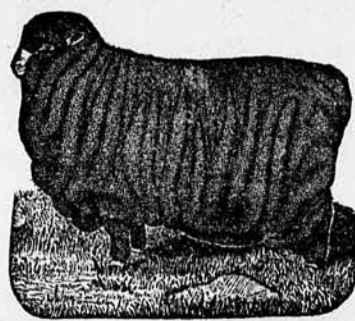
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WANTED.

For which the highest market price will be paid in cash. Sacks furnished or exchanged, by applying to

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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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POLAND and BERKSHIRE SWINE.

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 file 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.

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 appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice. And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper free of cost, to every county clerk in the state to be kept on file in his office for the inspection of all persons interested in strays. A penalty of \$1 from \$50 to \$500 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 is 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 an 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 appraisal.

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

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

Strays for week ending May 13, '85

Atchison County—Chas. H. Krebs, clerk.

MARE—Taken up by W. R. Cohoon, of Grasshopper tp., (Emmott P. O.), April 20, 1885, one bay mare, white spot in forehead, small white spot on left shoulder, blind in left eye, medium size, about 10 years old; valued at \$70.

Montgomery county—H. W. Conrad, clerk.

COW—Taken up by G. B. Walker, of Independence tp., April 20, 1885, one roan cow, 3 years old, head and neck mostly red, no marks or brands visible; valued at \$25.

Pottawatomie county—I. W. Zimmerman, clk.

STEER—Taken up by James Reilly, in Emmet tp., December 1, 1884, one brown 2-year-old steer, 4 feet high, both ears cropped, branded on hip with figure 8 and letter P.

Davis county—P. V. Trovinger, Clerk.

5 STEERS—Taken up by M. F. Mickey, in Junction City, April 11, 1885, five 2-year-old steers, as follows: one red, two red and white spotted, two nearly white with a little red about the neck; no ear marks or brands; valued at \$27 each.

Smith county—J. N. Beacorn, clerk.

COW—Taken up by John Newcomb of Blaine tp., April 24, 1885, one red cow, white spot between front legs, about 3 years old; valued at \$20.

Harvey County—John G. Johnston, clerk.

HORSE—Taken up by Joseph Tucker, in Sedgwick tp., March 24, 1885, one bay horse, 20 years old, branded A—, white on nose; valued at \$20.

Wabaunsee county—H. G. Licht, Clerk.

MULE COLT—Taken up by Gotlieb Zurbucken, in Rock Creek tp. (Chalk Mound P. O.), April 20, 1885, one black yearling horse mule, about 11 hands high; valued at \$25.

PONY—By same, one sorrel horse pony, about 3 years old, both hind feet white, right front foot white about one inch above hoof, left front foot white on outer side, about 12 hands high, brand similar to U S N on left shoulder and indistinguishable brand on left hip, rope around neck; valued at \$25.

Greenwood county—A. W. Hart, clerk.

COW—Taken up by Homer Runche, in Bachelor tp., February 4, 1885, one light red cow, 6 years old, white face, crop in right ear; valued at \$30.

HEIFER—By same, one yearling heifer, mostly red, black nose, crop and slit in left ear; valued at \$10.

STEER—Taken up by Orr Henderson, in Bachelor

tp., February 4, 1885, one pale red yearling steer, branded (F) on left side; valued at \$20.

HEIFER—Taken up by Crane & Burton, in Bachelor tp., February 1, 1885, one red yearling heifer, white in face and on belly, heart shaped brand; valued at \$18.

Strays for week ending May 20, '85.

Marshall county—H. C. Woodworth, clerk.

COW—Taken up by J. J. Triggs, in Marshall tp., May 2, 1885, one white cow, about 6 years old, no marks or brands; valued at \$25.

HEIFER—By same, one red heifer, white face, about 1 1/2 years old, no marks or brands; valued at \$12.

Cherokee county—J. T. Veatch, clerk.

MARE—Taken up by A. Haworth, in Lowell tp., April 20, 1885, one mare, 3 years old, long slim white stripe in forehead; valued at \$35.

Butler county—James Fisher, clerk.

PONY—Taken up by N. K. Coar, in Douglas tp., April 6, 1885, one dark brown mare pony, blind in left eye, about 14 hands high, about 5 years old; valued at about \$45.

PONY—Taken up by J. C. McCoy, in Douglas tp., April 7, 1885, one bay mare pony, white in face, all four legs white, about 14 hands high, about 10 years old; valued at about \$25.

Strays for week ending May 27, '85.

Crawford County—Geo. E. Cole, clerk.

MARE—Taken up by D. S. Miller, in city of Pittsburg, May 12, 1885, one bay mare, 15 hands high, 7 years old, star in forehead, strip on nose, little white on left hind leg, brand on left shoulder, harness marks, shod all around; valued at \$60.

Phillips county—J. W. Lowe, clerk.

MARE—Taken up by A. Lays, of Valley tp., May 9, 1885, one gray mare pony, about 10 years old, small slit in each ear, black mane and tail, white strip on nose; valued at \$30.

Sedgwick county—E. P. Ford, Clerk.

MARE—Taken up by J. A. Voris, of Union tp., May 18, 1885, one black mare, 10 years old, 16 hands high, right hip knocked down; valued at \$75.

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 6 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.

FOR SALE!

Fifteen extra fine PEDIGREED

SHORT-HORN BULLS for sale at

reasonable prices. G. W. GLICK,

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WASHBURN COLLEGE

TOPEKA, : : : KANSAS.

SPRING TERM BEGINS APRIL 1ST, 1885.

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Four Courses of Study—Classical, Scientific, Academic, Business. Personal supervision exercised. Separate Christian Homes provided for young women. Ten Instructors employed. Excellent appliances of Library, Apparatus and Cabinet. Expenses reasonable.

PETER MOVICAR, President.

The Poultry Yard.

Poultry Hints.

One of the causes of hens not laying is the want of water. As water enters largely into the composition of eggs, the necessity will be seen of giving hens a liberal supply at all times. Good, pure and fresh water is fully as necessary to egg production as food.

Milk is a good thing to make hens lay, and more will be eaten if some good bran is stirred into it. If you have no grass runs for the chicks sow lettuce, oats or whatever else will grow quickly. Both old hens and chicks will appreciate this move, and thrive under it.

Give your houses a thorough cleansing and white-washing this month. Add a small quantity of carbolic acid to the lime. Turn over the runs and sprinkle the ground thoroughly with diluted sulphuric acid.

Fowls in confinement need a variety of food to prosper. They require a mixture of green food with grain as much as horses or cattle do. Too much solid food, where there is no proper exercise, tends to fatten. When hens take on fat they usually fall off in laying. Yarded fowls do not need the same hearty food as birds at liberty. Light, nutritious and easily digested food is required by fowls in confinement. Never allow them to make whole corn a staple diet. Fresh meat two or three times a week is necessary for fowls in confinement, and in winter especially, when they are deprived of insect food.

Onions set in the fall, are now growing finely, and make one of the best of green foods for both old and young birds. Chop them up fine. Successful poultry men depend largely upon green onion tops, and find them particularly good for breeding birds kept confined to limited runs.

We do not recommend shavings, sawdust or excelsior packing as material for nests. Many valuable birds have been killed by feeding upon sawdust. Hens have been noticed to pick all day at shavings and excelsior, until no material was left in the nest. Again, nests made in this way are hard to keep clean. In our experience, nothing excels oat straw for nests, cut up into lengths of about two inches. Where convenient, place a few handfuls of tobacco stems in the bottom of the nest. This is death to the vermin. These stems can be had for nothing from any tobacconist. When the hen is set, sprinkle a handful of tobacco dust over the eggs and she will come off the nest with a strong, healthy brood, entirely free from lice. Tobacco is a valuable insecticide for the poultry house.

Gapes are caused by a minute worm in the windpipe. It is generally produced by filth or neglect. If taken in time, as soon as the chick is noticed to gape and sneeze, it can be cured. Give the chick every two hours a few drops of diluted camphor or turpentine, taking care to get some in the windpipe. The odor will, as a rule, kill the worm, and the chick can then easily dislodge it. English fanciers recommend corn meal boiled, into which a tallow candle has been stirred, then feed cold.

Make prevention the doctor of disease. Keep everything pertaining to your fowls scrupulously clean; destroy all nests by fire occasionally; watch closely the droppings each morning, and once a week add iron to drink and alum to soft food; feed onions chopped fine occasionally, and season all food properly.

Hens will lay just as well, if not better, without the association of a cock; it is well to arrange a small yard, separated from the rest, and in it place the breeding stock; if all hens are of the common sort head them with a thoroughbred cock. By following this arrangement the class of your fowls is always growing better, and if the Brahma cock is used, and the fowls and chickens are sold by weight, a very large part of the profit will be derived therefrom.

The smallest sitting hens are generally found to be the most successful with their broods. A fancier was troubled for some time with his fowls eating the eggs. After trying several remedies without avail, he hit upon the idea of a sloping nest, so that when a hen lays an egg it rolls down the incline into a box below. This plan is said to work admirably.

In the care of chicks for the first twenty-four hours, do not give them any food whatever, and do not give them raw food until three or four weeks old. Give cooked ingredients; stale

bread soaked, hard-boiled eggs, thoroughly boiled potatoes or fine corn meal. This food should be given them eight or nine times a day this term, and if milk can be given them to drink, so much the better. When they are past four weeks old give them cooked meats and vegetables, with some wheat screenings. The mother should be dusted with sulphur or insect powder once or twice a week, so she can not transport lice to the young chicks.

The cause of fowls picking their feathers is generally want of exercise. Fowls which acquire this habit in the winter are difficult to cure until spring opens and they can have their liberty. It can be checked by giving mangel wurtzel, cabbage, apples and steamed rowen hay. A sheep's pluck hung up in the house is a good thing—in fact, anything to keep them busy; and if this does not stop it, turn in a lot of hens' feathers and give them all they want.

Old hens should be killed early in June, and thus save the expense of feeding them through the summer, when eggs are cheap. Fowls that have an odd motion of the head and walk as if they are drunk, frequently have what is known as vertigo, or dizziness, caused by over-feeding. A sure cure can not be given. Some try bathing the head with cold water, feed sparingly and put a piece of bromide of potassium, as large as a pea, in the water. Let the bird drink this three days, and then skip three days. Sulphate of iron in the drinking water is a decided benefit to the fowls.—*Poultry Monthly.*

Some one says "Man is a curious being." Yes, but for curiosity he can't hold a candle to woman. The latter sex is noted for it.

Another murderer has confessed that he killed a man years ago, thereby destroying the clew which the detectives were working up.

The reason why Russia seems so anxious to take Herat is probably because it is the only town with a pronounceable name in the country.

There are only three newspapers in Persia. This would seem to show that subscribers do not pay up any better there than they do in this country.

Some curious poet inquires: "Where go the waves which beat against the rocks?" This is not hard to guess, they go to pieces we believe as a rule.

The codling worm on apple trees may be destroyed by spraying the trees with a mixture made by dissolving a tablespoonful of Paris green in four gallons of water.

Soot is a valuable fertilizer for the farm, garden and flower bed. Over fifty thousand tons are annually taken from the chimneys of London and applied to this purpose.

Ducks should have separate houses from other fowls. No roosts are necessary, but they should have troughs, as they do not like to pick and hunt on the ground like chickens.

Old feather beds are improved by putting them upon a clean grass plot during a heavy shower, permitting them to be thoroughly wet through and then dried and beaten with light rods. It freshens the feathers.

Old and dry putty may be removed by washing lightly with a brush dipped in nitric or muriatic acid. Within a couple of hours after such an application the putty becomes sufficiently soft to be readily handled.

Twenty years have not sufficed to destroy the explosive qualities of shells which were used in the late war. Forest fires have recently laid bare the old battlefields of the Wilderness, Virginia, and many old shells have exploded.

We have careful thoughts for the stranger, And smiles for the sometimes guest— But out for our own The bitter tone Though we love our own the best.

A local government inquiry was held recently in Manchester, Eng., to inquire among other things into an application of the corporation to impose regulations on the sale of horse-flesh. Evidence was given that horse-flesh was largely sold in the poorer neighborhoods of the city, dressed like beef, cut up into steaks, and sold at 5 pence and 6 pence per pound. Much of the horse-flesh sold was unsound. The corporation, who were supported by the Butchers' Association, desired to impose regulations on the sale.

A letter describing the markets of New Orleans says everything is sold by the eye, and there is no standard of measure. Ninety-ninths of the hundreds who sell in the noted French markets of the city do not know what a bushel or a peck is. They buy their vegetables by the lot and place them in little piles on tables. These piles are of different sizes and prices. The buyer looks at the piles and buys that which he thinks is big-

gest and best. Sometimes buckets and boxes are used to measure, but they are of all kinds and shapes.



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CUTICURA REMEDIES are absolutely pure and the only infallible Blood Purifiers and Skin Beautifiers free from poisonous ingredients.

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Send for "How to Cure Skin Diseases."



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Treat successfully all curable diseases of the eye and ear. Also catarrh of the nose, throat and lungs, by new and sure methods.

All Manner of Chronic, Private and Surgical Diseases Successfully and Scientifically Treated.

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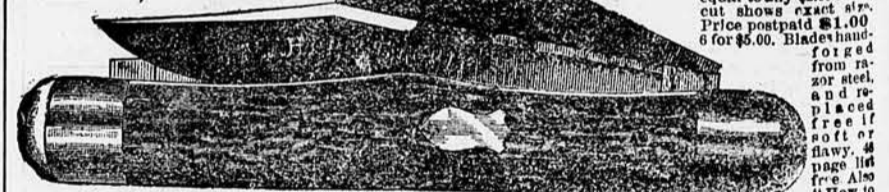


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\$70,000 IN USE.



Use a Razor." Boys' knife, 25c; good two-blade, 50c; extra strong two-blade, 75c. Ladies' two-blade Pearl, 50c. Gents' fine three-blade, \$1.00. Hunting Knife, \$1.00. Six-inch Dirk, \$1.50.



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FIRE INSURANCE CO.,

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Against Fire, Lightning, Tornadoes and Wind Storms.

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For any information, address the Secretary, Abilene, Kansas.

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.

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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, 161 Pearl St. N. Y.

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By means of the now celebrated remedies of Dr. KANE, (late Supdt. 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 easily, thoroughly and secretly cured at home. No pain, nervousness, or lost sleep. A certain and reliable cure, endorsed by the Medical profession. No Quackery, Deceit or Humbug. No confinement, restraint, or interference with business. PAMPHLET with full particulars, charges, press and medical endorsements and testimonials, sent for 6 cents in stamps securely sealed. Letters invariably confidential. Dr. HENRY H. KANE, 10 E. 14th St., New York.

Disorderly demonstrations in Ireland during a recent visit of Prince of Wales and his lady, have caused a slight reaction in the government policy toward that island. Mr. Gladstone has given notice in parliament that a new bill is to be introduced soon having special reference to affairs in Ireland.

It is doubtful whether the sugar works at Hutchinson and Sterling, this State, will be operated this year. Sirup will be made at the Sterling sirup factory. At Ottawa, in Franklin county, sugar making will proceed, and the government will make a number of interesting experiments there by way of testing several different processes, and particularly the diffusive process. The legislature made a mistake, we think, in not helping this industry to some extent. Successful and profitable sugar making in Kansas would be of worth incalculable to our farmers. We hope that another effort in the same direction will be made at the next regular session. There is little room to doubt the final outcome if the pioneers are only held up to the work until it is mastered. Every time we think of this subject its possibilities appear more valuable.

Captain Lord, who brought his ship, *Critic*, into New York, the other day reported: "On May 6, at 6 a. m., latitude 48 degrees north, longitude 47 degrees and 10 minutes west, we found a solid wall of packed ice interrupting our forward progress, and extended as far as the eye could reach. We at once decided to look for a passage to the southward which we did unsuccessfully all day. The great ice fields were from 200 to 800 feet in height and of the dimensions of large islands. The weather became thick, and it was with the utmost difficulty that one could thread his way through them; the man on the outlook no sooner reported on the starboard bow, than he had to repeat his report with one on port bow, right ahead, etc. After a struggle of seventy-two hours we were quite clear of ice. In all my experience at sea I have never seen or heard of such immense quantities of ice in that latitude."

The stomach of an ostrich is located in its back, between the wings, and the food can be seen moving around inside of its neck to get at this strangely-located receptacle.

Consumption, Coughs and Colds cured by Dr King's New Discovery. Trial bottles free.

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BEST FORKS, PULLEYS, ETC.
Farmers who order early, will get Rock Bottom Prices. Satisfaction Guaranteed. Send for Illustrated Circular and Price List.
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OVER 10,000 IN USE.
Wooden and Iron Pumps equal to the best. Catalogues free.
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"MANVEL" WIND ENGINE
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STOCKMEN AND FARMERS CAN
HARNESS THE WIND
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
B. S. WILLIAMS & CO., (Limited), Atchison, Kas.
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For Dairies, Laundries, Hotels, etc. Boiler holds 23 gallons, LARGE ENOUGH TO SCALD A 16 GALLON MILK CAN. A pan for heating laundry irons may be put in its place. Burns 2-foot wood or coal. Send for circular.
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Can be attached to any cultivator; has 12 steel bull-tongues, one inch wide, in malleable iron frame. Best thing ever used in young corn. Write for circulars of Attachments, Iron Duke Mowers, Equalizers, &c.
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Belt or Geared FEED GRINDERS. Pumping or Power WIND MILLS, ALL SIZES AND STYLES OF Iron Pumps, Iron Pipe, SHELLERS BRASS CYLINDERS
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Greatest LABOR SAVING SPECIAL OFFER
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
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FOR HORNED ANIMALS, Or Bull Conqueror.
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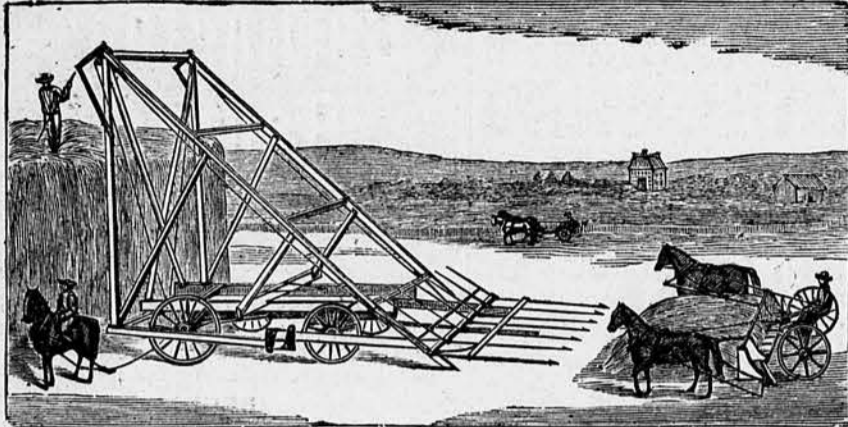
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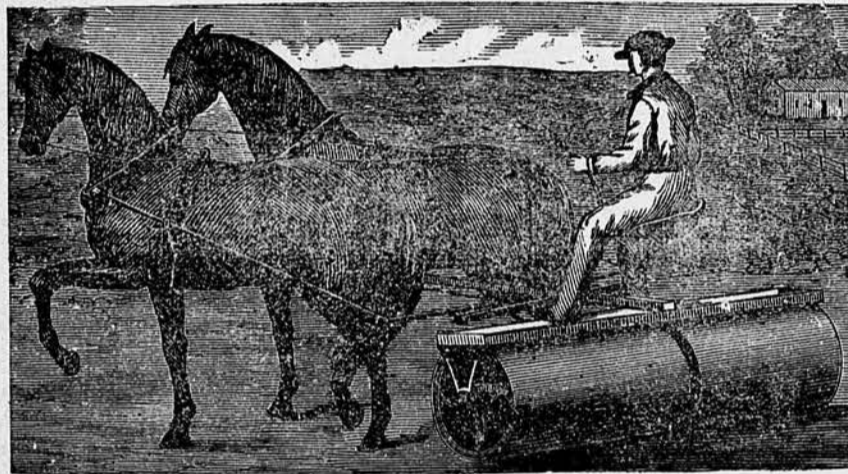
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Will save 50 to 75 per cent. in the cost of putting up hay over the old way. Does away with the hard labor of putting up hay; hay not touched with a fork from the time it leaves the mower until it is on the stack; is put up better than it can be done 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 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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FIVE EXTRA YEARLING SHORT-HORN BULLS For sale cheap. L. A. Knapp, Dover, Kas.

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Wholesale and retail. "True" **EARLY JERSEY WAKEFIELD**. Per 100, 25c; per 1,000, \$2.00. Larger orders discounted. **PREMIUM LATE FLAT DUTCH** in season, at same prices. Correspondence invited. Address **C. E. HUBBARD**, Box 835, North Topeka, Kas.

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FOR SALE.—With Quantrell No. 4205, O.P.C.R., a Perfection pig, and Jayhawker No. 3895, O.P.C.R., a Husky Tom pig, and he by Tom Corwin 2d, bred to Black Bass sows, I have the three best families of Poles in the United States represented in my herd, and they cannot be excelled for quality. All stock eligible for registry in the American Berkshire, American Poland and Ohio Poland-China Records. Write me, or call and see my stock at the southwest corner of Emporia, on the Cottonwood river. My latch string is always out. Established in 1868.

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Mt. Pleasant Stock Farm, Colony, Anderson Co., Kansas.

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Importer and Breeder of
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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. Carwardine, J. B. Green, B. Rogers, W. S. Powell, Warren Evans and P. Turner. The bulls in service are "FORTUNE," sweepstakes bull with five of his get at Kansas State Fairs 1882 and 1883; Imp. "Lord Wilton" bull "SIB EVLYN," own brother to "Sir Bartle Frere;" Imp. "DAUPHIN 19th," 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.

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Seventy-Five Head of Broadlawn Short-horns!

WILL BE SOLD

At Hamlin, Brown Co., Kas., July 1st, 1885.

LOCATION.—Hamlin is situated on the St. Joe & Western R. R. and near Padonia, on the M. P. Omaha extension.

Consisting of *Young Marys, Vellums, Josephines, Adolades, Lady Days, Willys, Harriets and Primroces*. Broadlawn Farm, of 640 acres, will be offered to the highest bidder at 11 o'clock, immediately preceding the sale of Short-horns, and if sold, the whole of Broadlawn herd of about ONE HUNDRED AND FORTY HEAD will be sold then or on the following day. Broadlawn is one of the finest improved farms in northeastern Kansas. Residence, large two-story frame building, and a house on each quarter section; frame stabling for 200 head of stock; two wind-mills—grinding, shelling, cutting, and pumping water in tanks in the stable; 350 acres in tame grass and clover, and water on every 80 acres of land; well hedged, and near three railroads. Terms:—One-fourth cash, and three-fourths in three equal yearly payments, at 8 per cent. interest. Terms on Short-horns:—Cash, or notes on six months at 8 per cent. interest.

Address **DR. ROBT. PATTON, HAMLIN, BROWN CO., KANSAS.**

AT MANHATTAN, RILEY CO., KANSAS,

Wednesday, June 3d, 1885,
Messrs. W. A. Harris and C. M. Gifford & Sons,

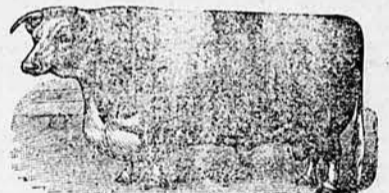
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Embracing **ROSE OF SHARONS, FLAT CREEK YOUNG MARYS and JOSEPHINES, YOUNG PHYLLISES**, and other popular American families, together with a few of the **CRUICKSHANK** blood.

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 Linwood herd being the imported Sityton-Victoria bull; Baron Victor 42824.

Catalogues on application to **W. A. HARRIS, Linwood, Kas.**
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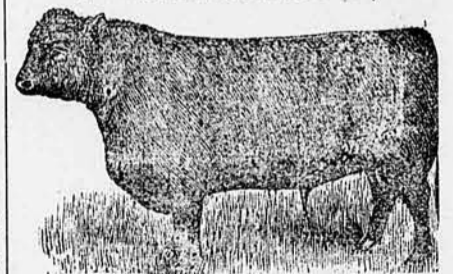
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60 acclimated imported

Hereford Bulls for Sale!

They represent blood of Horace, Lord Wilton, The Grove 3d, and other prize-winning sires. Thirty 18 months to 2 years; thirty 14 to 18 months old. Selected from best herds in England. Recorded in A. B. R. or eligible and entered for record in Vol. V. Illustrated Catalogues.

G. E. BUNTON, Breeder
Abilene, Kansas.
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F. McHARDY,



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GALLOWAY CATTLE,

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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. Bigger & 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.