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KANSAS FISH CULTURE.

Fourth Biennial Report of the State Fish Commissioner.

Soon after my appointment as Commissioner of Fisheries, simultaneously from along all the streams of the State complaints were made to me that owners of dams had not complied with the provisions of the fish law, in that they had not created fishways. They were of such a character that I deemed it necessary to make a personal examination of the dams, and order such fishways built thereat as would in my opinion allow the passage of fish, and yet be so inexpensive as not to be oppressive upon the owners. After careful study I adopted the old plan of fishway, making such changes and modifications as I deemed necessary to enable all fish of migratory habits to pass the obstruction. In all cases the owners of dams have listened to my suggestions, treated me kindly, accepted the situation, and promised to erect the fishway within a reasonable time. This plan for a fishway has answered all purposes for years in the eastern States on streams where the dams are of equal height, as are those on the streams of this State, and admits of the passage of migratory fish of all varieties. A view of this fishway will be found in the appendix to this report.

While examining the dams in relation to fishways, I also examined the streams, their nature, and the character and temperature of the water therein. for the purpose of enabling me to arrive at correct conclusions as to the varieties of fish with which they could be successfully stocked. In order to be successful in stocking any water with fish, it is necessary to closely observe its character and temperature, and in the selection of varieties select those that are as near native to the water in which they are to be planted as possible. Brook trout are natives of clear, pure water and of low temperature, not exceeding 45 to 50 degrees Fahrenheit. The salmon family requires similar conditions. The tests I made and caused to be made in July and August in streams, gave me a temperature of 70 to 90 degrees—thus showing that however much I might desire to plant these varieties of fine food and game fish, my work, if I attempted it, would be valueless in these temperatures, and that in order to be successful I must give my attention to such varieties as by nature were adapted to Kansas waters, and also such as would be acceptable to our people. The water of the Mississippi furnished the conditions and the fish.

In this view I opened a correspondence with Hon. S. P. Bartlett, secretary of the Illinois Fish Commission, which led to an interview and an arrangement whereby I could procure, without detriment to either the Illinois or Missouri Fish Commissions or the river, all of the fine varieties of food and game fish of that river with which to stock Kansas waters. Fish from the Mississippi river will habituate themselves to Kansas waters easily and successfully.

METHODS.

In order to be successful and satisfy the people where the fish were planted, that I was planting fish, I desired to plant fish of such ripe age that all who saw them would know not only they were fish, but would also be able to distinguish the variety. With this view I employed a crew of experienced practical fishermen, with boats, seines, cages, tanks, and all the apparatus necessary to

success, and during the time I was planting fish I kept them constantly at work catching and assorting, ordering them to restore to the river all such varieties as I did not want and all of such size as to be difficult of transportation. The old upright can neither had the size nor the shape to transport the size and quantity of fish I desired to make at each plant. The method in use of "aerating" with a dipper while in transit was too slow and ineffectual. Losses were too great. On consultation with Hon. S. P. Bartlett, of the Illinois Commission, we substituted for the upright can a horizontal tank with capacity for a barrel and a half of water when two-thirds full, thus giving an air chamber the whole length and one-third the depth of tank. Laid aside the dipper and substituted an air pump and hose with which to restore oxygen to the water.

With this arrangement, favorable atmospheric conditions and proper care, native fish of all varieties can be successfully transported one thousand miles with a loss of not more than five to the hundred. During my entire work of stocking, with one exception—where I failed to make train connections, and owing to bad condition of the atmosphere—my losses have not exceeded this amount, and of each variety that I plant I have had numbers of such ripe age as to become spawners the ensuing spring.

HATCHERY.

Many of the States make an appropriation for the use of their Commissioners large enough to maintain hatcheries. This involves the purchase of land, teams, tools and the employment of a superintendent and employes and building of houses. In Kansas I do not deem this good or wise policy. First, it involves a large expenditure of money; second, your Commissioner can obtain all the varieties of fish adapted to Kansas waters cheaper and of a riper age than they can be produced and cared for in a hatchery; third, native fish from a stream will bear transportation better than young "fries" from a hatchery; fourth, one Commissioner, if allowed the time, can do all the work necessary to keep the waters of the State replenished, with such facilities as are obtainable cheaper and better than to be confined to the care and operation of a hatchery.

So long as you have but one Commissioner the whole of the work devolves upon him: the stocking of the waters of the State; the distribution of such varieties as are obtainable from the United States Commissioner of Fisheries; the examination of streams; the attention necessary to the construction of fishways; the keeping of the books and the correspondence of the office, naturally require all the time of your Commissioner, and he cannot properly discharge the duties of the office without devoting his whole time to it.

NATIVE FISH.

The work of the past two years has, so far as the streams and lakes of this State are concerned, been devoted exclusively to the planting of such varieties of fish as were as near native to our waters as were obtainable.

The conditions necessary to success in stocking any stream or body of water are: quantity or volume, stability, temperature, adaptability, and a sufficient supply of food. These conditions being carefully observed, a selection of varieties can easily be made that will insure success. To this end I chose for our water the following varieties: Pike, wall-eyed pike, black and striped bass,

channel and blue catfish, yellow, ringed and white perch, and crapple. These varieties are all fine food fish, and, with the exception of the crapple, "gamey" enough to please the most fastidious angler.

With proper protection—should the work of this Commissioner be continued, and the labor of the Commission well directed—all the waters of this State will soon abound with fine, desirable food fish. No argument is necessary to show the benefit and luxury our whole people will derive from the work of this Commission. The stocking of the waters of the State should be continually repeated. Fish planting, propagation and distribution is comparatively a new enterprise; it is a matter of growth, and no enterprise in which the people of the State are interested is of more importance to them than this. So important has this question of rehabilitating the waters of the whole country with desirable food fish become, that thirty-eight of the States and Territories have enacted laws for the planting, protection and preservation of fish—created fish commissions, and appointed commissioners of fisheries, and each of them makes sufficient appropriation to make the work effective and secure success. The United States Fish Commission, with its annual appropriation of \$200,000, under the efficient management of Commissioner Hon. S. F. Baird, has attained a success unequalled in fish culture and fish propagation by any fish commissioner on the globe.

Kansas has more miles of streams habitable for fish than any other State in the Union. The interest in the work of rehabilitating these streams is daily increasing, and when it becomes well understood that the Commissioner is discharging his duty, violations of the fish law will cease; the people will sustain him in his work, and our waters will abound with fish that will not only please the taste of the epicure, but become an article of necessity and luxury to all of our people.

CARP.

Never in the history of fish culture and propagation has any fish been more and better written up than the carp. So far as experience goes to test the merits of this fish as a pond and food fish, it justly merits all that has been written or said in its favor. The climate and water of Kansas are as well adapted for this fish to arrive at perfection as are those of any State in the Union; and from the interest our people are taking in it, it will be but a short time before every county in the State will number its carp ponds by the hundred. As a food fish it is at least the equal of any of our native varieties, and as a rapid grower and producer it has no equal. Instance after instance is reported to this office where at eighteen months they have attained the weight of three and a half to four pounds.

Anxious inquiries are constantly being made to this office concerning carp, the construction of ponds, their food, to all of which I respond with such information as in my judgment will lead the experimenter, if carefully followed to success.

The carp are furnished State Commissioners by the Hon. S. F. Baird, United States Commissioner of Fisheries, in the following manner: He provides the Commissioner with blank applications. These are forwarded to the applicant by the State Commissioner. They are filled by the applicant and returned by him to the Commissioner, who in turn forwards them to some of the

State delegation in Congress for indorsement, and are then turned over to the U. S. Commissioner, who, when the carp are ready for distribution, forwards them in the car of the United States Commission to the State where they are to be planted, from whence they are shipped by express to the applicants; the cost to the applicant only being express charges from that point in the State from which they are shipped and the pail in which they are shipped.

SHAD.

The success that has attended Professor Baird in rehabilitating the streams of the United States with this meritoriously esteemed fish, as also the success he has met with in planting them in streams where they were never before known, warrants your Commissioner in asking him, season after season, for such numbers as he can give to the streams of this State. The success he has met with in planting shad in the Ohio river, and their return to that stream from the ocean, is evidence that the shad will ascend the Mississippi to the mouth of the Ohio, and thence up that stream to the point where they were planted. The president of the Kentucky State Fish Commission wrote me last season that he considered the Ohio now permanently stocked with shad, and that they were then catching full grown shad in large numbers. This being the case with shad ascending the Mississippi to Cairo and then diverging into the stream which they descended on their way to the ocean, may we not reasonably hope that by persistent effort in planting shad in the streams of this State, they will as surely return as they have in the Ohio? Surely, the end to be attained is worthy of the effort.

Romance of the Cherokee Rose.

There is a beautiful romance connected with the Cherokee rose. A young Indian chief of the Seminole tribe was taken prisoner by his enemies, the Cherokees, and doomed to torture, but fell so seriously ill that it became necessary to wait for his restoration to health before committing him to the fire. And, as he lay prostrated by disease in the cabin of the Cherokee warrior, the daughter of the latter, a young dark-faced maid, was his nurse. She fell in love with the young chieftain, and, wishing to save his life, urged him to escape. But he would not do so unless she would flee with him. She consented. Yet, before they had gone far, impelled by soft regret at leaving home, she asked permission of her lover to return for the purpose of bearing away some memento of it. So, retracing her footsteps, she broke a sprig from the white rose which climbed up the poles at her father's tent, and preserving it during her flight through the wilderness, planted it by the door of her new home in the land of the Seminoles. And from that day this beautiful flower has always been known throughout the Southern States by the name of the Cherokee rose.

London has over 10,000 policemen, or one to 307 of the population; New York 2,870, or one police officer to 502 of population; Brooklyn, 661, or one to 919 of population; St. Louis, 483, or one officer to 710 of population.

Deal gently with us, ye who read!
Our largest hope is unfulfilled,
The promise still outruns the deed,
The tower, but not the spire, we build.
—Emerson.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.

April 14—James Cunningham, Kansas City, Galloway cattle.
April 23—Col. W. S. White, Sabetha, Kas., Short-horns.
May 6th—The Cass County Breeders Association will have a sale at Pleasant Hill, Mo.
May 18 and 19—Jas. Richardson, Short-horns, Kansas City, Mo.
May 20—Powells & Bennett, Short-horns, Independence, Mo.
May 21 and 22—Jas. E. Richardson, Kansas City, Mo., Short-horns.
May 25—Leavenworth Short-horn Breeders' Association.
June 3—Col. W. A. Harris and the Giffords, Short-horns, Manhattan.

STOCK RAISING.

An address delivered by F. W. McClure, before the Farmers' Institute at Winfield, Jan. 30, 1885.

The first query of the average American when thinking of engaging in any enterprise is, will it pay? and in stock breeding as in any other pursuit this will be the question of the first importance. To this question we answer yes, no. Yes to a person who enters upon the business with a proper location, necessary arrangements and a proper knowledge of the business, or such a love for stock that he will attain that knowledge. No to one that does not have these and will not take the trouble to acquire them.

I would not have you understand me as having reference to any particular breed or stock, as what tends to success in one will apply as well to the others. It will be impossible to give all the reasons why it will pay and why it is advisable to engage in stock raising. Among the reasons, if not the first reason, it keeps up the fertility of the soil. Continual grain raising of whatever kind will exhaust any soil so that the profits even with good prices will be but nominal, while with stock the land is being continually enriched and not only are the profits greater from increased crops, but the value of land is increased. I will give a case to illustrate: I commenced to keep stock on the farm I was living on in Illinois, cattle, sheep and hogs. I was told by the neighbors that I could make more money to raise grain, as the markets were handy and it would not pay to raise stock on such high-priced land. My crops increased from 40 to 50 bushels of corn to the acre to 75 and 80, while theirs decreased to 25 and 30 bushels by their system of grain raising. A neighbor joining farms with mine paid me 55 cents a bushel for corn to keep his hogs through the winter, and he had as many acres in corn as I did. I sold my farm for ten dollars an acre more than he asked for his and he has his yet. It paid me to raise stock. I might say here that other crops increased in like ratio. It will pay because the expense of shipping the crops to market is less when fed to stock and besides the stock leaves about 56 per cent. of the feed as fertilizers to increase the succeeding crops. In grain we have Russia, India and other countries to compete with, while they draw on us largely for their meat supplies. Then in our country the demand is increasing faster than the supply. The increase of cattle to the population is as 7 to 13 per cent., or only about half.

While stock raising will pay under certain conditions it is advisable for a person who thinks of engaging in it to consider well the contingencies necessary to make it a success. To succeed he must not only like to attend to their wants because it is a profit for him to do so, but he must take a pleasure in doing it and must find enjoyment not only in administering to their wants but also in contributing to their comfort. In one respect he must think more of them than he does of himself. In cold or storm he must be out until

he knows his stock is as comfortable as it is in his power to make it. If he is not willing to do this he would do better to leave this business severely alone for he will not succeed. A person who has never had any experience with stock should go very slow in engaging in the business, but I will not say let it alone, for if he has a natural love for stock and the determination to master the details he will succeed. There is one idea prevailing to a great extent and the sooner the people can be disabused of it the better. It is that any one can make money with stock, and that all they have to do is to buy and turn them on the range and the golden dollars will begin to roll into their pockets and will continue to roll in a geometrical progression. All such generally find the dollars rolling the other way.

The first requisite after one has decided to engage in stock breeding is to select a location suitable to the kind of stock he wishes to raise, as to soil, lay of the land, water, etc., also to markets, and those who are already located should select stock suited to the location. While we admit that on most farms any of the different kinds of stock do better than no stock, yet there is hardly a farm where there is not a greater profit in some kinds than in others.

The next after the location is the selection of stock, and I cannot urge too strongly the necessity of great care and judgment. Be sure you get as near what your judgment tells you you want regardless of the price if within your means. The lowest priced animal is often the dearest. When we take into consideration the difference in the value of the progeny there is often no comparison in the prices of two animals, the highest priced being incomparably the cheapest. There are various considerations that makes this so. Put the two of their progeny on the same keeping and there will all the time be a difference in gain. There is a difficulty arises here that cannot always be overcome. In buying breeding stock one cannot always tell how they have been kept. A fine looking animal may have been pampered so as to be nearly worthless for breeding, while another that does not look as well, having had only ordinary care, may be one that will be very profitable. Even in the herds that we handle for years we, in our present way of doing, cannot tell to a certainty if we can in any way, approximate to a decision as to which of our animals is the most profitable when all things are taken into consideration. The dairying branch of the business may be taken as an illustration. How many of our dairymen can tell which one of their cows are making a profit on the feed, value of the cows, expense of labor and what profit each cow makes? It is true they are awakening to the importance of knowing and are making tests to determine and are weeding out the unprofitable ones. This must be the case with all classes of stock. The animal that will not yield a profit on cost, feed and labor must go and the place occupied by one that will weed out the culls, and do not be afraid to reduce your herd for fear you will not have as many as your neighbor, but bear in mind that success consists more in quality than in quantity. It is a safe rule always to under-stock rather than over-stock. If the season is favorable throughout for a luxuriant growth all may be well, but if by drouth or any of the many causes by which crops and pastures are shortened an unenviable situation to say the least, is forced upon the stockman. The profits on a few extra fine animals will be far greater than on a large number of inferior ones. This is clearly shown by our market reports. The

same report of the Chicago markets, quoted ordinary steers at \$4 to \$4.50 per cwt. and the thirty-four Iowa steers at \$7.75 per cwt. and another of the sale of W. D. Gillett's at \$8.00, I think. This makes a difference of about \$4 in the extreme prices. Another element of success is to have suitable shelter for the stock; we say suitable, for it must be adapted to the location and severity of the climate. While in Minnesota and other extreme northern sections warm barns are necessary, in other sections sheds to keep off the storms and protect from the winds of winter and the burning heat of summer may be better. In any location stock must be kept comfortable either by natural or artificial shelter, as the owner will have to burn corn or its equivalent to keep up the heat consumed by exposure.

Another thing to be taken into consideration is to place a true estimate of value on our stock. With many a cow is a cow and is worth about so much, and a horse is a horse, and so on through the list. One animal may be worth several times the value of another apparently as good. She may be a more prolific breeder and her progeny may be much more hardy and growthy. When we consider the difference in their increase and the increase of their females, we can hardly estimate the difference in their value. Feeding is a prime consideration in successful stock raising. It is not the one who feeds the most that feeds the best. A man to succeed must, as we said before, love the stock he feeds and must make the stock love him, and must also use intelligence and judgment. In changing from one kind of feed to another it should be done gradually so the system can become adapted to the new rations. Many valuable animals are killed and vastly more injured by sudden changes in feed. We find it works well in spring to give stock a good feed of dry food in the morning before turning to grass and keeping it up for several days and in the fall give them part of a feed of dry food each day before keeping them on it altogether. It is also good to have a stack of dry feed for them to run to while the grass is young and watery. For a few days they may let it alone but it will not be long before they will begin to visit it. While you are careful to have plenty of feed for your cattle be just as particular to have plenty of good water for them to drink, either have them have access to a good stream or a good well. Let ponds and mud holes severely alone. It is a question if a large portion of the stock losses of the average farm do not arise either from a lack of water or from drinking impure water. It would be safe and also humane not to let our stock drink water that we will not drink ourselves. There are many other considerations but we will not weary you enumerating them, but will merely say weigh well the matter, be sure you are right and go ahead.

Steamed Food for Cattle.

When inspecting a farm recently I was very pleased to find the tenant carrying on an experiment in cattle feeding which must be interesting to stock farmers. From particulars given me it appears there was a partial failure of the turnip crop on the farm, and the sheep requiring every one grown, the farmer—seeing the difficulty of providing during the winter, without the usual aid of turnips, for some seventy head of cattle, which would be desirable to keep for grazing in the next summer—decided on purchasing linseed for boiling, and mixing it with his own ground screenings of barley and chopped straw. To show what simple apparatus may be turned to account, a trough, holding a

hundred and twenty gallons, which was used for watering stock in summer, was provided with close-fitting lids; this formed the receptacle for water and linseed, and into this was fitted a steam pipe, with wheel valve, from a small boiler.

The linseed is boiled for three hours, at the end of which time it has become thick with mucilage, and the boiling mass is thrown on chopped straw on an impervious floor in this manner: The chopped straw is levelled down to the depth of about one foot, and the mucilage is then applied with buckets from the tank for another foot in depth, and above this chopped straw is again levelled up. After waiting ten minutes the whole is thrown together in one heap, and in turning over it is dusted with barley meal. The mass shortly commences to steam through the chaff and becomes thoroughly incorporated, and it is then given in a steaming condition to the cattle. The stock each receive per day on an average one and a half pounds of linseed, five of barley meal, and one bushel of chopped straw. The calves get the mucilage mixed with their milk, and thrive well on it. The cost for linseed is three halfpence per pound, and the barley, although of a fair quality, could not be sold for more than twenty-four shillings per quarter of thirty-two stones. The finest Sicilian linseed is used on account of its larger quantity of mucilage and less oil than the St. Petersburg linseed. In addition to the steaming apparatus and boiler a six-horse power engine is used for chopping straw, grinding meal, crushing, and pumping, and the whole has not cost the tenant fifty pounds.

After three months' trial the result is perfectly satisfactory; the cattle are in a greatly improved condition and quite healthy. The stock comprises twenty eighteen-months', twenty two-year-olds, and thirty cows and heifers, with six young calves. If any of these had been sold lately in consequence of the short supply of turnips on which they are usually fed the price would have been low, and the result would have been that last summer's grazing would have been lost. The farmer fitted up the apparatus, boiler and engine, with his own hands, without the help of an engineer. In this case a large barn is utilized, one end for machinery, the other for storing the chaff pulls or cavings, which are carried there on threshing days, and as a mixing floor. The coal slack consumed in the boiler for steaming purposes was one ton per month, costing eleven shillings. As the boiler and engine are necessary for the work of grinding, etc., it would appear that the steaming apparatus should only be changed to feeding. A man and lad can prepare the mixture and feed the stock. As an economical method of using home produce, combined with a cheap and valuable purchased food, the above experiment might with advantage, be adopted by many farmers.—*English Farm and Home.*

The great mass of the butter produced in the country is made on farms; the great mass of cheese is made in factories.

A Husband's Greatest Blessing

Is a strong, healthy, vigorous wife with a clear, handsome complexion. These can all be acquired by using Dr. Harter's Iron Tonic.

It is stated that small candles, remarkable for the purity and brilliancy of the light they give, are imported into Europe from China, where they are made from wax supplied by minute insects bred for that purpose by the poorer class of Chinese.

Cuts from barbed wire fence, cured with Stewart's Healing Powder. No scar or gray hair, 50 cts a box.

In the Dairy.

Butterine vs. Butter.

Professor Sheldon, in the *North British Agriculturist* discusses the butterine subject. Below we give a few extracts from his paper:

* Owing to the general commercial depression in these islands in common with, though less acute than the rest of the world, it is tolerably clear that the purchasing power of the masses of our people is smaller than it used to be, and in obedience thereto we find a considerable decrease in the importations of various articles of food, and, curiously enough, in all kinds of salted and preserved meats, except hams. There is, however, as seen in the figures already given, a very considerable increase under the heading of butter and butterine, the increase belonging almost entirely, as we may assume, to the latter. When, indeed, we find a decrease from such a famous butter-producing country as Denmark, and such a large increase from Holland, the "boss" butterine-producing country, we are justified in assuming that the bulk of our increased demand is for butterine and not for butter; and this assumption is strengthened by the fact that our diminished purchasing power must, perforce, remain satisfied with a cheaper and, in some respects, an inferior article. The inference, too, is suggested that butterine is taking the place of preserved meats, which were erstwhile so popular, when less of these and more of butterine is being imported. This does not refer to the frozen beef and mutton which come to us from several distant countries; for these, when thawed, are regarded in the light of fresh meat, and, as such, are being raised in the estimation of the public.

Butterine has survived all the tales, true or untrue, that have been told with the view to discredit it in the regard of the public, and this result may be accepted as a proof that it has a good deal of intrinsic merit, and that it meets an existing and growing demand. It has, in fact, run the gauntlet which lies in the path of most new ideas which interfere with vested interest, or with ancient institutions of any kind that were more or less monopolies of days gone by. The stories about "Thames mud"—whatever this may be—being used for the manufacture of butterine, and of the intestinal fat of animals that had perished in some way or other which made them unfit for human food, had their influence at one period, but they are now no longer listened to by the public to the disparagement of butterine. The stigma of being an imitation still attaches, however, to butterine, and will continue to attach to it for some time to come—until, in fact, it has become, in respect of the public at large, well established and understood as an article of food definitely manufactured from materials which, being in themselves honest, wholesome, and nutritious, are their own recommendation.

The manufacture of butterine is already definitely settled on a well understood basis, differing in details, but not in principle. Sold, no doubt, on its merits, though seldom under a proper designation, it must needs be more or less attractive in order to sell, and so must be made of good materials and in a cleanly manner. The safeguard of the public lies, not in the honesty of the manufacturers, but in their self-interest, which requires of them that the goods they present to the public shall be such as will bear the keen criticism of commerce. This relates to the materials used, and to the manner in which they are made up, so far as the part and lot

of the manufacturers is concerned. As to the retail dealers in butterine—well, perhaps "tis their poverty, not their will, consents" that they should so commonly sell butterine for butter; which, after all, they could not do, if it were not so good an imitation of, and so valuable a substitute for the real article. There is, however, no valid excuse for them, and delinquents who delude the public and at the same time cheat the farmers with butterine, should be taught better manners. The law is stringent and comprehensive enough, as a general thing, against adulterations, but as against butterine it does not appear to be sufficiently definite, nor is it enforced to the extent it ought to be.

For my own part, I am well convinced that in properly made butterine there is nothing to be ashamed of—nothing save cupidity to palm it off as something else. It is palatable, healthy, nutritious, clean. The best of it is, in some respects, superior to a very large proportion of the real butter that is made in the British Islands, and is more attractive to the consumer. In many cases it can with difficulty be distinguished from good butter—from butter which is above the average—and experienced judges are said to have been taken in by it at times. There is, however, only a small proportion of butterine of the quality here denoted, just as there is only a limited quantity of fresh butter produced, and butterine is designed to compete with second and third rate butter, which it does already in a most effective manner. The reason why so much butterine is sold as real butter is that a very considerable profit can be made that way. * * *

There is no doubt, however, that the fat of which butterine is chiefly made is the raw material, so to speak, from which butter is derived, so that, in a sense, the original of the two is identical. We may say, indeed, that butterine, when properly made and of good materials, is an article of food to which no one can fairly take exception, so long as it is sold under a designation which clearly indicates its nature. * *

My impression concerning butterine is, that it will be made each year to a greater extent, until the limit is reached in the supply of raw materials—a limit which, I may remark, is very far from having been reached at present. Improved processes, too, will admit new sorts of raw material, so that the possibilities of butterine can not easily be gauged. So far, it has been found expedient to employ milk in the manufacture of the best sorts of butterine, and the probability occurs that milk will, at some period, be almost as extensively employed in the manufacture of butterine as of butter, if not more so. To make inferior butter from milk will certainly not pay any farmer, and he may do better in selling his milk to some butterine factory. One firm in Holland uses up 10,000 gallons of milk per week in the manufacture of butterine, of which 150 tons per week are sent to England from this single establishment. Inferior butter can not compete with butterine—it is too costly to produce—and, so long as animal fat is cheap and abundant, butterine is sure to be a profitable thing to make and to sell. It is now being made in a manner which disarms prejudice, and the lower classes are not only familiar with it, but like it. Some persons think it will not compete with first-class butter at all, nor will it in the ordinary way; but indirectly it will, for being sold at a low figure, it will tend to reduce the price of all kinds of butter, especially of those that are inferior. It seems tolerably clear, then, that butterine will remain a formidable opponent to dairy farmers, competing as it does and will, on such an extensive scale, with such an important product of the dairy as butter; and butter-making farmers can hope to contend with it only on the ground of making first-rate butter themselves—butter that is attractive alike to the eye and the palate, and that will keep sweet a reasonable length of time. This last, indeed, is an important consideration, and at present it is one in which butterine compares very favorably with butter.

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.

CATTLE.

CEDAR-CROFT HERD SHORT-HORNS.—E. C. Evans & Son, Prop'r, 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. 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, Leland, 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.

LOCUST RETREAT FARM, Bacon & Campbell, Manchester, St. Louis Co., Mo., breeders of HOLSTEIN CATTLE and PLYMOUTH ROCK FOWLS. Holsteins excel in milk, butter and beef. They are the all-purpose cattle. First-class stock for sale. Plymouth Rocks are the farmer's fowl. Pair, \$3.50; trio, \$5.00; eggs, \$1.50 for 13.

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

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.

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.

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.

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

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

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

J. W. LILLARD, Nevada, Mo., Breeder of THOROUGHBRED SHORT-HORNS. A Young Mary bull at head of herd. Young stock for sale. Satisfaction guaranteed.

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

Hereford Cattle.

SHOCKEY & GIBB, Lawrence, Kansas, breeders and importers of Hereford cattle. Choice thoroughbreds and high-grades of both sexes always for sale.

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

CATTLE AND SWINE.

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

H. B. SCOTT, SEDALIA, MO., breeder of Short-horn Cattle, Poland-China Hogs, Cotswold and shropshire Sheep. Send for catalogue.

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

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

J. E. GUILD, CAPITAL VIEW STOCK FARM, Silver Lake, Kansas, Breeder of THOROUGHBRED SHORT-HORN CATTLE and POLAND-CHINA SWINE. Correspondence solicited.

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

COTTONWOOD FARM HERDS, J. J. Matls, 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. Bucks a specialty.

Registered Merino Sheep, Bronze Turkeys, Light B. Shama and Plymouth Rock fowls. Eggs for hatchery. Catalogue free. R. T. McCulley & Bro., Lee's Summit, Mo.

G. B. BOTHWELL, Breckenridge, Mo., has 1,100 G. Merino rams for sale. 250 of them are registered. His seven best stock rams shear from 27 lbs. to 33 lbs., weigh from 145 lbs. to 180 lbs.

C. F. HARDICK & SON, Louisville, Kansas, breeders of REGISTERED AMERICAN MERINO SHEEP, Having good constitution and an even fleece of fine, dense wool.

Fine wool a specialty. Come and see our flocks or write us.

A. F. WILLIAMS & CO., Ellsworth, Kas., breeders of Registered Spanish Merino Sheep. "Woolly Head" 695 at head of flock. Choice rams for sale. Satisfaction guaranteed.

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

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

SWINE.

F. M. BOOKS & CO., Burlingame, Kas., importers 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.

V. B. HOWEY, Topeka, Kas., breeder of the finest strains of Poland-China Swine for sale. Inspection desired. Correspondence invited. Blood of Iowa Corn 2d No. 2087, Hoosier Tom 1625, Bravo 3577, Give or Take 1885. Got sweepstakes on 8 out of 9 at Kansas State fair 1884.

S. H. TOLD, Wakarusa, Ohio, breeder of Recorded S. Premium Chester White Swine and imported shropshire Down sheep. Send for circular with price list and particulars. It pays to get the best.

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

CATALPA GROVE STOCK FARM, J. W. Arnold, Louisville, Kansas, breeds Recorded

POLAND-CHINA SWINE and MERINO SHEEP. The swine are of the Give or Take, Perfection, and other fashionable strains. Stock for sale in pairs or related. Invite correspondence or inspection of stock.

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

POULTRY.

A SUPERIOR LOT OF MAMMOTH BRONZE TURKEYS at \$3 each, \$3 per trio, and Plymouth Rock Chickens at \$2 each, \$5 per trio, for sale by H. V. Pugsley, Plattsburg, Mo.

W. J. McCORM, Waveland, Shawnee Co., Kansas, breeds Bronze Turkeys, Light Brahma, Plymouth Rocks, Buff Cochins, and Pekin Ducks. Bronze Turkeys for sale cheap before holidays.

FAIRVIEW POULTRY YARDS, Mrs. G. Taggart, Parsons, Kas., breeder of L. and D. Brahmas, B. Leghorns, Houdans, Plymouth Rocks, Langshans, P. Cochins, G. L. Bantams, Wyandottes and B. B. Games. Send for price list.

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 Chickens. Poultry, Leavenworth, Kansas. Send for circular.

NEOSHO VALLEY POULTRY YARDS—Established 1870. Pure-bred Light Brahmas, Partridge Cochins, Plymouth Rocks. Egg in season. Stock in fall. Write for prices. Wm. Hammond, box 180, Emporia, Kas.

ONE DOLLAR per thirteen for eggs from choice Plymouth Rock fowls or Pekin ducks. Plymouth Rock cockerels \$2 each. Mark S. Salisbury, Box 551, Kansas City, Mo.

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

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

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

MISCELLANEOUS.

PROSPECT FARM—H. W. McAfee, Topeka, Kas. For sale cheap 10 registered short horn bulls, 1 to 8 years old. Also, Clydesdale horses.

J. G. D. CAMPBELL, Junction City, Kansas, Livestock Auctioneer. Sales made in any part of the United States. Satisfactory reference given.

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

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

THE LINWOOD HERD

SHORT-HORN CATTLE



IMP. BARON VICTOR

W. A. HARRIS, LINWOOD, KANSAS.

The herd is composed of VICTORIAS, VIOLETS, LAVENDERS, BRAWITH BUDS, SECRETS and others from the celebrated herd of A. Cruickshank, Stirling, Aberdeenshire, Scotland. GOLDEN DROPS, and TRYS, descended from the Fawned herd of S. Campbell Kinellar, Aberdeenshire, Scotland. Also YOUNG MARYS, YOUNG PHYLLIS, LADY ELIZABETH, etc. Imp. BARON VICTOR 4254, bred by Cruickshank, and Imp. DOUBLE GLOSTER head the herd.

Linwood, Leavenworth Co., Kas., is on the U. P. R. R. 27 miles west of Kansas City. Farm joins station. Catalogues on application. Inspection invited.

HEREFORD CATTLE.

THOROUGHBRED BULLS and HIGH-GRADE BULLS and HEIFERS for sale. Inquiries promptly answered.

WALTER MORGAN & SON, Irving, Marshall Co., Kansas.

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

Correspondence.

Large Yield of Potatoes.

Kansas Farmer:

A friend of the KANSAS FARMER left with us a letter detailing certain experiments in potato raising, and requests its publication. Its statements have no practical value to Kansas farmers beyond the information. No farmer would put that much labor on potatoes where he can buy grown potatoes at fifty cents per bushel. The experiments were made in New York by Alfred Rose, whose postoffice address is Penn Yan, Yates county. He raised, he says, 2,349 pounds of potatoes from one pound of seed—3 potatoes, and the way he did it was this, according to the letter: The tubers were cut to single eyes, then halved and quartered, dusted well with plaster, spread on a board in my cellar. In time below the eye set in the cut flesh part, a bud started; soon one on each side of the first bud. In time I cut them apart, making four sets from one-fourth of an eye, and four hills. Only the large side eyes did as stated. For my experiment I plowed a strip of land between my grape rows eight feet wide and eighteen rods long; plowed it twice ten inches deep, soil sandy loam intermixed with marl. I then broadcasted on the same 400 pounds of fertilizer, harrowed it in deep and through, then opened two furrows each side of the center nine inches deep; graded the same to eight inches. Sets had now started to bud. I planted one set for each hill carefully by hand, covered the sets most one inch deep. In time the buds broke through. Soon as the laterals started I pushed them out a trifle from the main stock and covered them with soil. Continued this until the main reached above the surface. Soon the lateral shoots broke through six to ten inches off from the main stalk. They were now well rooted with many sets of potatoes on each shoot. I then opened a light furrow on the outside of the two rows, run my hand under the shoots, cut them from the main stock and set them in the prepared rows; did this fast as they appeared. Not one died or sun wilted. In this way I obtained two to five shoots from most of the hills. At the first hoeing I scattered in around the hills more of the fertilizer. They were hoed three times and soon after hilled up. In all from the sets and shoots I had 660 hills. Average yield per hill, 3½ pounds.

The Public Schools.

Kansas Farmer:

Time after time we have heard our common schools eulogized as the best in the world, but of late years my faith has been sadly shaken, particularly when I think how most of our country schools are managed. The system may be good enough, but the carrying of it out is very slack; while money is voted more freely for schools than for anything else, few seem to take any interest to see or find out whether it is expended in the best or most profitable way. Country school boards as a general thing are very slack, not only here, but all over the United States; and though it has been a great many years since I attended a district school, still I know from the way everything was managed that while we have not retrograded we have not improved any. It seems to be generally understood that there is no honor or profit in being a school officer; so it is generally forced on them, and they do just as little as they can. In one of the counties of this State, fifty of the clerks failed to make out their annual report one year, and I presume there were other counties nearly as bad. The way it is, one of the directors will say—"The rest are as much interested as I am," or "I told them that I would not do anything if they put me in." So it goes.

The general opinion is, school directors shall not receive anything for their services, but there is no law preventing them from charging all the district will allow. From considerable experience I am satisfied that there is as much work in looking after a school district, getting fuel and keeping things in repair after forty or fifty children as there is in doing the business of a common township outside of the assessing. Now, instead of electing directors, elect a superintendent yearly, with the same powers (or more) as given to the board at present. One of his duties should be that he

should spend at least one-half day in every school month in the school room, the first half-day in the first week of school helping the teacher arrange classes, etc. He should make out all reports to the county superintendent and district, hire and pay the teacher, etc. He should receive two dollars for every eight hours actual work, not to exceed ten days, in one year, without a two-thirds vote of the district. Of course it would necessitate the putting in of a stirring sort of a person, and his election would probably create interest enough so there would be more than three or four out, as is very often the case.

I am thoroughly satisfied that nearly every country school district loses enough every year in the shiftless way that they generally go, to pay the superintendent twice. We all have our ideas of what a school officer should do, but it is hard to find many persons in this age that have interest enough to work where there is no honor or profit. E. W. BROWN.

Shaw's Second Sale.

Frank R. Shaw, Salina, Kansas, held his second annual public sale of Clydesdale horses, at Salina last Thursday. Perhaps no one in the west has done more for the Clydesdale horse interest than our enterprising friend Mr. Shaw. And as a result there is more good horses of this blood in that part of Kansas than any other portion of the State. The first sale was a marked success, and everything considered, this the second was equally good, notwithstanding the closeness of money matters, and the early season for such a sale. The stock sold was superior to the lot sold last year. Col. S. A. Sawyer made the sale in a creditable manner, disposing of seven stallions at an average of \$1,155, seven mares, including one colt, at an average of \$298.55. Two young grade horses sold for \$235. The stallions sold as follows:

Lord Blantyre, Robt. B. Wilson, Assaria, Kansas.....	\$2,850
Glenfern, G. P. Fessler, Salina.....	550
Clan Alpine, H. C. Grider, Bridge, Kansas.....	675
Burwinnoek, Pette Quint, Hays City.....	783
Grafton, W. D. Wells, Assaria.....	875
Glenore, Carlin Bros., Mentor.....	700
Bonny Field, E. White, Salina.....	1,650

Mr. Shaw expects to continue breeding and importing Clydesdale horses. He certainly deserves the success that he is achieving.

Kansas City Fat Stock Show.

Pursuant to call the board of directors of the Kansas City Fat Stock show met at the office of Col. C. F. Morse at the stock yards. There were present Col. C. F. Morse, L. A. Allen, A. B. Mathews, Wm. Epperson, Walter C. Weedon, of Kansas City; T. C. Rainey, Marshall, Mo.; H. C. Ducan, Osborne, Mo.; Jas. A. Funkhouser, Plattsburg, Mo.; M. W. Anderson, Independence, Mo.; W. A. Harris, Linwood, Kas.; J. C. Stone, Jr., Leavenworth, Kas.

Col. C. Morse was elected chairman, Walter C. Weedon, Secretary pro tem.

On motion the resignation of Mr. E. E. Richardson as a member of the board was read and accepted, and J. F. True, Newman, Kansas, duly elected to fill the vacancy.

Officers elected for the ensuing year were: Col. C. F. Morse, president; Edward Haren, secretary; E. E. Richardson, treasurer. Col. C. F. Morse, L. A. Allen, Wm. Epperson, executive committee.

The board decided to hold their next fat stock show commencing on Thursday, two weeks prior to the Chicago fat stock show, and to adopt the premium list of 1844 as the basis for 1885. Adjournment subject to the call of executive committee.

WALTER C. WEEDON,
Secretary pro tem.

One of the best known nurseries in Kansas is that of Cadwallader Bros., Louisburg, Kas. They have gained a well deserved reputation throughout the West with their home grown trees and by so dealing with their customers as to merit future orders. Write to them for what you need.

If you contemplate raising tobacco keep a flock of turkeys, as they will prevent the destruction of the tobacco crop from worms.

We call attention to H. Clarkson's ad. of strawberry plants. To any one wanting you can find no better or cheaper.

Poland China Record.

Kansas Farmer:

I send you herewith a resolution presented the American Poland China Record Co. at their annual meeting held January 21, 1885, at Cedar Rapids, Iowa.

Resolved, That the executive committee are hereby instructed not to accept any pedigrees for record unless the same the same traces to recorded stock on both sides, and in all cases to entitle an animal to record, the dam and sire thereof must be on record in the American, Central or Ohio records. Subject to the above the executive committee may reject a pedigree for any other sufficient reason.

We, the members of the North Western Poland China Swine Association of Kansas, are at a loss to fully understand why this should be. Do they wish to ignore the North Western on general principles, or from a financial standpoint? If from the farmer, will they be kind enough to point out their reasons for so doing, as we are in the dark if not entirely regular in every particular. First, a charter was granted us by the State of Kansas, which we were led to believe was regular; second, we organized under said charter as prescribed by the laws of Kansas, which we believed to be regular. We have continued under said laws, which we believe to be regular. Now, friend McClung, is there anything wrong thus far? If not, we will proceed. In the make up of our record we have followed as nearly in the foot steps of our predecessors as was possible. Perhaps here is where we went astray, as the most of our rules and regulations were taken from the older records, and so far as I am informed they have never been deviated from; nor has there been made a special record for the accommodation of individuals; but on the contrary you will find every entry tracing to one or the other records on both sides without blemish. Can the American do more? Permit me to say here, we have had more trouble in tracing pedigrees from the American than either of the other records; and while we do not pretend to be infallible, we do claim to present the public a record they can depend on with as much safety as can be done by any other record of the kind in use. Is it not reasonable and fair to suppose (all things being equal and having the experience of the other records to govern us in part) we could present a record equally as correct as they?

On which of the following points do our neighbors in Iowa base their resolution: Do they believe the people of Kansas have not the capacity to conduct a record? or, possessing the capacity, are too dishonest to do it fairly? or that they are not financially able? or are unworthy on general principles? Or does the small excuse of a record called the Northwestern with its first volume out, with something over 1,000 or 1,200 pedigrees now ready for the second volume that will come out in July, 1885, located on the western borders of the inhabited part of the globe, although in central Kansas, take off a part of the profit of that gentleman of exalted ideas? Come down, friend McClung, from your celestial sanctuary, and dwell with men of lower degree, for instance with men of this country, and with men of Poland China sympathies in particular. Extend them the hand of recognition; bid them success in their enterprise, as others have done you in like difficulties in the past; say to all, there is an institution somewhere away out in Washington county, Kansas, that will record their Poland China pedigrees if correct for 60 cents each to stockholders, and \$1.00 each to those who are not stockholders. Also, you can say their capital stock is about all sold; they are out of debt and have money enough to pay running expenses. H. E. B.

\$1.00 For 50 Cents.

Any reader of this paper who will send 50 one-cent stamps to the *American Rural Home*, Rochester, N. Y., before March 1st, 1885, will receive that handsome paper, postage free, until January 1st, 1886. The *Rural* is a large eight-page, forty-column WEEKLY paper, now in its fifteenth year, and the cheapest farm journal in the world. The price is one dollar a year in advance, but the above offer of fifty cents in postage stamps will be accepted if sent in before March 1st, 1885. Send for sample copy, and see what a bargain is offered.

I see, but cannot reach, the height,
That lies forever in the light * * *
For Thine own purpose, Thou hast sent
The strife and the discouragement.
—Longfellow.

The Great Horse Breeding Establishment of the World.

One of the many wonderful enterprises the great West is noted for, and one which none favored with opportunity should miss seeing, is the great breeding establishment of "Oaklawn," owned by M. W. Dunham, at Wayne, Ill., thirty-five miles west of Chicago. His importations of Percheron horses from France, to date, have aggregated in value the immense sum of \$3,000,000.00, and at the present time at "Oaklawn," 500 head of the choicest specimens of that race can be seen, nearly all recorded with pedigrees in full in the Percheron Stud Book of France.

Strange to say, there are fewer complaints among dairymen in regard to profits received than from any other class.

Read the cards in Poultry Directory of Mark S. Salisbury and others.

It is not generally known that hogs may be fed on clover hay, yet such is the fact, especially if steamed and sprinkled with bran.

Don't say there is no help for Catarrh, Hay Fever and Cold in Head, since thousands testify that Ely's Cream Balm has entirely cured them. It supersedes the dangerous use of liquids and snuffs. It is easily applied with the finger and gives relief at once. Price 50 cts at druggists, 60 cents by mail. Send for circular. Ely Bros., Owego, N. Y.

For over eight years I have suffered from catarrh, which has affected my eyes and hearing; have employed many physicians without relief. I am now on my second bottle of Ely's Cream Balm, and feel confident of a complete cure.—Mary C. Thompson, Cerro Gordo, Pratt Co., Ill.

I used part of two bottles of Ely's Cream Balm and can say I am entirely cured of catarrh.—Charles Ble-el, Co. K., 17th Infantry, Fort Custer, M. T.

A market reporter says that his sweetheart encouraged him, and he thought of marrying her at once, but that a further advance was followed by a decline.

An Old Soldier's EXPERIENCE.

"Calvert, Texas,
May 3, 1882.

"I wish to express my appreciation of the valuable qualities of

Ayer's Cherry Pectoral

as a cough remedy.

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

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

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

PREPARED BY

Dr. J. C. Ayer & Co., Lowell, Mass.

Sold by all Druggists.

CONSUMPTION.

I have a positive remedy for the above disease; by its use thousands of cases of the worst kind and of long standing have been cured. Indeed, so strong is my faith in its efficacy that I will send TWO BOTTLES FREE, together with a VALUABLE TREATISE on this disease, to any sufferer. Give express & P. O. address. DR. T. A. SLOCUM, 151 Pearl St. N. Y.

FORESTRY--NO. 3.

IMPORTANCE OF FORESTS TO LIVE-STOCK INTERESTS.

In the last number of this article it was shown how forests help to equalize climates, regulate the force of the wind, control the rainfall and water supply of a country or section of country, and the consequent effects of forests on crops. It was explained how the presence of forests prevents drouth; but how they aid in preventing the opposite of drouth, that is floods, was not detailed. And before proceeding with the topic of this division of our subject, a few words on the agency of forests as preventors of the devastation to crops by floods will doubtless be considered in place here.

It has been shown that the surface of the ground in forests is composed of a light and soft mass of great capacity as a retainer of moisture, acting like a sponge in taking up and holding the water that descends in rainfalls.

When forest land is any way extensive its soil has a capacity to hold a large amount of water, and when heavy rains fall absorbs the same, preventing the sudden rushing of water down the slope of land to the creeks and rivers washing up and destroying crops as it goes, and overflowing the rivers causing far greater destruction of crops and waste of property, as is frequently the case in open countries where forests are unknown, or where they have been destroyed by the woodman's ax.

The experience of the past few years in the States east and south of this illustrates too strongly the destructive nature of floods and the importance of adopting strenuous measures to check their force and lessen their frequency. Floods are more frequently experienced, although it may at first thought seem strange, in these districts where drouth is most common and extended. The occurrence of a drouth, like any other extreme of climate, disturbs the equilibrium of nature, and when the rains do come, they come with great force and power; hence the damage to crops by excessive rains and floods. Therefore as forests aid in dry weather to prevent drouth, so by restoring the equilibrium of nature they also exert a very beneficial influence towards preventing the other extreme, that of inundation and freshet. Coupling this fact with that of the great restraining power of the soil of forests to the water it holds from deluging the land, it is easy to comprehend the beneficial effects of forests upon the crops of any section of country.

Of course small tracts of forest will exert but little influence in this direction, and the greater their extent the more perceptible and effective their influence.

To return to the subject of this writing, we find that forests help to secure to a country the essential features for successful stock farming, namely, an abundance of fresh green grass in season, shelter from the hot sun in summer, from the cold winds of winter, and at all times a full supply of pure water.

The season of pasturage may be depended upon to begin earlier in spring and continue longer in fall, in forest sections than elsewhere, which is a great desideratum to stock farmers in Kansas as well as in other localities, since the shorter the season of winter feeding can be reduced the greater the success and profit of stock growing, leaving out of the calculation the question of labor. The importance of shade in mid-summer, and the great necessity of winter shelter, are features of themselves which establish the great value of forests to the stock interests of ours or any State. And the influence of forests in keeping up and regulating the water supply of the land renders them of in-

calculable value to the stock growing sections.

How do forests assist in enriching the pastures and equalizing the flow and supply of water is a natural query. The answer is, in the same way that they have been shown to benefit crops, by preventing drouth, bringing about instead during the hot months of the year frequent rains for freshening the grass and accelerating its growth, without which, it withers and dries up so early, as is often seen, cutting off the supply of pasturage; by dissolving the manurial droppings of cattle to fertilize the grass at once, instead of which it dries and crumbles to be washed away by the heavy rains as occur when drouths are followed by hard rainfalls. Rain is claimed to bring down from the air considerable ammonia, and if the rainfall is so regulated as to produce frequent light showers the earth takes up all the water that falls and with it the ammonia and enriching elements taken from the air, which are carried directly to the roots of the grass for food. This same benefit, at least so far as refers to the cleansing process of the air by rains, may of course be claimed for crops in general.

The water supply of springs and streams is regulated by the peculiar adaptability of forests to foster and feed springs continually, by the gradual giving off from its retentive soil, of the water held there. In any wooded country, springs are more frequent and abundant than in those districts barren of timber. The springs feed the streams, the lakes and ponds, and the forests protect the latter by preventing the washing of the banks of streams confining them to narrower and deeper beds which lessens the process of evaporation. They also prevent the rapid evaporation and waste from lakes by the means of checking the outflow through streams, and the constant supply they afford them from the springs within their shade. Again, the partial shade, and the protection from the sweep of dry winds which forests afford lakes, hinders evaporation from their surface and holds the waters in their place. The streams and lakes in turn assist to attract rain clouds in summer and the rain precipitated fills the springs to flow gradually out again and replenish them day by day.

To illustrate the effect of large tracts of forests on bodies of water, it may be well to cite the case of a certain lake of large proportions in South America, the name of which has passed from mind, but which according to the history of the case was completely surrounded by forests. When these forests were cut away year by year the lake began to decrease in size until a large portion of its bed was dry enough for cultivation. But when the forest was allowed to grow again the lake began to increase once more in size finally assuming its former proportions.

Nature if left to work in accordance with its own laws, would ultimately establish an equilibrium as it first operated before man interfered with her plants. And when such a natural balance of its functions obtains, such extremes of climate as many sections of our country now experience would be unknown. The climate of Kansas might be greatly improved and equalized by generously assisting nature, by the means advocated, that of planting forests liberally within her bounds. It behooves us to so far assist nature in this direction as lies in our power and in no way can we contribute so much to this end as by a generous planting of forest trees.

Every man knows that too much or too little rain hurts crops and general

(Concluded on page 12.)



BETHANY COLLEGE
Under care of the Protestant Episcopal Church.
For Girls and Young Ladies exclusively. Boarding and Day Pupils.
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The Home Circle.

At the Smelting Furnace.

The furnace lifts its walls of black,
A stubborn bulk from end to end;
And through the grimy chimney stack
Continual flame and smoke ascend;
The night comes down with wind and hail,
A shelving cloud, an icy rain;
The timbers creak in every gale,
The tempest howls at every pane!

Delicious core of rosy heat.
Alluring shelter, huge and warm.
To beggars drenched in snow and sleet,
The drifting outcasts of the storm!
At that wide door rude shapes appear
In one thick swirl of humming snow;
With mirth and jest and savage cheer
The hours of darkness come and go!

No cover this for chosen friends,
No happy roof of man and maid;
A chimney hot for larger ends,
A hearth for ruder purpose laid!
All night their sweltering fires are fed,
Their mighty bellows roar again,
Who keep the dusky forges red,
With brawny labor serving men.

The black-browed idlers straggle in,
The hardy miners, tough and tall,
The knotty foreman, seared of skin,
This generous roof receives them all.
The voices rise, the men retreat,
Tumultuous clamor strikes the town,
When, white with overpowering heat,
The molten mass comes pouring down!
—Dora Read Goodale.

When we would number the brief years
Of some sweet laughing child,
Finding them all unstained with tears,
Unvexed by sorrows wild—
We crown her brow with roses gay,
"Her summers are but ten," we say.

But counting up the saddened years
Of pilgrim old and gray,
In view of trials, toils and fears
Which he shall know, we say
(And such is aye the speech of men),
"His winters are three score and ten."
—Elizabeth P. Allan.

Amusements for the Little Ones.

The confinement that the long cold winters impose upon little children is very hard on them. I often think of them as little prisoners whose liberty comes with the warm airs of spring and the disappearance of snow.

They are not the only sufferers from their confinement, for the busy mother's patience is often severely taxed by their restlessness and noise. The very best remedy for both sides—for relieving the mothers and making the little ones happy—is for the children's time to be as fully occupied as possible. Children are in such a state of continual activity, in both mind and body, (and it is natural for them to be so) that it becomes a part of their very existence to be always doing something. And it is for the want of something else to do that many of them are so constantly getting into mischief and being such an annoyance.

There are many simple ways in which children can be amused for hours at a time that will cause but a slight effort or expense to supply them. One great pleasure to the little ones in our home is to make scrap books. On an average of once a week these cold days, this book making comes around. They get together a lot of old newspapers, advertising cards, a cupful of flour paste, thread, needles, a pair of round pointed scissors, some empty salt boxes on which to work, and then, stationed in a corner of the large, warm kitchen, work begins. Each one makes a book by folding a newspaper to the size of an ordinary book; sew it in the middle and then cut the edges. Then the advertising cards and advertising pictures in the newspapers, the poetry, and whatever strikes their fancy as being desirable, are pasted in the book. Sometimes this work will consume a whole forenoon, and a happy joyful time they have.

The alphabet picture blocks are very interesting amusement for children. They will entertain a child of two to ten years. By placing the blocks together, pictures of objects are formed. Very good ones can be obtained for the low price of twenty-five cents, and they make a very durable plaything.

In one of my closets hangs a large coffee sack. It is called "the children's scrap bag." Both new and old, large and small scraps of cloth are put in it. They are given entirely for my little girls' use. They have also a spool of coarse thread, a little needle book in which are three or four needles and some pins, a pair of round pointed scissors, and some little thimbles. These things are theirs

to use just when they please, under the condition that they put them away when through with them. They cut and sew and fashion things just to suit their own fancy, and many an hour is spent in this way. And this is not merely an amusement, for they are taking their first lesson in the use of the needle at the same time.

For a little boy three or four years, I know of no better amusement than to have a little wooden hammer, a paper of large headed tacks, a little screw driver, or an old, dull pointed knife, and a soft pine board. He can pound his tacks in the board, then take them out with the screw driver and have them to use again in the same way.

Another way in which our little ones have an almost endless amount of pleasure is in cutting paper. They use a pair of dull pointed scissors, and from old newspapers and wrapping paper they cut animals and dolls, and shapes of almost everything. When through cutting the little broom and dust tin are always brought into use, for they well understand that they must remove all scraps of paper that they make on the floor.

I give these simple hints on amusing children, hoping they will prove suggestive to mothers. Children may be supplied with an abundance of expensive toys, and yet there are times when they will become tired of them and will be delighted with just such simple pastime.

I have known mothers who would not permit the children to cut paper and rags on the floor. I pity the children who live in homes of such excessive order that a little child's simple enjoyment cannot be permitted, for fear of disturbing the nice appearance of things. I remember once calling on a lady one cold, dismal day, when her little girl of five years had to remain in doors. Everything about the room was in perfect order. Not a speck of dirt was to be seen. Every article of furniture occupied its own studied position. The lady herself was a picture of neatness, as was also the little girl. But the child's face wore a most unhappy expression. She sauntered around the room as if in search of something to do. Her mother's eye followed her, and whenever she moved anything, or took up things, her mother would say: "Look out, Jennie!" "Be careful, Jennie!" "Don't touch that, Jennie!" And finally she said: "You had better come and sit down and be quiet, Jennie!"

To have a clean, orderly house was the one aim of that woman's life. And the happiness of her whole family was sacrificed in order to gratify it. Jennie might have been permitted to cut paper and make rag babies, or to occupy her time in any similar way that would give her pleasure, and be taught that she must remove all trash made by her; the child's happiness would then have been secured, and the order of the home would not have suffered in the least.

I have in mind another family I once knew. From early dawn until late that mother worked. And surely the cleanliness and order of the house testified to it, for in that respect it was faultless. But it was well known that her children were never allowed the privilege of playing in the house. They spent all the time they could out doors. Indeed the more they staid out doors the more the mother was pleased, for she could then keep house to suit her fancy. The consequence was, they became a regular neighborhood nuisance, all for the want of happiness and occupation at home.—*Nellie Burns in Country Gentleman.*

Women in Mexico.

In an article in the *Indianapolis Sentinel* on the efforts made to improve the condition of women in Mexico, the following statements are made:

But the most laudable and promising effort to improve the condition of working women is the School of Arts and Trades for Women, founded by Benito Juarez, at Toluca. The school numbers about 368 regular attendants, varying in age from girls of twelve up to women of middle age. The government not only gives them every variety of instruction free of charge, but likewise provides all the materials and apparatus for work, two substantial meals each day, and the linen aprons. Moreover, it allows them to dispose of what they make, and for that purpose a very pretty little store is attached to the school building,

where all such articles may be exposed for sale. Further assistance is furnished by government officials, who give orders for upholstery, bookbinding, and also clothing for the various charitable institutions of the city. Several hours in the morning are devoted to the primary branches of a good Spanish education, as well as book keeping, and the rest of the day is passed in learning the trades appropriate to the different classes. On the ground floor are the workshops, or "talleres," all largely attended by students that seem deeply interested in their various labors. In one room you will find a crowd of workers busily engaged in upholstering furniture; in another a multitude of delicate hands are moulding and gilding, while in a third one is surprised to see the skill with which the Mexican girls can bind books. One large department is set aside for the manufacture of artificial flowers, in which the scholars are particularly expert, and they are sure of finding ready sale for these beautiful specimens of their handiwork. The printing room is well stocked with all appliances of the art, and although the class at present is small, the work done is very satisfactory, and proves beyond a doubt that woman is eminently qualified for this employment. A newspaper is published by the students—a small weekly of four sheets—which bears the appropriate title of *La Mujer*. On the second floor are the apartments for sewing and fancy work, and these contain a large number of machines, looms and instruments for making trimming—fringes, cords and tassels, and the like. Some of the embroidery and "Manilla" is beautiful beyond description, for the Mexicans are unrivalled in needlework, and their dainty fingers seem specially adapted to all that requires delicate handling. In the meantime the higher arts are not neglected; the school has several good pianos, and both vocal and instrumental music are taught, while such as evince talent for drawing or painting are sent to the Academy of San Carlos, near by.

When one considers that these advantages are all enjoyed without the slightest expense by the poor students; that moreover they are partly supported and aided in every possible way in their efforts to be independent and self helpful, one cannot refrain from paying a tribute of heartfelt admiration to the government which shows so paternal an interest in the welfare of its daughters, and makes such generous efforts to fit them for a career of usefulness. Nor are these efforts confined to the capital. Similar institutions exist in other cities of the republic, and in almost every direction the prospects for the future improvement and education of women are encouraging. In Guadalajara, connected with the Hospital, there is a school of arts and trades, where women are taught printing, photography, lithography, stenography, tailoring, shoe making, stocking and cloth weaving.

Weary Women.

There is nothing more reprehensible and thoroughly wrong than the idea that a woman fulfils her duty by doing an amount of work far beyond her strength. She does not only not fulfil her duty, but she most signally fails in it.

There can be no sadder sight than that of a broken down, over worked wife and mother—a woman who is tired all her life through.

If the work of the household cannot be accomplished by order, system and moderate work, without the necessity of wearing, heart breaking toil—toil that is never ended and never begun, without making life a treadmill of labor, then, for the sake of humanity, let the work go. Better to live in the midst of disorder, than that order should be purchased at so high a price—the cost of health and strength and happiness and all that makes existence endurable.

The woman who spends her life in unnecessary labor is unfitted for the highest duties of home. She should be the haven of rest to which both husband and children turn for peace and refreshment. She should be the careful intelligent adviser and guide of the one, the tender confidant and helpmate of the other.

How is it possible for a woman, exhausted in body, as a natural consequence in mind, also, to perform either of these offices? No, it is impossible. The constant strain is too great. Nature gives way beneath it. She

loses health, spirits, and hopefulness, and, more than all, her youth—the last thing a woman should allow to slip from her, for no matter how old she is in years, she should be young in heart and feeling, for the youth of age is something more attractive than youth itself.

To the over worked woman this green old age is out of the question; old age comes on, sere and yellow, before its time. Her disposition is ruined, her temper is soured, her very nature is changed by the burden, which, too heavy to carry, is dragged along as long as wearied feet and tired hands can do their part.

Even her affections are blunted and she becomes merely a machine—a woman without the time to be womanly, a mother without the time to train and guide her children as only a mother can—a wife without the time to sympathize with and cheer her husband, a woman so overworked during the day, that when night comes, her sole thought the most intense longing, is for rest and sleep, that very probable will not come; and, even if it should, that she is too tired to enjoy.

Better far let everything go unfinished, to live as best she can, than to entail on herself and family the curse of overwork.

Better to weave in the web of life
A bright and golden filling,
And to do God's will with a ready heart,
And hands that are ready and willing,
Than to snap the delicate, minute threads
Of curious lives asunder,
And then blame Heaven for the tangled ends,
And sit and grieve and wonder.

A Deceived Woman

Is the lady who uses cosmetics, face lotions, white lead, bismuth, powders, arsenic, etc., in the belief of enriching and beautifying the complexion. It is but temporary and ultimately destroys the skin beyond the power of nature to restore. Stop it! Stop it now and use only Dr. Harter's Iron Tonic, which imparts the vigor and loveliness of youth.

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The Young Folks.

A Dear Little School Ma'am.

With her funny little glasses you'd have thought her very wise,
If it wasn't for the laughter that was peep-
ing from her eyes;
Just the queerest and the dearest little school
ma'am ever known,
Whose way of teaching boys and girls was
certainly her own.

"I give my brightest pupil," in a pleasant
tone she said,
"A little corner by himself to show that he
is head,
And, to spare the feelings of the dullest
boy, I put
All the others in a circle so you can't tell
which is foot.

"Whenever any pupil in his lesson doesn't
miss
I encourage his endeavor with a penny sugar
kin
And, since this slight upon the rest might
too severely fall,
I take the box of kisses and hand 'em round
to all.

"I've asked them what they'd like to be a
dozen times or more,
And each, I find, intends when grown to
keep a candy store;
So, thinking that they ought to have some
knowledge of their trade,
I've put a little stove in, just to show them
how it's made.

"Enthusiastic? Bless you, it is wonderful
to see
How interested in such things a little child
can be;
And, from their tempting taffy, and their
luscious lollipops,
I'm sure they'll do me credit when they
come to open shops."

And, with a nod that plainly showed how
free she was from doubt,
She deftly smoothed the wrinkle of her
snowy apron out—
Just the queerest and the dearest little
school ma'am ever known,
Whose way of teaching boys and girls was
really her own.

—St. Nicholas.

Will O' the Wisp's Valley.

The recent appointment to the United
States army of Charles W. Penrose of New
York, recalls a remarkable experience of
the writer with a gentleman of that name
not long since a resident of Butte, the son
of Capt. Penrose of the Infantry, stationed
near Missoula. As the appointment was
from civil life, the appointee may be the
same as he who on a certain night was an
eye witness to sights stronger than those
which scientific books cite as most wonder-
ful.

There is snow in plain view on the moun-
tains about here in the hottest months in
the year. The main divide of the Rocky
Mountains is a few miles to the east of this
camp. On the crest of this bleak and rocky
ridge one may ride through a blinding snow
storm on the Fourth of July. The snow
melts at midday, and little streams trickle
down the mountain sides, to the east to the
Atlantic, to the west to the Pacific, streams
running perhaps from the same snow bank,
near which the hardy blue and white flow-
ers of the Rockies grows in profuse patches.

It was a clear morning when young Pen-
rose and myself started down the Big Hale
Canon for a day's fishing. The Utah and
Northern narrow gauge train left Butte
about 4 a. m., running southwest down the
canon past Forest's Ranch. For thirty
miles along the bed of Silver Bow Creek
worked out placer diggings were to be seen,
the coarse gravel and clay washed bare and
brown. On the bare hillsides at either hand
great purple, red and brown masses of lime-
stone conglomerate in the morning sun with
iron and copper ores. Wild gulches branched
off to the right and left. In shallow bends
of the stream a pair of teal duck were at
rest, nesting in their summer home. Some
miles below Forest's Ranch, on the right,
was a vast bare mountain, whose rounded
summit towered beyond the timber line,
from which Clark, after leaving his fellow
explorer Lewis far to the east, had
looked westward over a mighty expanse of
peaks, his eye finding rest at last in the Big
Hole of this grand canon, destined after-
ward to take its name from him. Here we
left the railroad, asking the conductor to in-
form the conductor of the up train, when he
passed him at noon, that he would be sig-
nalled below Forest's Ranch by two passen-
gers for Butte.

By 10 o'clock the heat of the sun had be-
come noticeable enough to warrant careful

search for a path in the shadow of the cliff.
Up and down the valley to the right, away
from the line of the railway, stretched a
green carpet, diversified by a myriad of wild
flowers, tiny bells of blue and of white,
which grew from the mountain down to the
very edge of the Big Hole river, a swift
stream some forty feet wide. This point
was the center from which three canons
radiated. To the left ran the narrow gauge
railroad toward Ogden. To the right ran
the flowery slopes just mentioned. In the
rear, and directly toward Butte—but on the
other side of the mountain from that on
which we had come down by rail—was the
third, a dreary looking expanse of marsh,
hemmed in by low brown hills. The day's
fishing, and the sport it was, was done in
the flowery valley to the right, where for
miles and unnamed and comparatively un-
known tributary of the Big hole shot
through stony rapids and under brushy tan-
gles, to burst here and there into a pool
where the gleaming grayling snapped at the fly.

About 6 o'clock in the rapid twilight of
these comparatively high elevations Penrose
and I returned to the junction of the three
canons to wait for the train to the north.
Fish baskets were full and fly books empty,
the weight of a loaded creel and a fowling
piece strapped over the shoulders becoming
rapidly oppressive after a day's arduous
sport. Soon after dark the train, due at
Butte at 10 o'clock, rushed into sight to the
left. We fired a news paper and yelled at
the top of our voices, but the speed of the
train was not in the least slackened, and the
only link with even semi-civilization was
cut. It was thirty miles to Butte, with no
cabin inside of twenty. Dazed at this pre-
dicament, we cast about for a way of escape
and at last resolved to try the canon in our
rear, which seemed to trend directly toward
the camp to the northwest, our only hope of
food or shelter.

The moon hung just over the edge of the
hills, to the right, and afforded a view of the
singular valley in front. On either hand
were rolling hills, brown and barren, save
for an occasional bunch of stunted cedar or
mountain fir. Here and there cropped out
a great mass of white rock. There was no
herbage and no other timber. The gaunt
black magpie of the Rockies, which delights
in just such swampy hollows, had retired
into the cedar clumps. There was not abso-
lutely a sound to be heard, and soon the
moon sunk out of sight, and a yellow fog,
which gradually condensed into a warm
rain, settled down over the canon. Penrose
and I jotted on for an hour, high gum boots
beating painfully about our heels. The
ranges of hills were just visible, a couple of
hundred yards on each side. The bed of
the valley was covered by a coarse sedge,
which grew thickly on the sides of the in-
numerable low mounds by which its surface
was broken. Suddenly there appeared to
to the left and perhaps a hundred yards
in front, a light, evidently belonging to a
lantern in a man's hand. A joyful shout
greeted this welcome sight, and we both
hailed it repeatedly. The light moved
steadily along, about three feet above the
ground, with a consistent, yellow radiance.
It moved out into the canon further, and
then shot high into the air, fell to the sur-
face with a slight crackling sound, and went
out like a flash. Our amazement was be-
yond words. We turned to look at each
other, if such a thing were possible in the
darkness, but on turning each saw what
curdled the blood. The yellowish haze
seemed to have become luminous. All over
the valley faint, phosphorescent patches of
light hovered over the mounds and in the
sedge hollows. A cold breath, as of a wind
from some narrow intersecting gorge, swept
into the valley and the lights went out. The
darkness was denser than before.

In a moment, immediately in our front,
some hundred and fifty yards away, there
swept into view a great glaring light like,
for all the world, the headlight of a locomotive.
With a distinctly audible whiz it
rushed towards us with a steady whir and a
dazzling radiance. With a cry of horror
one of us sprang out of its apparent line of
motion to one side and the other to the
other. It rushed to within ten feet of us,
and went out all at once, leaving the dark-
ness blacker. Again, over all the sullen
surface of the marsh, the dim patches of
glow became visible. Every mound seemed
to nourish a flame, pale and evanescent, yet

sometimes clear enough to define the out-
line the surface. The atmosphere became
semi-luminous.

To the right, on the crest of the range
which bounded the valley, for the canon
had soon spread out, there appeared just
then a gigantic mass of whitish flame, which
moved with inconceivable quickness. By
its light one of the bunches of cedar and
stunted fir was made visible on the top of
the ridge. The bare branches of a blasted
tree rose high above the evergreens around
it. In these branches the luminous mass
was first seen, resting for a moment at an
elevation of some twenty feet above the
ground, then it shot upward for sixty or
seventy feet; and again descended, this
time becoming half hidden in the dense ever-
greens through whose foliage there was suf-
fused a hazy radiance. For more than half
an hour this phenomenon riveted the atten-
tion to this particular spot. The vaporous
mass, whose strange antics were almost in-
credible, soon took on a superficial resem-
blance to the outline of a horse. It would
be broadening along a limb of the pine, but
suddenly shooting higher into the clearer
air above the ridge, burned with a clear
blue effulgence. Again it would descend to
the earth and flit along the ridge for several
hundred yards, returning at last to the
blasted pine.

The singular character of this particular
light distracted the attention from the hun-
dred others, lesser and hazier, which now
seemed crawling all over the valley. Every
mound appeared to have its phosphores-
cent genius, evidently an aggregation of lu-
minous vapor, sometimes in some fantastic
shape, generally formless.

For something less than two hours this
continued, the great horse like flame never
disappearing totally from the right hand
ridge. As we had advanced at least eight
miles in this time, it suddenly occurred to
us that this equine apparition must have
moved along the boundary range of the val-
ley with a progress about as rapid as our
own. It was to be observed that there was
always several of the mound lights between
our standpoint at any given time and the
point on the crest of the ridge where the big
light appeared.

At last the bounding ranges of hills drew
nearer together, the low mounds seemed to
have disappeared, and our path again be-
came a narrow strip of firm ground at the
foot of canon walls. A brisk breeze blew
from the northwest, and cleared away the
fog, and after an hour's walk we debouched
into the valley of Silver Bow Creek, or
rather its continuation, and found ourselves
near Forest's Ranch.

Big Ike's hospitable hearth, and the com-
forts of this once famous stage station, soon
banished disagreeable memories of an ad-
venture which it became more and more ap-
parent would hardly be credible. I had
kept account of sixty-seven distinct lights.
No one of the old timers had ever spoken of
the mound valley, or of any noticeable num-
ber of jack o' lanterns that have been seen
in that region. We concluded to say little or
nothing about the strange experience in the
lost canon.

As we left Forest's Ranch the next morn-
ing Ike said with a laugh: "You ain't seen
nothin' of Injun Bill yesterday? He went
down the canon in the mornin' to smoke a
pipe on Big Horse's grave over behind the
range there. Yesterday was Injun All Souls
Day."

A Cat with a Tail of Fire.

It often happens that the rat is ac-
cused of being an incendiary, and many are
the destructive fires laid at his door, or,
rather, hole. It is said that he gathers stray
matches from the floor and carries them
to the mouth of his hole, and there, by ex-
periments or carelessness, he fires them off
to set the building ablaze. But probably the
first case on record of his old and arch en-
emy, the cat, being accused of incendiarism,
was that which occurred last Monday after-
noon on O. D. Edwards' place, five miles
from Macon, on what is known as the river
road. It seems that the small boy, as in
most cases where mischief is connected, is
an accessory before the fact. Three or four
little negro boys took hold of a cat on the
premises and wrapped a small piece of wire
around Tabby's tail. To the end of the wire
they attached a piece of cotton saturated
with kerosene oil. This they set on fire and
then took a seat on the fence to watch and

see which way the cat would jump. Tabby
sat on her haunches for a minute or so, prob-
ably to study out what the boys had done
that seemed to them so funny. Then sud-
denly she smelled a rat, or, most likely the
burning cotton, and dashed off at a rate that
would have shamed brer rabbit.

On one side of the dwelling house was a
crib filled with hay and fodder. Into this
crib the cat shot, but she did not remain
long. Her flaming tail had ignited the hay
and fodder. Mr. Edwards saw Tabby as
she emerged from the crib, and, thinking it
strange that her tail should bear such a close
resemblance to the tail of a comet, watched
her with his back to the crib that was fast
being eaten up by the flames. He saw her
rush into the crib on the other side of the
dwelling and then dart out again and head
in the direction of the river. She had set
fire to that crib also, and before Mr. Ed-
wards and his hands could get any water
\$1,000 worth of cribs, hay, fodder, cotton
seed, oats, etc., were completely destroyed.

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THE KANSAS FARMER

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KANSAS FARMER CO.,
Office, 273 Kansas Avenue, Topeka.

When persons write to this office on business, they ought to sign their names to their letters. We sometimes receive important letters without any signature to them.

The legislature of Oregon recently passed a bill to prohibit the traffic in spurious milk and milk products. A State dairy commissioner is appointed to execute the law.

"Mariana" is the name of a plum tree now being introduced. It is represented as being early and good. For particulars look up the advertisement of Stark & Co., Louisiana, Mo.

If the ground is clean and soft, oats may be sown on it and covered with light cultivator; but we would not advise that kind of seeding unless the season for seeding were nearly past.

There is a little better feeling among manufacturers of woolen goods, which throws some life into the wool market. Prices remain about the same, but the demand is increasing, and the outlook is better.

A resolution adopted by Oak Grange recently concerning a bill pending before the legislature, relating to the practice of medicine, did not reach this office in time for our last issue, and it is too late now—the legislature having adjourned.

Clean up about the premises if you have not already done so. Hay, straw, cornstalks, weeds, trash of every kind, ought to be gathered up clean and put where it will be made into manure. If this is not done, then rake it in piles and burn it. Get it out of the way.

If, in working up ground for early garden, it is hard and cloddy, it needs immediate doctoring. Get dry, rotten manure from the barnyard, rotten, fine chip dirt from the wood pile, or leaf mold from the creek bottom, dry, and cover your garden ground all over with it. Then, proceed to breaking the clods and mixing the soil and manure together.

Do not plow ground when it is too wet to slide off the mould-board, if that part of the plow is clean and bright. Sandy land may be worked when it is pretty wet, because the sand prevents baking; but it is better to let even such be reasonably dry before putting a plow into it. Soil that is clayey, or all clay, ought never to be disturbed when it is too wet to fall apart after the plow leaves it. In that condition it is thrown about in lumps and it lies in that shape and hardens into great clods. The air gets all around these, or nearly so, and they soon become so hard that a harrow will move them about like so many stones without crushing them. And if they are crushed by a roller or clod crusher, the soil is dry and dead.

THE LEGISLATURE.

This body adjourned last Saturday, after passing two hundred and eight of the nearly eight hundred bills introduced. There was no change made in the railroad law, though each house passed a bill of its own. A conference committee was appointed and agreed upon a bill which passed the Senate, but failed to receive a constitutional majority in the House. The reason, probably, is, that the conference bill was reported after mid-night when some members had left the hall. The new liquor law is a great improvement on the old. The most serious objection made is to section 8 which authorizes county attorneys to call witnesses before them, the same as a grand jury may. This is a new method in criminal legislation, but it is not a new principle. It is merely simplifying the grand jury and making it less expensive. There is an old law affixing heavy penalties to the offense of oppression or fraud by public officers; and that law will apply with special force to county attorneys should they undertake any tyrannous proceedings under the liquor law. No one can say how this will work in practice, but we believe it is a wholesome law and will close up many shops permanently without a penny's expense. The grant of the authority will have great weight of itself. The Governor objected to this section, but there was not time to return the bill and have it acted on. So, he signed the bill.

The labor bureau bill failed as did several other good measures. The bill to create a board of pardons passed. Such applications for pardon as the Governor wishes to have carefully examined before final action is taken, he will refer to this board, and he will act upon their report. A tax levy of five mills on the dollar was authorized to continue the work on the centre building of the State House and to repair the east wing. Some additions to buildings of the charitable institutions was authorized. One act passed prohibits the giving of a third-class certificate three times to the same teacher. He may remain in that grade during the time of two certificates but he must do better after that. Another act requires all teachers, after January 1, 1886 to have some knowledge of elementary physiology and hygiene with special reference to the effects of stimulants and narcotic on the human system. [A good little book containing this information is—"No. one, and how to take care of him," published by Funk & Wagnalls, 12 Deystreet, N. Y. Price 15 cents.] An act passed providing methods for establishing uniformity of text books in schools in any county. A joint resolution was adopted submitting to a vote of the people an amendment to the constitution providing for an increase in the working force of the Supreme court, by adding two more judges. A superior court of Shawnee county is established and the present district in which that county is situated is divided so as to make two districts out of one. The object is to accommodate the increasing business of the courts in this county. It has about three times as much law business as any other county in the State. The regents of the State Agricultural College are authorized to purchase additional lands for experimental purposes.

As usual, most of the bills passed are of a local or private character. The Leavenworth appropriation failed as did also, if we have the record right, the proposed donations to half a dozen local charities.

The work done averages well. Some new subjects were acted on, made necessary by reason of the State's growth. The intelligence of the legislature was

fully average; a few of the members, as is always the case, did most of the work. The deportment of the members was better than average, but there were a few who, the last day or two disgraced themselves, the House of Representatives and the whole State by taking, or having taken whisky and beer into the rooms adjoining the hall and there drinking it themselves and offering it to others, and then and there becoming drunken and behaving just as drunken men. This is a most shameful proceeding, and every member that was guilty ought to be prevented from ever again disgracing a constituency. We do not know who these drunken fellows were, we only know that the daily papers of the city, in reporting the proceedings, refer to the drunkenness in the house the last night of the session.

The *Commonwealth* of Sunday morning, said editorially:

Prohibition prohibits, of course. It won't do to say that it don't; but there has been more liquor drank in the House end of the Capital in the last two weeks than ever before. Whisky in jugs was taken into a room and an officer detailed to serve it to thirsty members. The scene Friday night grew out of too much whisky.

The *Capital* of same morning, said editorially:

The mild and somewhat deferential resolution of the House deprecating the language of the *Capital* towards Mr. Burton will be found in the report of the legislature this morning. The presence of a plentiful supply of liquor on Friday night in the speaker's room on the east side of the hall and in the cloak room, open to all who wished to partake probably would have justified the reporter in extending his remarks to others engaged in the debate and many others who were not.

About Tree Agents.

We have information that some persons are travelling in the southern part of the State representing themselves as selling trees from Taylor's nursery at Topeka that are hybridized by double grafting, or being grafted in the root and top; also selling the one-seeded grape, and representing various absurdities, such as that their fruits are curculio proof, and trees borer proof, all brought about by the peculiar hybridizing, etc.

We do not believe that the Messrs. Taylor are sending out any persons under false colors; nor do we believe that they authorize any agents to deceive or cheat the people. They could not afford to do so if they had the disposition, and we do not believe they are that kind of men.

The KANSAS FARMER has often advised its readers to let big story men alone. When a man preaches a new doctrine and cannot demonstrate his proposition by reason or fact, it will be safe to let that man alone. There is not a county in the State, we suppose, that is without a nursery owned and conducted by an honest and competent man. His interest and his disposition both point toward fair dealing. It is well to consult such, unless you know whom you are dealing with. There are so many characterless villains travelling about the country sponging their living off the farmers, that it is not safe to trust a stranger unless he carries conviction in what he says or proposes to do. If you do not know the agent and cannot get what you want in your own county, write to a responsible nursery and order what you need.

Commissioner of Agriculture.

Papers devoted to the interests of the farming world are discussing a probable change in the office above mentioned, and are suggesting names of different persons as fit to succeed Dr. Loring.

This implies an expectation that there will be a change. The KANSAS

FARMER has not yet come to such a conclusion. The office is not in any sense political, and ought not to be made such. When an office is to be filled by executive appointment, it is expected that the appointee will belong to the same political party that the person appointing does. That is the custom, and there is no reasonable ground for complaint about it. Everybody expects it.

But in some respects, at least, a great reformation has been working in recent years concerning removals. It is not the rule now to remove a non-political officer for political reasons only. The present administration is expected to work in harmony with this rule. That being so, we expect Dr. Loring to remain in his present position at least until the term for which he was appointed has expired.

And when the time comes to name a successor to Dr. Loring, the people of Kansas would be pleased to see one of their own number chosen. Ex-Governor Glick is a practical farmer; so is Col. W. A. Harris, and we might name others. But these are enough. Either of them is old enough, large enough and smart enough for the place. They are good men privately; they are broad-gauged and public spirited. If Dr. Loring retires, we present the names of these two gentlemen of Kansas, and urge them in the order of their naming here.

A New Cattle Law.

The act passed at the special session in 1884 relating to stock interests was repealed at the late session and another act passed to take its place. It prohibits the bringing into the State or herding "any cattle capable of communicating or liable to impart" Texas fever, at any time between the first day of March and the first day of December of any year. Section 2 requires the sheriff to take charge of any such cattle if he knows of them in his county, and section 3 requires the live stock sanitary commission to examine the cattle and pass judgment on their condition. If they are such as this act intends to prohibit, the sheriff must keep them quarantined until after December 1.

Heavy penalties are affixed for the violation of the act and damages are allowed to persons injured by reason of the presence of the cattle which the act is intended to prohibit. The new law will be published next week in the KANSAS FARMER.

The lamb part of March was on the first day of the month, and it continued lambish till Saturday the 7th at about midday, when the lion part began; but it was a sickly affair, as an inch of wet snow and two inches of very wet mud on Sunday testified. At 3 o'clock that day the snow had disappeared; Monday came in clear, with light frost. Thus far, March has been mild and favorable for farm work. The unusual quantity of rain and snow since last November has saturated the soil thoroughly, and the long continued freezing was good for fertilizing purposes, and for destroying insect eggs.

If you have a little spare piece of ground where the soil is soft and rich, lay some potato seed in rows on it, and cover the seed with about six inches of straw, then go away and let it alone. Keep stock and people off of it. You will be surprised in a much shorter time than one would expect to find that you have a good crop of early potatoes. The ground must be well drained or the seed will rot, and the owner may not feel quite fit to drink wine the next communion day.

This is a good time to select places for trees.

Gossip About Stock.

H. W. McAfee, Topeka, represents the Clydesdale horse interest at this place, and having bred and bought the very best that he could secure, his establishment now shows up well with these valuable draft horses. Last week he sold two fine mares and a stallion of his own raising.

The executive committee of the National Cattle and Horse Growers' Association, met recently in St. Louis and laid out a plan of work by providing for State and Territorial committees to work in connection with the national committee. For information in detail, address the secretary, A. T. Atwater, room 20, Singer Building, St. Louis, Mo.

We are glad to announce that A. W. Rollins, of Manhattan, Kansas, of Berkshire fame, again comes to the front advertising his inimitable Berkshires. It will be remembered that Mr. Rollins was the first Kansas swine breeder that ventured to make an exhibit of Kansas swine at the great St. Louis fair, and won the grand sweepstakes of 1882 which so advertised the Manhattan herd that he has, until the present, been unable to supply the demand.

Hereford breeders and owners should carefully read the new rules governing entries to the American Hereford Record, published in our advertising columns of this issue. These rules embody features that are entirely new to the old rules and, if their provisions are disregarded, there is no appeal and no relief. So, it would be well for every owner of Herefords to see that his cattle are recorded or are sent in to the secretary for record before July 1st, 1885, as they will be debarred from entry after that date.

The first public sale of Short-horn cattle made in Kansas this season was made at Salina, March 4, by W. A. Maxwell of Mentor, Col. S. A. Sawyer, Manhattan, officiated as salesman. A draft of twenty-five head of Short-horns was sold from his herd. They were not "fixed" for sale but were in ordinary condition. This was the first public offering made from this new herd and the average was almost \$100. Twelve bulls averaged near \$110, and thirteen females averaged \$83.50. The total amount for twenty-five head was \$2,415—a good sale everything considered.

Some time ago a representative of the FARMER visited the breeding establishment of that valued correspondent and breeder of thoroughbred Short-horn cattle and Berkshire swine, Col. Hiram Ward, of Burlingame, Osage county. The time was well spent in viewing the breeding stock, which was found to be of the best. Such herds in time become famous because they restarted right. Mr. Ward came to Kansas a number of years ago a very poor man, and to-day he is comfortably fixed and is ambitious to have a herd that will compare with the best anywhere. That he will succeed there is no doubt, because he has the stock, and customers can rely upon honest dealings and fair bargains.

The Times-Democrat, New Orleans, in reporting the live stock awards at the World's Fair, said: "The awards in the swine department were finished Saturday, including those of the two grand medals given as grand sweepstakes. In this department the regulation committee of two judges and an umpire was dispensed with, and the awards all made, at the request of the management, by Mr. F. D. Coburn, of Wyandotte, Kan., editor of the Kansas City Live-Stock Indicator." On request in writing by the exhibitors unanimously, Mr. Coburn awarded the gold and silver medals on the grand sweepstakes for best boar and five sows of any age or breed. The gold was given to the Berkshires of N. H. Gentry, and the silver one to Mr. Railsback's Jersey Reds.

Have You a Garden?

No part of the farm is as valuable, when compared with the space occupied or with the things produced, as that part called the garden, provided of course, that it is a good garden. It produces more to the square rod than any other part of the farm, and what it does produce is worth more. A head of cabbage is worth more than a hill of corn. A row of celery is worth more than a hill of field beans. The things grown in a garden are such as are not attempted on the farm generally. They are for earlier use, and for special purposes. Farmers as a rule use a

great deal of salt food; they need early vegetables as health preservers; and the garden is the place where they are grown.

Have you a garden? If not, prepare for making one immediately. Select the best ground you have near the dwelling house. If it is not well drained naturally, drain it artificially, the first thing. Artificial draining is good anyway. A ditch three or four feet deep, according to shape of surface, and wide enough to work in, partly filled with stones covered with straw or hay below the level of working, and that covered with earth, makes a good drain. If the garden is large put in other drains at distances of about sixty feet. Run the drains into any place that is lower than the bottoms of the drains in the garden. Plow or dig the ground, no matter how deep, and mix the ground with rotten barnyard manure, leaf mold, and earth taken from washes in creek or river bottoms. If your ground is not a little sandy, make it so by adding sandy formations on banks of streams or in timber valleys. In digging and working the earth do not put the under soil on top. Leave as nearly as possible where it was as to relative position; but loosen it and mix it with other matter, as above suggested, to make it remain loose and rich. This makes a permanent soil. It need never be dug up again so deep, or at least not in less than ten years, provided the top is well worked and manured as deep as ten or twelve inches. The artificial drainage and one deep working and fertilizing insures a permanently rich soil, if the surface is kept in good condition. The after working can be done with an ordinary stable fork if the tines are long enough. And such ground is fit to be worked in spring long before other and ordinary ground is and because of the drainage.

If your ground is wild prairie, select the location, then run four or five furrows shallow in the middle and throw the sod away. Then start a "land" in the plowed place, running six inches deep at least, the first furrow, and two inches deeper in throwing it back, so as to get down eight inches.

When the "land" is opened out to the edge of the sod, then cut a shallow furrow—as shallow as possible to make good work, throw the sod down into the deep furrow: then follow with another plow, going down eight inches as with the first furrows, throwing the earth over on the sod. In this way the sod is cut loose from the earth below and buried. The soil proper is placed above the sod, and separated from it so that it can be broken up without leaving tufts of sod lying all over the ground. Harrow with sharp teeth, light the first time, adding a little weight every time you harrow until the ground is well broken and pulverized.

Soil thus prepared, will do well in a wet season without anything more done to it; but if the season is dry, mulching is of much benefit. For this purpose, after the seed rows are in place, the wet and partly rotten straw or hay about the bottom of old stacks is a good thing. Take it up in flat bunches and lay it down as nearly as possible in the same condition, leaving openings along the rows.

If you have a garden already laid out and in use, and if it is not in condition for spring work, clean it off at once and cover it two inches deep with rotten manure, and work it into the soil as soon as the earth is fit.

If you have no hot bed, make a little one, just for fun, say, or let the boys and girls do it. Make it to start your seeds if for nothing else. Dig out a hole thirteen feet long and four feet wide, one foot deep. Fill it full of fresh horse manure spread evenly and well tramped down. Pour over this ten or a dozen bucketfuls of water. Make a box without bottom or top, twelve feet long and three feet wide, one of the side boards a foot high, the other eighteen inches and slope the ends to correspond. Set the box on the manure six inches in from the edges all around. Put the lower side of the box to the south. Throw good, rich soil into the box six inches deep. Pile up earth around the box on the outside nearly even with the top and extending out far enough to be a protection. Have three (or more if you want) pieces—old broom handles will do, just long enough to fit in neatly between back and front of the box at top for cover to rest on. Make cover of stout muslin oiled. It can be made in pieces, one end tacked on the outside of the back near the top and the other left hanging down in front.

If the front is tacked on a lath that will be useful both in raising and rolling up the cover and in holding it in place. Let the covers lap on the bearing sticks. Every night, and on all very cold days, keep the bed covered. See that the soil does not become too warm or too dry. This can be tested by the hand where one has no thermometer.

By using such a hotbed, one may have plants—tomatoes, cabbage, etc., ready to set out as soon as the weather is fit, and two or three weeks are gained in early vegetables.

Inquiries Answered.

SOD CUTTER.—A correspondent wishes A. M. B. to explain what he meant by "sod cutter" in his last article.

LOSS OF APPETITE.—I have a cow (with a four weeks old calf) which has lost her appetite and has in consequence lost her flesh. Can any of your readers tell me what to do to get her to eat?

Change her feed; give her cooked food for a time, as scalded meal, bran, potatoes, etc. Mix in a little oil cake if you can get any and a little ginger and use plenty of salt.

FLAX.—Is a dry season more favorable for a good yield of flax than a wet one, and is flax harder on land than corn, wheat or oats?

Flax needs a dry, loose soil; hence a dry season is better than a wet one for it. Flax is not harder on land than other crops except for flax. It ought never to be sown twice on the same land in successive years.

BOX ELDER SEED, says a correspondent in reply to a question asked some time ago, "usually hangs on the trees all winter. It is just beginning to drop off now, and may be gathered and kept in a cellar till the frost is entirely out, then plant where wanted, and cover about one-half inch deep. They come up quickly. They make good posts for barbed wire fence and also shade if properly trimmed."

SNAKE BITE.—I have a three year old heifer that was bitten by a snake two years ago on the hind quarter. The part swelled to the size of a gallon jug, is hard and the heifer is lame most of the time. I have not done anything for it. What should be done?

Bathe the lump with a strong solution of soda twice a day, and feed wheat bran or something to loosen the bowels. Continue this treatment a week or ten days, and if there is no change, consult the best physician you know.

RUSSIA FLAX.—Where can I get imported Holland or Russia flax seed in Kansas and will it do best on old ground or second sod? About what will it cost? Please tell me how to cultivate for best results?

Downs & Mifford, Topeka, and F. Bartelds, Lawrence, Kansas, and Trumbull, Reynolds & Allen, Kansas City, Mo., are reliable seed men. If Russian flax seed can be obtained they have it or will procure it if ordered. Old ground is best for flax. Prepare ground as for oats.

RABBITS AND TREES.—I never had rabbits do injury to my fruit trees until this winter. Most of the young trees (all of the pear) are rimed from eight to fifteen inches high. The liver wash seemed to urge the rascals on. How can I save the trees? Would cutting the pear trees (four years old) off at the ground be advisable? Is tarred paper injurious to fruit trees if left on during the summer?

The best protection to fruit trees (against rabbits) that we ever tried is paper. We use newspapers, but wrapping paper, any kind will do. One ordinary sized newspaper will do for two trees; some are large enough for four. Tear it so that when wrapped it will be about two feet high, up and down the tree. It ought to be four to six thicknesses about the tree. Tear a paper in two in the middle, then, double the pieces so as to require but little time in wrapping. Let the lower end rest on the ground and swing the paper round the tree neatly as often as is required to use up all the paper and make a neat job of it. Then tie with common wrapping yarn, or strips of muslin or calico, to hold the paper in place. If by accident any of the wrappers are torn off, replace with fresh ones. They will endure weather of the hardest winter. In wrapping use enough string so as to hold the paper well up to the tree.—The girdled trees may be saved by banking earth about the trunks a few inches higher than the girdling. Tramp it down solid, then cut the tree back some, or thin out the branches. Cutting off the stem will not pay—better dig them up and set out new trees. All wrapping should be removed from trees about the first of May.

In Mrs. Davidson's letter relating to New Orleans and the World's Fair, printed last week in the FARMER, where she wrote about silk flower trimmings, the type made her say "bonnets," when the word written was banners. Two banners trimmed with flowers.

THE MARKETS.

By Telegraph, March 9, 1885.

STOCK MARKETS.

Chicago.

The Drovers' Journal reports:

HOGS—Receipts 8,000, shipments —. The market was strong and 5a10c higher. Rough packing 4 40a 70; packing and shipping 4 80a 4 85; light 4 80a 85; skips 3 50a 25.

CATTLE—Receipts 3,700, shipments 1,200. Market was brisk and firmer. Shipping cattle averaging 1 050 to 1 200 lbs 4 25a 4 90; shipping cattle averaging 1 200 to 1 600 lbs. sold at 4 90a 6 00; Texans, 4 00a 75.

SHEEP—Receipts 900, shipments 400. The market was strong and 10a15c higher. Inferior 2 40a 3 00; medium to good 3 00a 4 5; choice, 4 00a 5 00.

St. Louis.

The Midland Journal reports:

HOGS—Receipts, 2,900; shipments, 230. The market was higher and strong. Yorkers, 4 50a 4 70; packing 4 50a 75; heavy, 4 75a 5 00.

CATTLE—Receipts, 1000; shipments, 1000. The market was firm and fair demand. Exports, 5 75a 6 00; good to choice shipping steers, 5 80a 7 00; common to medium, 4 50a 5 90; butchers' steers, 4 00a 4 75; cows and heifers, 3 00a 3 75; stockers 3 25a 3 75; feeders 4 00a 60; corn fed Texans, 4 00a 50.

SHEEP—Receipts 600; shipments, 700. Common to medium, 2 50a 3 00; good to choice, 3 25a 4 00; extra, 4 25.

Kansas City.

The Daily Live Stock Record reports:

CATTLE—The supply to-day was too light to make a market; all the lighter grades were sought for by country feeders and one load weighing nearly 1,250 were sold to a feeder, shipping steers 4 45a 65.

HOGS—Heavy: 4 40a 70; mixed and light, 4 30a 70.

SHEEP—Mutton, averaging 105 pounds sold at 2 75.

PRODUCE MARKETS.

Chicago.

WHEAT—Demand active, March, 75a 75 1/2.

CORN—Cash, 38 1/2a 40 1/2.

OATS—Cash, 27a 30c.

RYE—Steady and firm at 63c.

BARLEY—Quiet, 63c.

FLAX SEED—Easter, 1 45.

St. Louis.

WHEAT—No. 2 red, 81 1/2a 81 3/4c, cash.

CORN—No. 2, 38 1/2a 38 3/4c cash.

OATS—No. 2, 27 1/2c bid cash.

RYE—Quiet at 63c.

BARLEY—Steady at 63a 80c.

Kansas City.

WHEAT—Received into elevators the past 48 hours 21,492 bus. withdrawn 21,732 bus. in store 575,490 bus. The market was strong to-day but dull. Everything in the wheat line was nominal except May options, which were active at 64 1/2a 64 1/2c against 63 1/2a 63 1/2c Saturday and leading in June.

CORN—Received into elevators the past 48 hours, 14,640 bus., withdrawn 16,526 bus., in store 145,971 bus.

No. 2.—Cash 31c bid, 31 3/4c asked.

RYE—No. 2 cash, no bid, 52c asked.

OATS—No. 2 cash, 27 1/2c bid, no offerings.

BUTTER—The receipts of roll butter are mostly very white, soft and mussy and are properly described as trans. It does not sell, but good stock is firm and active. Creamery is arriving in bad order; some so poor that the brands are left off to avoid ruining the reputation of the creamery establishment. Plenty of stock offering not worth 20c. Choice creamery, 27a 30.

EGGS—Receipts large; estimated variously from 600 to 1,000 cases. Shippers are holding up the market in good style. Market active and firm at 18c.

CHEESE—Full cream 13a 14c; skims 5 1/2a 7c.

POTATOES.—We quote home grown in small way at 55a 70c per bus. Consignments in car load lots, early rose 55a 57; white neshanocks, 50a 56c; peachblows and other choice varieties, 55a 58c; Colorado stock 70a 73c.

SWEET POTATOES.—Home grown 60c for red per bus; yellow 75a 90 per bus.

TURNIPS.—We quote consignments at 60c per bus.

APPLES—Consignments of Missouri and Kansas choice to fancy, 2 50a 3 00 per barrel; common to good 1 75a 2 25 per bbl. Home grown from wagons 6 1/2a 65 per bus for fair to good. Stand supplies 9 1/2a 00 per bus.

BROOM CORN.—Choice green carpet brush per lb. 3 1/4a 4 Green hurl 3 1/4a 4 Green self working 3 1/4a 4 Red or yellow tipped hurl brush 3 1/4a 4

Horticulture.

Trees When Transplanting.

A little study of plant growth will help a good deal in the matter of pruning trees at any time. When a seed germinates, a stalk is started in two opposite directions; one end goes into roots in the earth, the other extends into stem and branches in the air. Both ends are necessary. Cut off the root end, the plant dies; cut off the stem end, the plant is permanently injured if not utterly destroyed. But the cutting may be done so far away from the part of germination that the plant will not be seriously injured. Removing roots at a point far away from their starting place may not seriously interfere with the growth of the plant, and removing branches at points far removed from the starting place may improve the tree.

But the roots are the life sustaining agencies. They are absolutely necessary; there must be enough of them, and they must be healthy. If a tree is never removed from the place where its growth was begun, and if conditions are favorable, the roots and branches will correspond naturally, so that little pruning is necessary except in cases where the tree is grown for fruit exclusively. A shade tree in its original place does not need pruning except for the purpose of shaping the top.

In removing trees, unless they are very young, it is almost impossible to avoid injury to roots more or less. They are bruised, torn, cut off, broken. And where the trees are young and about all the roots are saved, there is enough of change to cause some injury, if the tree is removed from its original home. It is the effect of this removal to which we desire to call attention specially. The mere change of position, unless all the roots and the earth about them are moved, also, and that without change of relative position, the growth of the tree is checked. Last spring, the writer of this removed a young elm tree. It was about four years old from the seed, and had been transplanted once two years before. A large hole—four feet square was prepared, then a ditch was dug around the tree, the inside of which was two feet from the tree. The ditch was dug deep and wide enough to allow easy work in getting under the tree. By means of narrow plank and wide scantling, the tree was raised with most of the earth remaining about the roots. It was set over into the hole, and loose earth worked in around the edges and then packed when the earth was soaked with water, dry earth drawn over it rising about six inches, and then covered with blue grass sod, leaving a square of about 15 inches each way uncovered, in the center of which stood the tree. This open place was for subsequent watering. The season of 1884 was good for the growth of trees, but this particular tree did not grow enough to talk about. It was in leaf when removed, and the new position was not more than six feet from the old. The work was very carefully done, and the old earth within a foot of the tree was all retained and removed without change of relative position, and extra care was taken to make as little change as possible in any respect. Still, about all that was done was to save the tree.

This instance is given to show how much a change of position involves. In case of fruit trees, if they are more than one year old, the roots are always injured more or less in removal. By the time the farmer is ready to plant, many of the trees have lost half their roots, and this set-back must be added to that caused by the simple act of removal where roots are not damaged at all, or,

at least, not much. In this condition, there must be something done to the top of the tree that will preserve the proper relations between root and stem, or the tree will not do well. It may not grow at all, simply showing signs of life a few weeks, then turning black and dying. What is needed is top pruning—cutting away branches. And there is another point here to be considered. Pruning is necessary to maintain proper relations between root and stem; but it may be done in such manner as to injure if not wholly destroy the tree. Branches, except little ones having more the appearance of sprouts, should never be cut off close to the stock. Cut off the ends, only, so that new branches will come from the shortened limb, and not from the main stem. The stem may be shortened in like manner; but always retain the original branching for the head. What nature intended for the starting of the head should remain. Whatever is cut away must be above and beyond that. How much to cut away must be left to the judgment of the planter. If there are two or three buds on the parts of branches left, there is no danger if other things are right. Be governed by two considerations: First, the quantity and quality of roots. This will suggest how much of the top ought to be cut away. Second, the shape of the top desired. This will suggest where to use the knife. This part of the work must have due respect to the strength of the tree when grown. The location of buds on the branches to be pruned will suggest a good deal. A bud that is expected to put forth a new branch which is to remain, ought to be on the upper side. If on the under side it is easily torn off. The principal branches to be pruned, and upon which the new head is to be built, ought to be cut so as to leave the new branches when they come, at nearly uniform distances from the centre of the tree. Attention must be had to the general make-up of the tree, its straightness, crookedness, etc., so that the new head, when formed, shall be above the trunk and not to one side.

As a general average, two years old trees may be cut back six or eight inches of the main stem, and they may be removed at a point 12 to 24 inches above the first branching for the head.

The best time to prune such trees is immediately after being re-set, because then their shapes can be studied, and you have not forgotten the roots and their condition.

The Veterinarian.

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

LIVER AND KIDNEY.—Can you tell me the disease which some of my hogs have? The first one was sick three days, then died. It would not eat anything. Its eyes were full of matter, so that it could not see. It walked stiff and purged very much. What do you think is the best remedy for the above? [The difficulty comes from derangement of the liver, kidneys and digestive organs. It is not cholera. That disease is known by the hogs purging and vomiting continually. The hogs may also have worms. We should recommend the following: Gentian, pulverized, one-fourth pound; aloes, pulverized, one-fourth pound; charcoal, one pound. Mix, and give tablespoonful once a day.

LUMP ON LEG.—I have a mare with a big hard lump on her left hind leg on the knee. Commenced to form two weeks before foaling. The mare was so lame I could not work her all summer. When I work her one day I cannot work her for several days after. Hair don't lay down. Can you tell me how to take

off the lump? The largest part of the lump is on the inside. [We should give the mare a condition powder of the following: Gentian, pulverized, one-fourth pound; aloes, one-fourth pound; sulphur, one-fourth pound; madder, one-fourth pound; saltpeter, one-fourth pound; all pulverized, mix and give a tablespoonful twice a day. We should also give a tablespoonful of salt once a day and feed bran mash. When she gets into condition, take lard half a teacup, cantharides half a teaspoonful, mix and apply to enlargement once a day until in blisters. Wash off and after the soreness has disappeared repeat if necessary.]

BLIND STAGGERS IN PIGS.—Since last October I have lost five seemingly well, thrifty shoats out of a lot of twenty, which, in the fall, were in one pen; in two now—adjoining pens. In October I found one or two dead, then in November, one; and last week, two more. The first of the two my man saw die—he was at the pen—and he said the pig seemed well when he fed them two or three minutes before; suddenly the pig commenced to stagger and fell down and died in half a minute. The second of the last two died about as sudden, he having fed them and returned in a few moments. What is the matter? Are they affected with the kidney worm, blind staggers or hog cholera? [The suddenness of the fatal collapse of the young pigs leave no doubt as to the nature of the disease, which was no doubt the apoplectic form of what is known as "blind staggers" in pigs. In a former issue of the *Farmers' Review*, we have already stated that blind staggers in pigs is manifested in two distinct stages, viz.: the congestive and the apoplectic; the former readily yields to proper treatment, but the latter is invariably fatal. This disease is usually due to a plethoric condition superinduced by too much stimulating food. If our prediction proves correct, the means of prevention is very apparent.

ROOT GRAFTS, Apple Seedlings and Imported Stocks. Young Ornamentals, etc. Reduced price list just issued. Stark & Co., Louisiana, Mo.

Johnson Grass Seed.

Fresh, well-cleaned seed for sale at \$3.50 per bushel. Cash to accompany order. Descriptive circular sent on application. JOS. HARDIE & CO., Selma, Alabama.

100,000,000 Evergreens and Forest Trees. 40 varieties. 50 cts. per 1000 and upward. All sizes. One Year old, to six feet high. Catalogues FREE. Geo. Pinney, Sturgeon Bay, Wisconsin.

NEW Raspberry, Marlboro; Gooseberry, Industry; Grape, Niagara. CIRCULARS giving full description and price together with a colored plate of the Gooseberry fruit.

ELLWANGER & BARRY, Mt. Hope Nurseries, Rochester, N. Y.

BLOOMINGTON NURSERY CO. Established 1853, by F. K. PHENIX, incorporated 1883. We offer for the Spring Trade a very large & fine stock of every description of Fruit & Ornamental TREES. Catalogue for SPRING of 1885 now ready and mailed on application. 600 ACRES. 13 GREENHOUSES.

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.

YORK NURSERY COMPANY (Established 1870). Nurseries and Green Houses at FORT SCOTT, KANSAS. Largest Stock of Nursery and Green House Plants in the West. BEAUTIFULLY ILLUSTRATED CATALOGUE now ready. Mailed to applicants free.

Send For My New 24-Page Catalogue and GUIDE TO SMALL FRUIT CULTURE

With illustrations of new and old strawberries, of new and old raspberries, blackberries, grape vines, etc., including short papers on their culture. Free to all. B. F. SMITH, Lock box No. 6, Lawrence, Kas.

1838-1885. THE LARGEST AND MOST BEAUTIFUL EARLY PEAR. Ripening in Central New York early in July, and sells at highest prices. Send for history of Original Tree, 100 yrs. old. Headquarters for Kieffer Pears, Parry Strawberries, Wilson, Jr., Blackberries, Marlboro Raspberries, Grapes, etc. WM. PARRY, PARRY P. O., N. J.



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All sizes; suitable to ship. EUROPEAN LARGE, CATALPA, WHITE ASH, RUSSIAN MULBERRY and other forest trees, all nursery grown, at honest prices. Price list free. D. HILL, Nurseryman, Dundee, Ill.

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In any quantity. I make a specialty of these plants, and I can guarantee them true to name. Parties desiring to purchase plants of these varieties will find it to their advantage to correspond with me. Send for list. FRED EASON, Fruit-Grower, Leavenworth, Kas.

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Peach Trees in storage for immediate shipment. Also Apple, Apricot, Plum, Grapevines and Forest Tree Seedlings.

200 Acres in Nursery.

Write for price list—Free. Address J. B. Wild & Bro., Sarcosie, Mo.

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LARGEST STOCK! LOWEST PRICES! Transplanted Red Cedars (sure to grow), Hardy Catalpa, Russian Mulberry, Cottonwood, Sycamore, Yellow Willow, White Ash, Elm, Box Elder, Maples, Dogwood, Red Bud, Sweet Gum, Tulip Tree, Strawberry and Raspberry plants, Apples and grafts. Peach plus, black Walnut, the famous "Old Iron-Clad" Strawberry, the richest and best strawberry yet produced. Write for Price List. BAILEY & HANFORD, (On Ill. C. & N.) Makanda, Jackson Co., Ill.

WESTERN GROWN TREES!

THE MIAMI NURSERIES, Louisburg, Kansas.

Offer for the Spring Planting their usual large stock of well grown, well assorted, and finely rooted Fruit Trees and Plants. Estimates furnished free, and correspondence solicited. Address, CADWALLADER BROS., Louisburg, Kansas.

HEDGE PLANTS!

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BABCOCK & STONE, NORTH TOPEKA, KANSAS.

Trees, Trees, Trees. IMMENSE STOCK.

1,000,000 Russian Mulberry; 500,000 Hardy Catalpa, Russian Apricot, Dwarf Junberry, and all other kind of Fruit, Forest and Ornamental Trees, Grape Vines, Small Fruits, etc. A PAPER devoted to fruit-growing Free for one year to those who buy \$1 worth of trees. 100 Russian Mulberry for \$1. 12 Concord Grape, 1. 4 Russian Apricot, \$1. and 122 other \$1 sets, per mail, postpaid. Forest Trees for Timber Claims. Send at once for a Price List. Address CARPENTER & GAGE, Bower, Jefferson Co., Neb.

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

Our Garden Seeds are direct from Growers, fresh and true to name. Orders promptly filled. Send for Price List of Seeds.

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To our Patrons, Orchardists and Planters: We would respectfully call attention to our heavy supplies and most excellent quality of Nursery products, consisting of Apple, Peach, Pear, Cherry, Plum, etc., Berries and Grape Vines of the various sorts. Also Ornamental and Shade Trees, Plants, Roses and Shrubs. Hedge Plants. Forest Tree Seedlings and Evergreens, from 6 inches to 4 feet. Prices low.

Special attention is called to the fact that our agents are furnished with written certificates of authorized agency signed by us. We insist upon our patrons requiring agents to show their certificates, so as to avoid any mistakes or deceptions.

Orders sent by mail promptly attended to. BLAIR BROS., Proprietors, Lee's Summit, Mo.

Steady work does no harm to a mature horse. If well fed, carefully groomed and kept from undue exposure, a team may labor the winter through with profit both to the owner and the animals.

The *Dairyman* says that it is simply annoying to notice how much more milk one man can get from a herd of cows than another. Good milkers, it thinks, are born, not made; and when you get one you had better keep him.

Raspberries and blackberries are more hardy if planted on light, sandy loam, but if large berries are desired, a mulch must be used in July. On moist land mulching is not needed, but the canes are more liable to be winter killed.

If you are keeping cows for the dairy, or to give milk and make butter, keep only the kind that will give the greatest quantity of your specialty—butter cows, if it is butter; and if it is milk, then keep cows of one of the milk breeds, says the *Pittsburg Stockman*.

C. J. Ward recommends as a preventive of chicken cholera that coal oil should be given three or four times a week by soaking a feed of corn or wheat in the oil a few hours and then feeding, or mix in soft feed one tablespoonful of oil to two quarts of corn meal.

The *Orange County Farmer* says: "The sugar beet is preferred among the roots for sheep, being most palatable and containing the most solid nutritious matter." However sweet turnips are preferred by many practical sheep feeders, among whom are leading Englishmen.

The removal of Prof. Sanborn of N. H., after being pronounced incurable by a score of physicians, from Las Vegas, N. M., to his home, was effected by administering Dr. Harter's Iron Tonic, which has restored him to his former good health.

YOUNG MEN!—READ THIS.

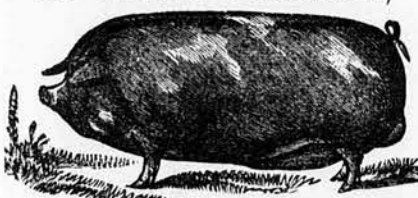
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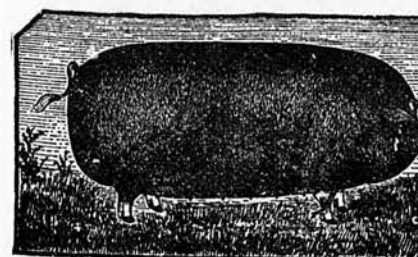
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Dr. Thomas Blackwood,



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,
Clay Center, Kansas.



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 bear in use in my herd at present is "Duke of Monmouth" 11361, who won in 1883 the first prize at four leading shows in England, including first at the Royal Show, and also first prize at two leading shows in Canada. He thus won six continuous first prizes without being beaten, a like record I believe never attained by any other boar. I paid \$400 for "Duke of Monmouth." He is a splendid breeder, an animal of great constitution and comes from the same family as my old boar, "Lord Liverpool" 221, for whom I paid \$700, and who is now almost eleven years old and still alive. I have now a splendid lot of pigs from three to six months old, the bulk of which are got by "Duke of Monmouth." I would also spare a few of my sows, young or old, when in pig, and part of my breeding boars. I do not advertise prices as low as the lowest, for I cannot afford to sell as low as those who bought a cheaper class of stock to start with, but my prices are reasonable and within the reach of all who know the value of first-class stock. My herd of Berkshires show as much size as hogs of any breed, and I am sure I can show more quality, activity, constitution and size than is combined in any other breed of hogs. Almost if not every prominent herd of Berkshires in the West contains representatives from my herd, and this alone, considered in connection with the many prizes I have won for ten years past at our largest shows, proves beyond a doubt the quality of stock I am producing from year to year. No breeder of any kind of hogs in the United States or Canada has for several years past bought and retained in his herd so many valuable animals at an equal cost as I have. I have issued a new catalogue this season containing the pedigrees in full of my herd and a limited description of each animal, together with a complete list of prizes won for several years past. This catalogue I will mail free to all who feel interested enough to write for it.

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

I have reduced rates for shipping.

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

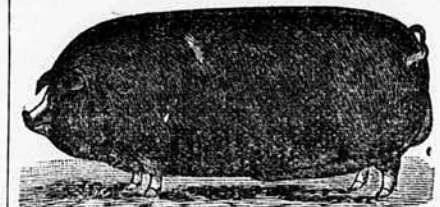
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RANKIN BALDRIDGE, Parsons, Kansas,

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

TIMBER LINE HERD

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

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As produced and bred by A. C. MOORE & SONS, Cincinnati. The best hog in the world. We have made a specialty of this breed for 38 years. We are the largest breeders of Thoroughbred Poland-Chinas in the world. Shipped over 70,000 in 1883 and could not supply the demand. We are raising 1,000 pigs for this season's trade. We have 16 sows and 10 males we are breeding from. Our breeders are all recorded in American P.-C. Record. 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.

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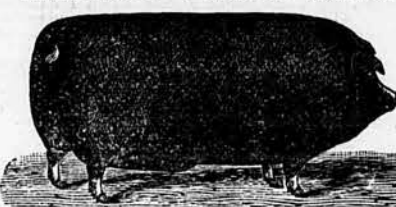
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HOGS of the highest type. All well pedigreed.
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Breeding Stock is raised in American and Ohio Records. Tom Duffield 1875 A. P.-C. R., at head of herd. Always space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.
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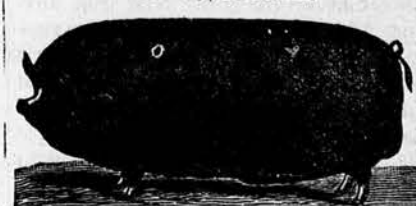
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For beef, butter, and cheese, breed HOLSTEINS. For largest selection of the best Duroc Jersey pigs, choice registered animals for sale by WM. A. GARDNER, Oregon, Mo. Correspondence solicited. When writing mention this paper.

PURE-BRED Berkshire and Small Yorkshire SWINE.



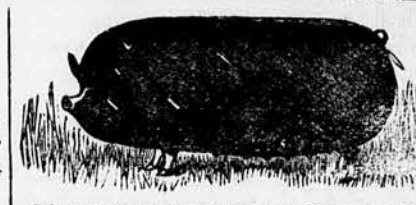
We are breeding the lot of the best selected sows of the above named swine to be found in the country direct from Imported Sires and Dams. We are prepared to fill orders for either breed, of both sexes, at the very lowest prices. We have tried Small Yorkshires thoroughly, and are satisfied that they 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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JAMES ELLIOTT, Abilene, Kansas,



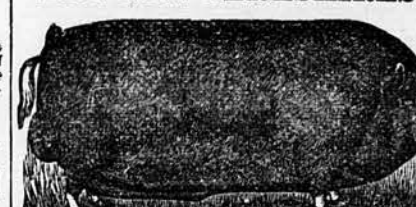
Breeder of HIGH CLASS BERKSHIRE SWINE. My herd is composed of twenty breeding sows of the leading families known to me, headed by Earl of Carlisle 10459. My hogs are noted for size, uniformity, fine heads, broad hams, great depth, with short, strong legs. They are perfectly marked, having good coats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

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



I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars, bred 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.

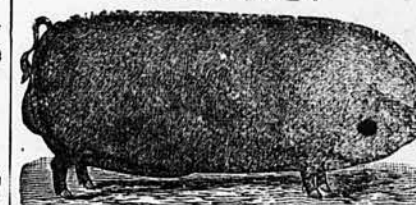
WELLINGTON HERD ENGLISH BERKSHIRES.



The Wellington Herd of well-bred and Imported Berkshires is headed by Hopeful 106489. The herd consists of 16 matured brood sows of the best families. This herd has no superior for size and quality, and the very best strains of Berkshire blood. Stock all recorded in A. B. R. Correspondence and inspection invited. Address
M. H. KEAGY,
Wellington, Kas.

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

Poland-China and Berkshire HOGS.



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

RANDOLPH & RANDOLPH,
EMPORIA, LYON CO., KANSAS.

(Continued from page 5.)

vegetation in many ways, reducing their value and lessening their quantity; that therefore the best and most abundant crops will be obtained when the supply is normal or natural. And that anything which tends to equalize the supply should be carefully studied and worked for. Forests subserve this end and should be largely planted and maintained in this State.

The same reasoning that applies in the interests of crops may also apply with equal force to the live stock interests, for it gets its support directly from the earth, and stock is nourished and fed principally by the grass of the field. Therefore there can be no question but that the live stock interests of Kansas would be vastly improved, and the business rendered far more successful and profitable by the general and extensive cultivation of forest trees.

To sum up the question, I will state what is plain to all, that the requisite advantages for successful and profitable stock farming are long grazing seasons with abundant rich pasturage, short, mild winters requiring the least possible stall or rack feeding, abundant shade in summer, and good shelter in winter with an adequate and plentiful supply of pure water all the year round. And the nearest approach to the sum and realization of all these advantages is found in a timber country, or one well covered with forests, assuming of course a location in an ordinarily temperate climate. And leaving out the question of latitude, there can be no doubt that of those sections on the same parallel, that which has an abundance of wood-land or forests, presents the most advantages for the business of live stock farming. Every intelligent man who has lived in a timber country knows this, and the effects of forests on climate, temperature, rainfall and water supply as brought out in these writings ought, I think, to convince all they are of unquestionable value and importance, not only to the agricultural interests of our State in general, but to the live stock interests in particular. I will consider in my next the relation of forests to the water courses of the country.

FORESTER.

Winfield, Kas., March 4, 1885.



ECLIPSE POST HOLE DIGGER.

The Greatest LABOR-SAVING tool ever invented for digging holes in the ground. This machine works on a new principle, and is unlike anything in the market. It is neither an Auger nor a Plunger, but is driven in the ground with a driving rod, which works in a pipe similar to a telescope. We claim for this tool:

- 1st. That one man can dig from two to three hundred holes two feet deep in ordinary ground in one day.
- 2d. That it will dig holes any size or depth required.
- 3d. That it will work successfully in very hard or rough ground where other diggers and augers will not work at all.
- 4th. You stand up straight while using it, consequently no back-breaking work is required.

It will pay you to send for descriptive circulars and prices to **COLE & FLEMING, Mfrs., Springfield, Ohio.**

SOUTH ST. LOUIS NURSERIES.

Nurserymen, Dealers and Planters, -AT LOWEST RATES-

30000 Peach Trees. One year, first-class.
5000 Cherry Trees. One year, 3 to 4 feet.
10000 H. P. Roses. Strong Plants.

Full stock of Fruit Trees, Grape Vines, Small Fruits, Ornamental Trees and Shrubs.

Trade List on application. Correspondence Solicited.

S. M. BAYLES, St. Louis, Mo.



THE PERCHERONS VICTORIOUS IN THE CONTESTS OF BREEDS!



ONLY TWICE Have the Great Herds of the Rival Breeds of Draft Horses met in competition: First, at CHICAGO IN 1881, where the finest collections of the British and French races competed for the

\$1,000 PRIZE, offered, which was admirably won by M. W. Dunham's Herd of Percherons. Next, again at the WORLD'S FAIR at NEW ORLEANS 1884-5,

where Four of the Best Herds in America of the different breeds were entered for the

\$500 Sweepstakes Herd Prize, and again M. W. Dunham's Oaklawn Stud of Percherons were victorious. Here, also, Mr. Dunham was awarded the

First Prize in Every Stallion Class entered for, as follows: For Stallions 4 years old and over—29 entries—Brilliant 1271 (755), first; Stallions 3 years old—23 entries—Confident 3647 (397), got by Brilliant 1271 (755), first; Stallions 2 years old—13 entries—Cesar 3526 (601), got by Valiant (404), first. Also, first for best grade stallion.

M. W. DUNHAM, Wayne, Du Page Co., Illinois,

HAS IMPORTED FROM FRANCE Percheron Horses valued at \$3,000,000, which includes

75 PER CENT OF ALL HORSES whose purity of blood is established by their pedigrees recorded in the STUD BOOKS OF FRANCE,

EVER IMPORTED TO AMERICA. STOCK ON HAND: 150 Imported Brood Mares, 250 Imported Stallions,

Old enough for service, 100 COLTS, Two Years Old and Younger. All Stock Guaranteed. Prices Reasonable. Recognizing the principle accepted by all intelligent breeders that, however well bred animals may be said to be, if their pedigrees are not recorded, and cannot be authentically given, they should be valued only as grades, I will sell all Imported Stock at Grade Prices when I cannot furnish with the animal sold pedigree verified by the original French certificate of its number and record in the Stud Book in France.

140 Page Catalogue sent free. It is illustrated with Six Prize Horses of the Exhibition of the Societe Hippique Percheronne of France, 1884; purchased by M. W. Dunham and drawn from life by Rosa Bonheur, the famous animal painter.

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

This Grand Exposition was opened to the Public on DECEMBER 10th, 1884, by the

PRESIDENT OF THE UNITED STATES And will continue for six months.

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

Opens up the finest TRAILER, COTTON, SUGAR and RICE LANDS in the WORLD, and offers special attractive rates for PROSPECTORS and TOURISTS.

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

PULLMAN PALACE SLEEPING AND DRAWING ROOM CARS BETWEEN

Kansas City and New Orleans.

ROUND TRIP TICKETS on sale at all principal points. Ask for ticket via the

"MISSISSIPPI VALLEY ROUTE," (Louisville, New Orleans & Texas Railroad.)

Information furnished by JAS. S. DAVANT, General Passenger Agent, No. 11 Monroe St., MEMPHIS, TENN.

OPIUM SLAVERY!

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

RULES GOVERNING Entries in American Hereford Record, Adopted November 14, 1884, and Now in Force.

- (1) Every animal whose sire and dam are recorded in the American Hereford Record, shall be eligible to record, subject to Rules (4), (5) and (6).
- (2) Every animal that is recorded or whose sire and dam are recorded in the 13th, or any prior volume of the "Herd Book of Hereford Cattle," (English), shall be eligible to record, subject to Rules (4), (5) and (6).
- (3) Every animal that has, in its direct line of dams, a dam that has a record in the 13th, or any prior volume of the "Herd Book of Hereford Cattle," (English), or in the American Hereford Record, shall be eligible to record, subject to Rules (4), (5) and (6); provided, that the animal itself and every dam subsequent to the one with the said record, are sired by a bull recorded in the American Hereford Record or eligible to entry under these Rules and the name and address of the breeder and the date of birth of the said animal and of each subsequent dam are given from reliable records.
- (4) Every animal that is in America prior to December 1st, 1884, and eligible to record under the rules governing entries in Volume III, A. H. R., shall be eligible to record, subject to Rule (6), if application for the entry of such animal is made prior to July 1st, 1885, and shall not be eligible to record thereafter.
- (5) Every calf dropped in America after January 1st, 1885, must be reported for record within ninety (90) days after date of birth, to be eligible to record.
- (6) No animal whose pedigree is false or erroneous, shall be eligible to record.

For Entries, Entry Forms, Herd Books or information, apply to

CHAS. GUDGELL, Secretary, Independence, Mo.

THE Miami County Nurseries, OF LOUISBURG, KANSAS.

(ESTABLISHED IN 1869.)

CADWALLADER BROS., PROPRIETORS.

You Should Always Buy Our Kansas Grown Trees. They Give Satisfaction.

WALKER--THE BEST WASHER

Warranted 5 years, satisfaction guaranteed or money refunded. The Best, most Efficient, and Durable Washer in the world. Has no rival, the only machine that will wash perfectly clean without rubbing. Can be used in any sized tub, or shifted from one tub to another in a moment. So simple and easy to operate the most delicate lady or child can do the work. Made of Galvanized Iron, and the only Washer in the world that has the Rubber Bands on the Rollers, which prevent the breaking of buttons and injury to clothes. Exclusive territory. Retail price, \$8.00. Agents' sample, \$3.50. Also the celebrated KEYSTONE WRINGERS at Manufacturers' lowest price. Circulars free. We refer to editor of this paper. Address **ERIE WASHER CO., Erie, Pa.**

STROWBRIDGE SOWER BROADCAST

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

TO KANSAS FARMERS AND RANCHERS:

We have correspondents in the Eastern States and special facilities for handling

KANSAS FARMS AND RANCHES.

If you have a Farm or Ranch to sell or exchange, send complete description. Address

Kansas City Real Estate and Loan Ass'n Room 29 Shildley Building, KANSAS CITY, MO.

SEASIDE SOUVENIER For 50 cents I will send a box containing a variety of Ocean Shells, Sea Moss and Sea Eggs, post paid to any address. Stamp taken. J. M. Kaler, Scarborough, Maine.

BUTTER AND CHEESE making apparatus and supplies of every description. D. H. ROE & CO., 253 and 255 Kinzie St., Chicago, O. 111

HOG Knives, send to J. F. Elliott, Manson, Ia., for Illustrated Circular and prices of the Elliott Hog Waterer. Fixtures and directions, \$1.50 to \$3.00.

WOOD'S CULTIVATOR ATTACHMENT.



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 Harrows, Equalizers, &c. **AGENTS WANTED. KIMBERLIN MFG CO., Indianapolis, Ind.**

STONE'S HARDY All the leading Strawberries, Raspberries, Grapes, and Small Fruits. STONE'S HARDY BLACKBERRY is our specialty. Best plants. Lowest prices. Send for List. Coo & Converse, BLACKBERRY (Name paper.) Fort Atkinson, Wis.

THE STRAY LIST.

HOW TO POST A STRAY.

BY AN ACT of the Legislature, approved Feb 27, 1885, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice. And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper free of cost, to every county clerk in the state to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5.00 to \$50.00 is added to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

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

Broken animals can be taken up at any time in the year. Unbroken animals can only be taken up between the 1st day of November and the 1st day of April, except when found in the lawful enclosure of the taker-up.

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

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

Any person taking up a stray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray.

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

The Justice of the Peace shall within twenty days from the time such stray was taken up, (ten days after posting) make out and return to the County Clerk, a certified copy of the description and value of such stray. If such stray shall be valued at more than ten dollars, it shall be advertised in the KANSAS FARMER in three successive numbers.

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

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

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

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

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

Strays for week ending Feb. 25, '85.

Trego county—George Pinkham, clerk.

HEIFER—Taken up by David B. Curtis, of Cyrus P. O., one red and white spotted heifer, 2 years old; valued at \$16.

HEIFER—By same, one pale red heifer, 2 years old; valued at \$16.

COW—By same, one brindle cow, about 7 years old; valued at \$16. All three animals indistinguishably branded the same on left side.

Franklin county—L. Altman, clerk.

MARE—Taken up by Thomas Graves, in Greenwood tp., Nov. 28, 1884, one black mare, 3 years old, brand on right shoulder.

COLT—By same, one horse colt, 3 years old, white hind foot, brand on left hip.

COLT—By same, one bay horse colt, 1 year old, three white feet and spot in forehead.

COLT—By same, one iron-gray mare colt, 1 year old, brand on left hip; the four above animals valued at \$80.

Wabunsee county—H. G. Licht, clerk.

MARE—Taken up by David Weeks, of St. Marys P. O., one black mare, 3 years old past, 4 feet 8 inches high, left hind foot white, a very large scar on breast; valued at \$25.

Strays for week ending March 4, '85

Nemaha county—R. S. Robbins, clerk.

MARE—Taken up by Daniel Schaaf, in Washington tp., Feb. 3, 1885, one small brown mare, about 15 years old, white spot on forehead and nose. Pony mare colt, about 6 months old, dark brown; both valued at \$40.

HEIFER—Taken up by Herman Fasholtz, in Richmond tp., Feb. 18, 1885, one red and white heifer, no marks or brands; valued at \$15.

Stafford county—T. A. Hays, clerk.

GELDING—Taken up by J. B. C. Cook, in York tp., January 20, 1885, one bay gelding, legs, mane and tail black, small star in forehead; valued at \$75.

Brown county—G. I. Prewitt, clerk.

STEER—Taken up by John Heatley, in Padonia tp., Nov. 1, 1884, one red and white 1-year-old steer, underbit in one ear; valued at \$14.

Elk county—J. S. Johnson, clerk.

STEER—Taken up by J. W. Lewis, in Wildcat tp., Feb. 21, 1885, one 2-year-old steer, M on right hip; valued at \$18.

Sumner county—Wm. H. Berry, clerk.

MARE—Taken up by J. W. Parks, in South Haven tp., Dec. 25, 1884, one brown 10-year-old mare, five feet high, no marks or brands; valued at \$30.

PONY—Taken up by John H. Warrenburg, in Guelph tp., Dec. 12, 1884, one 4-year-old dark dun mare pony, indistinguishable brand on left shoulder; valued at \$32.50.

Greenwood county—A. W. Hart, clerk.

STEER—Taken up by J. Stagg, in Quincy tp., Dec. 15, 1884, one red yearling steer, indistinct brand on left hip; valued at \$15.

STEER—Taken up by Wm. Tannabill, in Quincy tp., Dec. 20, 1884, one white yearling steer, no brands, slit and crop off left ear, underbit in right ear; valued at \$15.

STEER—Taken up by John Webb, in Bachelor tp., Nov. 1, 1884, one red yearling steer, white on belly, no marks or brands; valued at \$20.

SW—Taken up by A. M. Miller, in Janesville tp., Jan. 10, 1885, three black and white spotted cows, one marked with underbit in left ear.

STEER—Taken up by L. T. Dean, in Lane tp., Jan. 12, 1885, one steer calf, about 1 year old, dark red and white spotted, mostly red, underbit in left ear.

HEIFER—Taken up by A. M. Loveland, in Lane tp., Feb. 2, 1885, one small red yearling heifer, white on belly, legs mostly white, crop off left ear and slit in right, dim brand on left hip, valued at \$15.

STEER—Taken up by Geo. Blakeley, in Shell Rock tp., Dec. 20, 1884, one red 2-year-old steer, white forehead and hind feet, hole in right ear and swallow fork in left ear; valued at \$24.

PONY—Taken up by A. J. Wright, in Quincy tp., Nov. 26, 1884, one bay mare pony, white in forehead and white hairs on left side of face, left hind leg stiffened and very crooked, had strap around neck when taken up; valued at \$10.

HEIFER—Taken up by M. F. Bullion, in Janesville tp., Jan. 8, 1885, one small roan yearling heifer, brand on right hip, supposed to be an inverted U; valued at \$20.

STEER—Taken up by Thos. S. Fisher, in Lane tp., Feb. 14, 1885, one small yearling steer, black and white spotted, indistinct brand on right hip; valued at \$13.

Harvey County—John C. Johnston, clerk.

MARE—Taken up by Thomas Roach, in Sedgwick tp., Feb. 6, 1885, one dark bay mare, 10 years old, no marks; valued at \$15.

MARE—By same, one sorrel mare, 10 years old, no marks; valued at \$45.

Strays for week ending March 11, '85.

Jefferson County—J. R. Best, Clerk.

HEIFER—Taken up by J. A. Gorham, of Winchester. Feb. 18, 1885, one 2-year-old red and white heifer, no marks or brands visible; valued at \$15.

Riley County—F. A. Schermerhorn, clerk.

STEER—Taken up by G. W. and H. J. Earl, of Z. and A. Co., one yearling roan steer, underbit in left ear, two slits in right ear.

Miami County—J. C. Taylor, Clerk.

STEER—Taken up by John Jenkins, in Wea tp., Feb. 10, 1885, one 2-year-old past steer, color black with line back, white on belly, legs white and black; valued at \$18.

COW—Taken up by J. B. Palmer, in Marysville tp., Jan. 26, 1885, one roan cow, 8 years old, no marks or brands; valued at \$25.

Bourbon County—E. J. Chapin, clerk.

COW—Taken up by John N. Post, of Timber Hill tp., one red and white speckled cow, about 10 years old, crop off left ear, branded O or C on left hip; valued at \$20.

PONY—Taken up by P. T. Bledsoe, in Marion tp., one dark bay mare pony, 10 years old, 15 hands high, medium flesh, blind in left eye, scar on right hip; valued at \$60.

Allen County—R. W. Duffy, clerk.

STEER—Taken up by Geo. McLaughlin, in Marmaton tp., Feb. 20, 1885, one yellow and white steer, one year old, no marks or brands; valued at \$10.

Montgomery County—H. W. Conrad, clerk.

STEER—Taken up by Will Hibbard, of Louisville tp., Feb. 14, 1885, one 2-year-old red steer, branded L on left hip; valued at \$20.

Johnson County—Henry V. Chase, Clerk.

COW—Taken up by W. K. Allen, of Lexington tp., one pale red line back cow, about 3 years old, black around the eyes, end of tail black, white under belly; valued at \$18.

Headquarters for ENGLISH SHIRE —AND— NORMAN HORSES.



ROSEDALE
STOCK FARM

W. M. THOMPSON & SON,
MAYSVILLE, DE KALB CO., MO.

—WITHIN—
One hour's ride from St. Joseph, Mo., and two hours from Kansas City, Mo.

Three importations of Thirty Stallions and Mares now on hand—a grand selection to pick from.

LOCATION.—ROSEDALE STOCK FARM is situated 9 miles north of Osborn, on the Hannibal & St. Joseph R. R., and 30 miles east of St. Joseph, Mo. and 15 minutes' ride west on the H. & St. Joe R. R. from Cameron Junction, Mo. Free conveyance furnished at Messrs. Chipps & Berlin's stable, close to depot at Osborn.

EVERY HORSE RECORDED and guaranteed a breeder. Send for Catalogue. Prices low and terms easy.

RIVER VIEW Stock Farm. 50 HEAD OF IMPORTED NORMAN STALLIONS

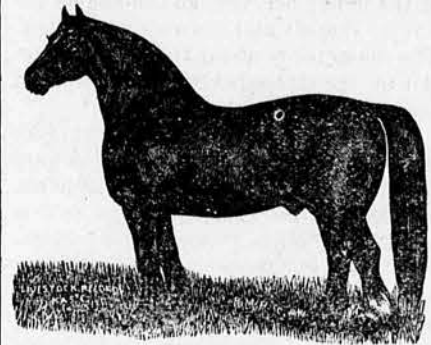
Just arrived from France, added to my stock of Norman Horses, which now numbers upwards of 100 HEAD, from 2 to 5 years old. Parties wishing to purchase first-class stock will do well to call and see my Normans before purchasing elsewhere. Prices and terms to suit purchasers. All of the above stallions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

JAMES A. PERRY
Importer and Breeder of Norman Horses.

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

F. J. JOLIDON & SON,

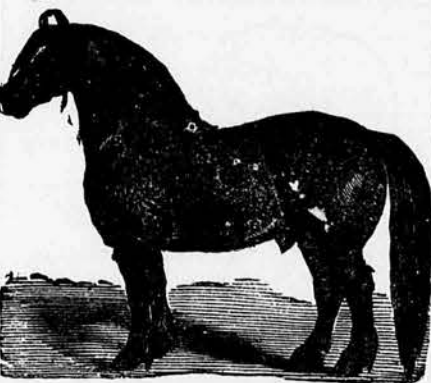
Elvaston, Hancock Co., Illinois.



IMPORTERS OF

Normans, Clydesdales and English Draft Horses.

Two importations of 1884 now on hand, and another large importation to arrive soon. Having personally selected these horses from the best breeding districts of Europe, we offer a superior lot of these horses, unsurpassed in breed and individual excellence. All persons in search of first-class horses will save money by calling on us. Prices low, terms easy. Elvaston is on the Wabash and St. Louis & Pacific R. R., a 2 mile east of Keokuk, Iowa, and fifty miles west of Bushnell, Illinois.

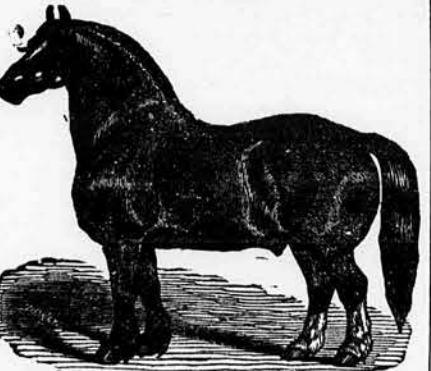


CRESS BROS.,

NORTH HILL STOCK FARM, Washington, Tazewell Co., Illinois, Importers and breeders of Clydesdale English Draft and Norman Horses. With our recent addition of a large importation August 20th together with those previously on hand, have now one of the finest studs in Illinois. CLYDESDALES made a specialty. Quite a number of them have distinguished themselves both in Europe and America as prize-winners this season. All are superbly bred. Visitors welcome, and all parties in need of such high-class stock would do well to give us a call and save money, as we will convince you when you call. Send for catalogue. Reasonable prices. Terms easy.

—175 HEAD OF— IMPORTED CLYDESDALES

Now on Hand.



The largest importer of Clydesdale horses, the largest breeder of pure Clydesdales. 37 Mares now in breeding. Moderate prices. No equal opportunity can be found elsewhere to buy matured Stallions or young Stallions and Mares, all ages. Persons invited to examine the stock. Correspondence invited. For particulars, call on or address

ROBERT HOLLOWAY, Alexis, Ill.

River Side Stock Farm.

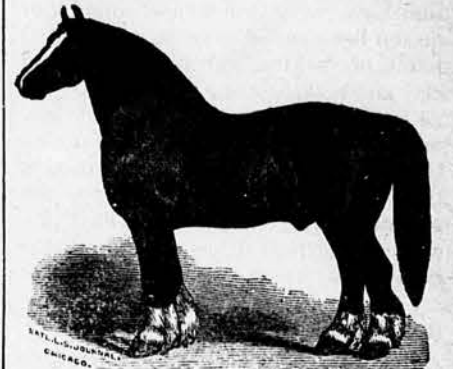


DEGEN BROTHERS, Ottawa, Ill.,

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

OVER ONE HUNDRED CLYDESDALE, ENGLISH DRAFT AND PERCHERON NORMAN

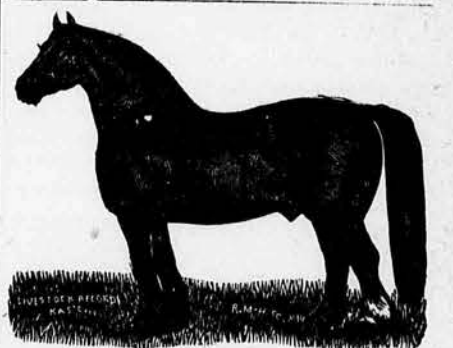
Stallions and Mares arrived in August, '84.



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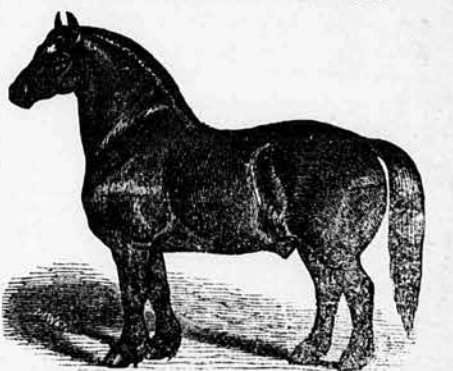


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Automatic Steam Generator.
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Saves one third to one half by cooking feed.
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Creamer in the market. We make a SPECIAL OFFER to the first purchaser 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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Awarded SPECIAL PREMIUM at the great St. Louis Fair, 1884. Has taken First Premium at State Fairs in nearly every Western State. Combine a good refrigerator. Milk and cream are both drawn without removing cans. Cans are removed and replaced in one minute if desired. All sizes from one to forty cows. Send for illustrated circulars.
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Are unequalled in EXACTING SERVICE.
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A new departure for sweep lever feed mills, in grinding ear and shelled corn, oats, rye, barley, etc., etc. By a system of gearing the in or grinding cone of the NEW MODEL is made to revolve three times as fast in one direction as the grinding mill revolve in an opposite direction, greatly increasing the grinding capacity. By the use of a central screw device, used only by the NEW MODEL, the inner grinding cone is evenly raised, a decided advantage in securing accurate grinding over other makes. By use of special material the NEW MODEL, the inner grinding cone is evenly raised, a decided advantage in securing accurate grinding over other makes. By use of special material the NEW MODEL, the inner grinding cone is evenly raised, a decided advantage in securing accurate grinding over other makes.
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MARSEILLES. ADAMS POWER CORN SHELLERS.
HAND ONE, TWO, FOUR OR EIGHT HORSE POWERS.
Belt or GEARED FEED GRINDERS. Pumping or Power
WIND MILLS, ALL SIZES AND STYLES OF Iron Pumps, Iron Pipe, SHELLERS, BRASS CYLINDERS
Riding, Walking and Combined
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Manufacturers of and Jobbers in Agricultural Implements.
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The celebrated Canton Listers, Plows, Cultivators, Harrows, Corn Drills, Hand Lift and Horse-Lift Spring-tooth Sulkey Harrows, Evans' Corn Planters, Corn Shellers, and a complete line of Buggies, Farm and Spring Wagons, etc. Send for Descriptive Circulars. Address

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TWELVE YEARS' PRACTICAL USE IN THE FIELD.
The Only Entirely Successful Wire Check Rower Ever Invented.
Popular Because SIMPLE and EASY to Operate.
The Barnes Wire Check Rower is the first Check Rower that has ever accomplished the great object of making corn checking a perfection, thus saving both time and money.
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The wire does not cross the machine, thus avoiding a Great Wear and Strain on the Wire and friction on the pulleys, and making a wire that does not cross the machine outward several wires that do cross. This point is apparent to reflecting people.
CHAMBERS, BERING QUINLAN CO., EXCLUSIVE MANUFACTURERS, DECATUR, ILLINOIS.
CLOSES ON OUTSIDE OF NOSE. Only Double Ring Invented
CHAMPION HOG RINGER, Rings and Holder.
The only Ring that will effectually keep hogs from rooting. No sharp points in the nose.
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Only Single Ring Ever Invented that closes on the Outside of the Nose.
Brown's Elliptical Ring AND Triple Groove Hog & Pig Ringer. Only Single Ring that closes on the outside of the nose. No sharp points in the nose to keep it sore.

Cheap and Durable FENCING.
NO ROTTING OF POSTS.
Wrought-Iron Posts and Barbed Wire.
Material furnished at Topeka, at from 35 cts. to 50 cts. per rod. Contracts for construction of fences taken. For particulars, address
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DAIRYMEN and FARMERS should use only the "Arm and Hammer" brand Soda and Saleratus, buy it in "pound or half pound" cartons which bear our name and trade-mark, as inferior goods are sometimes substituted for the "Arm and Hammer" brand when bought in bulk. Ask for the "Arm and Hammer" brand SALSODA (Washing Soda).
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To insure obtaining only the "Arm & Hammer" brand Soda or Saleratus, buy it in "pound or half pound" cartons which bear our name and trade-mark, as inferior goods are sometimes substituted for the "Arm and Hammer" brand when bought in bulk. Ask for the "Arm and Hammer" brand SALSODA (Washing Soda).

TOWER'S FISH BRAND POMMEL SLICKER
THE BEST WATERPROOF RIDING COAT.
Covers the entire saddle, and will keep you dry in any storm. Sold everywhere. Illustrated catalogue free. A. J. Tower, Boston.
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MANUFACTURERS OF STEAM ENGINES & BOILERS. Carry Engines and Boilers in Stock for immediate delivery.



Cahoon Broadcast Seed Sower in Operation.

Great Reduction in the Price of CAHOON BROADCAST SEED SOWERS.

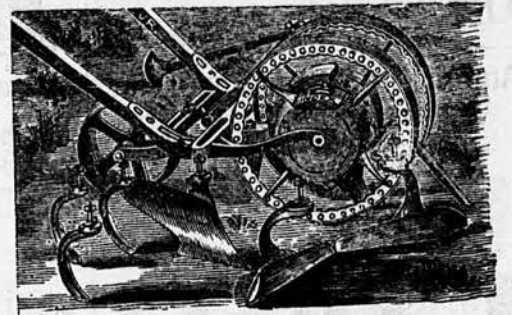
This is the best HAND SEED-SOWER ever put up on the market, and thousands upon thousands of them have been sold. The price was \$10 each when they first came out, and never was less than \$6, until now we are able to offer them at \$5 EACH, shipped to any point in the country by express, charges prepaid. EVERY FARMER SHOULD HAVE ONE. The price now saved, as seed can be sown accurately and not a grain need be wasted. It sows equally well in the wind. Sows Wheat, Oats, Rye, Buckwheat, Flax seed, Clover seed, Timothy, Alfalfa, Millet, Hungarian, Sorghum, Hemp, etc., at the rate of four to eight acres per hour. Directions accompany each machine. Order at once.

Great Reduction in Prices of PLANET JR.

Garden Drills and Cultivators.

No 2 Drill—Reduced price \$10, former price \$12; Combined Drill, Wheel Hoe Cultivator and Plow—Reduced price \$12, former price \$15; Double Wheel Hoe Cultivator and Plow—Reduced price \$8, former price \$10; Single Wheel Hoe Cultivator and Plow—\$6; Fire Fly Plow—\$3. Steel Standard Combined Horse Hoe—Reduced price \$10, former price \$12; Steel Standard Plain Horse Hoe—Reduced price \$9.50, former price \$11; Steel Standard Plain Cultivator—Reduced price \$6.75, former price \$10. Goods packed, ready for shipment, and delivered at Express office or Depot, upon receipt of money at above reduced prices. Order early. If you don't understand the goods, send for full descriptive pamphlet. Every Farmer, Professional or Amateur Gardener should have one or more of the above Tools. Send for Descriptive Circulars of our Dain Improved Automatic Hay Stacker and Gatherers (in your mail folder). Also our lines of Hay and Heavy Machinery.

TRUMBULL, REYNOLDS & ALLEN, Kansas City, Mo.



Planet Combined Drill and Cultivator. Order early. If you don't understand the goods, send for full descriptive pamphlet.

SEEDS! SEEDS! SEEDS!

THE LARGEST AND BEST STOCK OF FIELD, GRASS AND GARDEN SEEDS IN THE WEST.

5,000 Bushels Red Clover, 5,000 Bushels Timothy, 10,000 Bushels German Millet, 10,000 Bushels Kentucky Blue Grass, 5,000 Bushels English Blue Grass, 5,000 Bushels Common Millet, 10,000 Bushels Orchard Grass, 5,000 Bushels Red Top, 2,000 Bushels Alfalfa. Johnson Grass, Sorghum, Tree Seeds, Hedge Seeds, in Large Quantities. ALL NEW CROP. Send for Prices.

NOTICE WHAT OUR PATRONS SAY ABOUT OUR GARDEN SEEDS:—"Not a single ounce but what gave entire satisfaction and were every thing we recommended them to be." "Parties sent East, had no success, bought our seeds, and gave them great satisfaction." "The only strictly reliable seed sold in town." "Will buy no other," etc. Notice the testimonial of the "Kansas City Times," which represents over 1,000 families. No other Seed House can show such a record:

OSAGE MISSION, KAN., July 27, '84.—T. R. & A.: Duty: better than seeds they have been buying East and using of the paper on our part. Keep up your stand and your seed will take the day here. You told seeds also gave good satisfaction.

OSBORNE, KAN., Aug. 10, '84.—T. R. & A.: Your seeds have given us and our customers the best of satisfaction. SILENT & SILENT.

HARPER, KAN., Aug. 13, '84.—T. R. & A.: Have a good year's seed. Have always found them to be just as you represented them, fine and true to name. In fact most of the farmers will buy nothing else. Very truly yours, WILSON & BAUMSTARK.

ARROW ROCK, MO., July 20, '84.—T. R. & A.: The garden seeds I bought of you give entire satisfaction. I all came up and have great satisfaction to my customers.

SALISBURY, MO., July 17, '84.—T. R. & A.: We like the seeds you sold of you this season very well. No complaints from any of our customers. Several parties bought of us after planting several times, seed and our other parties, I have not seen a single one of our business selling bulk seed; as this was a new seed to our people this year, they were slow to "eat him." Yours truly, HUTCHINSON & DAVIS.

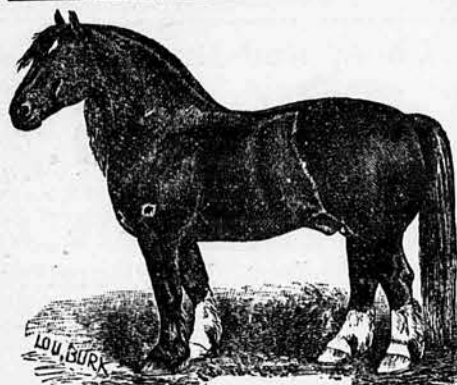
OFFICE KANSAS CITY TIMES, Nov. 20, '84.—Messrs T. R. & A.: I am glad to say that from the thousands of packages of your garden seeds sent to our papers, I have not received a single complaint, although they were guaranteed, while garden seeds procured from an Eastern source the year before were very unsatisfactory, and we had complaints from all sides. Your seeds will do the work.

SHERMAN, TEX., Aug. 12, '84.—T. R. & A.: I take pleasure in saying your seeds have given entire satisfaction. I guaranteed them to my customers and upon inquiry find they were in every instance represented. Respectfully, J. H. COLE.

FALLS CITY, NEB., Aug. 6, '84.—T. R. & A.: Have found your seeds first class in every respect. Our customers have been well satisfied with them, and we like to handle them better than the other seed in the place. Yours, W. W. WARDELL.

If you have not used our Seed, try them, and you will use no other. Our 1835 Catalogue, now ready, Sent Free. Address

TRUMBULL, REYNOLDS & ALLEN, Seedsmen, Kansas City, Mo.



GALBRAITH BROS.,

Janesville, Wisconsin,

Breeder and Importers of

Clydesdale Horses

Have at present on hand a splendid collection of Stallions and Mares of all ages, and every animal guaranteed. On paying facilities being unequalled, we can offer our stock cheaper than the market. Quality can be bought at elsewhere. Send for illustrated catalogue. Correspondence solicited. Visit reference January 1-1891 miles from Chicago by the N. & W. railroad, and 20 miles from Rock Island by the C. M. & St. Paul railroad.

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

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FOR SALE—Full blood, unregistered Jersey bull, 1 year old, black points, black tongue; \$4. Bull calf, \$20. Address John N. Denham, Harrisonville, Mo.

WANTED—To rent for cash a good farm of 80 to 100 acres within ten miles of Topeka. Address, T. J. Hillberg, P. O. box 292, Topeka.

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SEEK ORN.—Colon B. A. V. Medium East, 10-15 years of age of the No. 1. Pure from the original. Price \$1 per bushel. P. Voorhees, Lawrence, Kansas.

FOR SALE—A very choice red Young Marv bull, 2 year old, rec. red and guarantee. Get the bull before April 1st. Address, A. W. K. Hines, Manhattan, Kan.

STRAWBERRY PANTS.—2000 for sale. Value this, Wilson's a baby Cumberland 17 month old Green cent seedling. Price—\$2.50 to 10 per 100. Quantity a quality taken. Will sell whole lot at greatly reduced prices to any one or two parties who will take them up themselves. H. CLARKSON, 351 Tyler street, Topeka, Kansas.

T. M. MARCY & SON, WARRICK, Shafer coach, 1 year old, rec. red and guarantee. Get the bull before April 1st. Address, A. W. K. Hines, Manhattan, Kan.

AGENTS coin money collecting Family Pictures to enlarge; all styles. Pictures guaranteed. Special Inducements. EMPIRE COPYING CO., 38 Canal Street, N.Y.

GRASS SEEDS. Specialties, Kentucky Grass. Address R. Carroll, 17 and 19 Main street, Lexington, Ky.

IT WILL PAY YOU

To send a trial order to us, if you want to grow only the best quality of SEEDS or PLANTS.

12 years' experience. Before buying send for our catalogue and see varieties and prices. Address, B. A. S. LER & BRO., Box 12 Manhattan, Kansas.

FRANK CRANE,

Formerly of the firm of A. A. Crane & Son, Osco, Ill.,

COMMISSION AGENT

—For the Sale of—

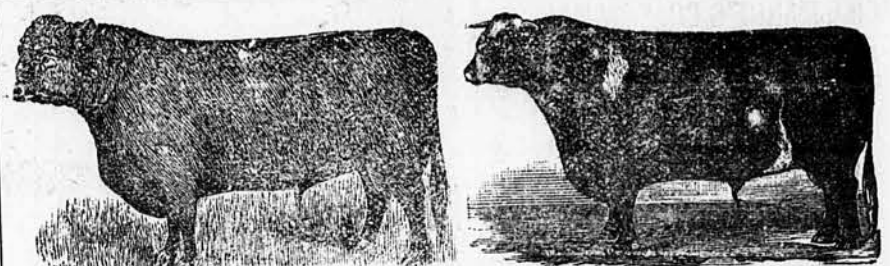
HEREFORD, POLLED ANGUS, GALLOWAYS, SHORT-HORN,

And Thoroughbred and Grade Cattle of all breeds.

Carload Lots a Specialty.

Stables, Riverview Park. Address

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CATTLE,

SPANISH - JACKS - AND - JENNETS,

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WELL-BRED SHORT-HORNS,

On Wednesday and Thursday, April 1st and 2d, 1885.

At the Fair Grounds, Peabody, Marion County, Kansas.

The offerings will consist of 70 Splendid Young Cows and 30 Extra Young Bulls of the popular and useful sorts. The cows will have a record of 100 lbs. by the 112 and 140 lbs. and 140 lbs. (included in the sale), the \$1,000 L.P. G. AND DUKE OF BARRINGTON 3d (164) and 140 lbs. (included in the sale). TERMS: Cash, balance of 2 months will be given to responsible parties living good accept of bankable notes at 10 per cent. interest. Cash given on application after March 15. In connection with the sale a large exhibition of breeding stock of all kinds.

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HENRY BLAKESLEY.

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