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RAISING SMALL FRUITS.

A paper read before the Trumbull County (Ohio) Horticultural Society, by M. Crawford.

The frost and the drouth of the present season may lead some of us who are engaged in small fruit culture to look on the dark side, and to feel as though we had more to contend with than any other class; and in view of this state of things, perhaps it would be well to recount some of the advantages of our occupation. By so doing we may possibly find that we have more to encourage us than we ever before thought of, even when things were most prosperous. It is natural for us to magnify our difficulties and drawbacks, and to forget our advantages. Let us now reverse this order, and for the time being put aside all discouragements, and consider some of the reasons why we should congratulate ourselves that we are fruit growers.

First, it is a business that benefits all classes and injures none. It is almost the only business in which a poor man can engage and be his own employer. Fruit-growers are comparatively independent; they are not liable to be thrown out of employment. If sickness hinders for a time, their crops do not cease growing. If friends come to visit, they can take a little time without having to give an account of it, or deduct the price from the few dollars due them at the end of the week or month. It is worth much to a man to be employed at home, to spend his days with his family rather than in some mill or shop or factory. Those who have children may justly consider it a great advantage to be able to employ them during the summer vacation, when so many children are running wild and laying the foundations of bad habits which will cling to them for life.

Fruit-growers have more leisure than most working people. In the winter they can take time to plan for the next season, and get everything ready for work. They can attend important horticultural meetings, doing good and getting good; and just here is a point worth noticing: Fruit-growers have no secrets; the proceedings of their meetings are published to the world. They have originated many improved methods, but they do not guard their knowledge with a high board fence and locked gates, lest others should profit by it. On the contrary, they gladly give to their fellow men the benefits of their thoughts and experiences. They adopt the generous motto "My light is none the less for lighting my neighbors," and act upon it. While they meet more frequently than any other class of working people, they come together for another purpose than to connive to monopolize all the advantages their business may possess. There is no monopoly in this, as in many other pursuits. The man with a single acre, or even a village lot, can engage in small fruit culture, and is quite likely to realize better returns for the amount invested than one with a hundred times as much.

As fruit-growers have a general knowledge of horticulture, they can do more to make home beautiful than any other class in moderate circumstances; and for the same reason they and their families have a more liberal supply of the good things produced by the soil than other people. Fruit-growers are intelligent; they do more reading, writing and thinking, and cause more printer's ink to flow than any other class of working people. Fruit-growers are inde-

pendent; they have neither asked or received any special privileges; no protective tariff, no bounty, no remission of taxes, no favors of any kind have been bestowed on them, and no other industry has been taxed to make theirs profitable. Notwithstanding all this the business has had a wonderful growth, and it never was in a more healthy condition than at the present time. Every one is interested in it, directly or indirectly, and the number actually engaged in it is amazing. It is easy to see that, large as the business is, it will for several reasons go on increasing. The demand is increasing, and the supply so perishable that the market cannot be overstocked for any length of time, however many may engage in it. But little capital is required to commence the business. It is not necessary to buy the land, and if it were, a little is sufficient. No expensive implements are needed, and the returns come so speedily that the capital invested does not lie idle long. This is very different from being in debt half a life-time for a farm and the tools and stock absolutely necessary to make it profitable.

Fruit-growing does not require a great outlay of physical strength, as there is but little hard work connected with it; and for this reason it is a suitable occupation for those who are not able to engage in farming, market gardening, or any employment which involves much hard work. Old men, invalids and children may spend their little strength in fruit-growing and be successful. It is pre-eminently a business for women. There is scarcely any other work in which they can engage with as good a prospect of money. It requires no great amount of time and study to prepare for it, and after getting established in it one is not liable to receive from some capricious employer an invitation to step down and out. Ladies are our most successful florists, and they can do equally well raising small fruits.

But though small fruit culture offers so many inducements to those who meditate embarking in it, it would be unwise for any one to engage in it on a large scale without some practical knowledge of the work, no matter how fine and well digested his theories may be.

Small fruit plants are set out for a special work—that is to send their roots through every inch of the soil in search of plant food, and, having found it, to change it into fruit. Our part is to prepare the soil, set out the plants and see that they have the best possible opportunity to do their work. Last of all, we secure the crop. Plant food, to be available, must be dissolved in water, and within reach of the roots. For this reason we pulverize the soil to a good depth and endeavor to keep it moist, so that the roots may readily extend in every direction. That the plant may work to the best possible advantage, the soil should contain an abundance of food for it. To provide this food we enrich the soil. Plants or animals may live with very little nourishment, just enough to prevent their dying, but they are kept at a loss to the owner. Who would think of employing a man and keeping him idle most of the time for want of proper tools and materials? When you hire a brick-layer at four dollars per day you employ a cheaper man to carry the brick and mortar. Of course the brick-layer could do it just as well, but you do not want his valuable time spent that way. So when you employ a strawberry plant to make fruit you should see that the raw material is put

within its reach. Spending valuable time and labor in cultivating poor land is one of the most serious mistakes ever made by tillers of the soil. After preparing the soil and setting out the plants we must see that they are kept growing without hindrance of any kind. All our small fruits, except the grape, do best in comparatively cool, moist soil, and in a situation that is somewhat sheltered and not exposed to the full glare of the sun. Plants are hindered in their growth in various ways, as by weeds, drouth, and want of air at the roots. Allowing weeds to grow among our plants to rob them of food and moisture, is almost as unwise as cultivating poor soil. One would scarcely expect a manufacturer to erect a building, fill it with tools and material, hire his employes, and then invite all the loafers in the community to come and use his material and appliances for their own selfish ends, and yet this would be just about as wise as allowing weeds in growing crops. While we cannot produce rain at will, we can to a great extent, by frequent stirring of the surface and by mulching, prevent the evaporation of moisture from the soil. This same stirring keeps the surface loose and admits air to the roots. After having grown the crops, final success depends very much on the manner in which it is picked and marketed. This is especially true of strawberries, which are often sent to market with such an unattractive appearance that they yield no profit to the grower, and very little pleasure to the consumer. Small fruits should be carefully picked, and all damaged or worthless berries left out. They should be sent to market in clean baskets or boxes, and each of these should contain berries of a uniform size from top to bottom.

No part of fruit culture is of more importance than a knowledge of varieties, and this must be learned, in part, by each one for himself. A person with little or no experience should commence in a small way, and confine himself mainly to such varieties as are known to do well in all soils and localities. If every one would "prove all things and hold fast that which is good" nurserymen would receive fewer curses and fruit-growers more money. As a rule, every one should raise his own plants, except new varieties which he wishes to test. In this way he is sure of having plants fresh, well grown and true to name, besides saving heavy express charges.

When we consider the healthfulness of the work, that it is carried on in the open air, that it furnishes an agreeable exercise for both mind and body, and that success is in exact proportion to the brain work invested, it is not strange that so many engage in it.

The Great Exposition.

The Exposition at New Orleans is attracting the attention of the press in all parts of the country and abroad. Almost every newspaper has something to say about the preparations that are being made to further the work of State or local associations. The special representatives of the Exposition commissioned by President Arthur, for the purpose of procuring exhibits have found the newspapers ready to report speeches and print the latest news relating to the World's Fair. This circumstance no doubt springs from the fact that the people throughout the land read with much interest all that is printed concerning this great enterprise. By the wide-spread influence of

the press the Exposition is known and talked about in India, Australia, on the banks of the Congo, in the South American republics, and in the frozen regions of the North. Seeming impossibilities have been overcome, and the scheme limited to a cotton exhibition at first, has been enlarged by degrees till it now embraces a grand exposition of arts, manufactures, mines, agriculture, and in fact about everything in which the people of to-day are interested. This Exposition to be opened in December next, covers more ground, has more exhibits entered, than can be recorded of any other World's Fair ever attempted.

Aside from the pecuniary means furnished, the untiring industry of its directors, this marvel of the nineteenth century owes much of its renown to the power of the newspapers.

Fenlon's Short-horn Sale.

Special correspondence KANSAS FARMER.

On Thursday last, J. P. Fenlon, Leavenworth, Kas., sold his entire herd of Short-horn cattle. The herd consisted of cows and calves and a few bulls. They were in fair condition and considered quite well bred. The attendance was good, and although the sale was held at an unusual time, the results were quite satisfactory, and as the initial sale for Mr. Fenlon, it may well be said to have been one of the best ever held in the State from a comparative view of the situation. The calves were not weaned, yet most of them were sold separately.

W. P. Higinbotham, Manhattan, Kas., was the heaviest purchaser of the day, securing most of the "plums" sold. Mayflower, three years, and of the Likely family, sold to him for \$400. Also Isabel 2d, a six-year-old Isabella, was knocked off to him at \$320. They were the highest-priced animals sold.

Cols. L. P. Muir and S. A. Sawyer did themselves credit as salesmen, and the aggregate results are as follows:

55 cows averaged.....	\$147 00
9 bulls averaged.....	85 55
9 sucking heifer calves averaged....	90 00
12 sucking bull calves averaged.....	65 00
55 cows with calves averaged.....	175 00

85 head of Short-horns averaged...\$125 00
HEATH.

It has been laid down that the diamond has the power of retaining light and of afterward emitting it in the dark. A private individual, the owner of a gem of ninety-two carats, and estimated at a value of 300,000 francs, has lent his diamond for scientific investigations. These have been most satisfactory, and the "phosphorescence" of the stone may be regarded as proved. The diamond was exposed for an hour to the direct action of the sun's rays and afterward removed into a dark room. For more than twenty minutes afterward it emitted a light, feeble indeed, but still sufficiently strong to make a sheet of white paper held near it quite visible in the dark. A similar result was arrived at by a very efficient experiment, and light was generated by rubbing the stone with a piece of hard flannel.

The water used in Virginia, Nevada, comes from a lake far above the level of the sea and the pressure in the pipes is 800 pounds to the square inch. When a break is made in the pipe, the water comes out with such force as to tear the flesh from the bones if the hand be put in it.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.
September 30—Clay Co., Mo., Short-horn Breeders' Association, Liberty, Mo.
October 9—C. S. Eichholtz, Wichita, Kas., Short-horns.
November 6—S. E. Ward & Son, Short-horns, Kansas City, Mo.
November 18 and 19—T. W. Harvey, Short-horns, at Fat Stock Show, Chicago.
November 20—Jos. E. Miller, Holsteins, at St. Louis, Mo.
May 20, 1885—Powells & Bennett, Short-horns, Independence, Mo.

Cost of Producing Beef and Pork.

Some interesting facts and figures were collected some weeks ago by Mr. L. H. Bonham and published in the Kansas City Indicator, which will be useful to many of our readers. They are appended hereto.

Prof. Sanborn, in one of his excellent and practical papers, records that for every 7.7 pounds of good hay fed to calves he had 1 pound of growth. For yearlings over twice that amount of feed was required. For two-year-olds three times as much. In general, he found a steer weighing 1,000 pounds at two years old requires 18 pounds of good hay or its equivalent for mere support without growth.

This experiment, like the record made at the Fat Stock Shows, and the experiments of Sir J. B. Lawes and Prof. Armsby and Soxlet, plainly state the law of nature "that the older and larger an animal becomes, the more food it requires to make a pound of growth."

The quality of the beef or pork made is not increased in the ratio of age or cost of production. In fact, the time and cost of production do not seem to be factors in deciding quality, except that when the animal has been fed too long, the quality declines and cost increases. Let us illustrate the law just stated.

First the older an animal becomes, the more food required to make a pound of growth. Seven and seven-tenths pounds of good hay or its equivalent made 1 pound of growth on calves under 1 year. It took 25 pounds of same kind of feed to make 1 pound of growth on a steer two years old. It takes twice 10 pounds of hay to keep a 2,000 pound steer, without any growth. Then to keep a fair three-year-old, so as to make a pound of growth, will take 36 pounds plus about 21 pounds, or 57 pounds of hay to make 1 pound of growth on a three-year-old.

The farmers who are accumulating years and bone and horns on their steers, before attempting to fatten them, are spending the equivalent of 18 pounds of hay for every day they keep them after two years, if they weigh 1,000 pounds. To keep such a steer from December to May, will take 150 times that daily ration of support, or 2,700 pounds. Now bear in mind, that amount of feed merely supports life. The steer thus fed has only held his own, if he has had good luck. Otherwise he has declined in weight and vigor and increased only in hair and scrawniness. But the keep and condition of cattle on most of our farms, wintered on the skin-and-bone process, are such that when the animals go to grass in the spring, it will take two months of good grazing to start the hair and bring them back to the growth and condition of the December previous. Here then we have to enter as an item of cost, seven months' keep, 3,780 pounds of good hay or its equivalent, for which we have absolutely nothing to show, unless increased age and a few loads of straw macerated into poor manure, will compensate for interest, risk and trouble. But in this indictment may we not claim something for loss of peace of mind for the miserable owner who has been between doubt and hope whether the poor

things would get through the winter? Such a method is indeed hard on man and beast, wearing on the nerves and conscience, and debasing to man, and degenerating to stock.

But as questions of economy are often made more forcible by aggregation, let us see what the farmers in Ohio must lose by slow growth of cattle, or rather by no growth, for six months in the year. In 1883 we had 947,659 young cattle. Suppose they average 500 pounds each. We shall then need 16,200 pounds of hay to feed on from December to May, a cost, at \$10 per ton for feed alone, of \$8.10 each, or \$7,679.037. For What? Simply to keep alive the cattle in Ohio that they may be ready to turn the grass into beef or into plump carcasses to be shrunk into walking skeletons the coming winter.

This is a humiliating but truthful showing of the ancient mode of making beef. Its antiquity, however, is its chief virtue. Shall we not change the view and glance at what may be done by generous feed and reasonable care?

The Fat Stock Shows at Chicago from 1878 to 1882, show the average weights of animals at 1, 2, 3, and 4 years and over. It will be noticed that as the age increases, the yearly growth diminishes. Of the Short-horns shown at 4 years and over, the gain in a year was but 577 lbs.; at 2 years it was 835 lbs.; at 1 year and over it was 1,382 lbs. The yearly average gain of grades and crosses was at 1 year, 1,335 lbs.; at 2 years 851; at 3 years, 658; at 4 years, 608. The average gain of the grades in the 1 and 2 year classes, for 1 year was 1,093 lbs., or a gain of 546 lbs. for 6 months. During the same time the old slow growth or no growth process there was absolutely no growth, at a cost of \$8.10 per head for feed of support. What the cost of the growth made in the animals at Fat Stock Shows from '72 to '82 was, we cannot say, but we see that in six months a gain per steer of 546 lbs. was made, worth, at 7cts., \$38.23, or \$46.35 more for the six months' keep of the fat stock animals than those fed merely for support.

About Hog Breeding.

A writer in the *Swine Breeders' Journal* offers some practical suggestions in a general way to beginners in the raising of hogs. He says "the readers of swine literature have for several generations been told that in selecting you should choose males a little smaller than the females they are to be bred to. Following these antiquated and stereotyped directions I have often given similar advice and practiced upon that theory until experience, reason and observation has caused a change in my notions on that subject. First, I think it contrary to nature, for you will notice that in the same family, human or animal, nature gives the larger size, more courage and stamina to the male. You will find man larger than woman, the bull larger than the cow, the stallion larger than the mare, the buck larger than the doe, the cock larger than the hen, and so on through nature, with rare exceptions. Such are nature's efforts to preserve size, stamina, etc. If the old system is adopted of constantly selecting males of less size than the females the result is a constant diminution of the size and vitality of the herd as a rule; of course there are exceptions, when nature in trying to regain supremacy or a vicious mating throws a large vigorous male under such a system, but these are only exceptions.

"My rule is that the male should always have more size at the same age than the female, if you want to keep your herd up to the standard; but I would make the difference in size slight for uniformity in breeding. You must

avoid too much difference in sizing or the progeny will be likely to lack good proportion. In other words avoid extremes in coupling, don't use a very large boar on a small delicate sow, but that is better than small feminine looking boar on coarse masculine sow, although we have occasionally had good results from such extreme crosses, but it is the exception. My advice then, is, select the males a trifle larger than the female and see if your pigs are not more uniform than under the old system of selection. I confess I clung to the old idea long and hard, but experience which is a dear school, finally convinced a stubborn student, that nature's ways are directed by a superior intelligence. You may theorize until your pocket-book is quite thin, but nature holds too many trumps for you.

"I admire the pluck of the man, who thus persistently attacks the steady and irresistible forces of old nature, but must condemn his discretion. In selecting a herd for breeding I think it better to avoid extreme; by the word extreme I mean neither the largest nor the smallest. A medium size is the most profitable. Now as to the number of animals, if you have not had much experience, touch lightly, until you have a liberal supply of it, for I care not how much theory you have, you will learn that it takes experience to insure success. Every breeder who has been long engaged in business, will, I think, confirm this statement; that there are many little things that you cannot learn by reading which must be obtained by the rough and stormy paths of active labor and observation. Without the practical work you are as the school boy who first enters upon the active business of life. You are full of theory but the application of those theories to the practical struggle of life is often the puzzle that is difficult to solve. I well remember the enthusiasm and confidence with which I figured the price of animals to start with, the amount of feed and number of pigs I felt sure I could safely count on and the result of the figuring was highly satisfactory; but the practical results were so far below my shining figures that I wondered whether I was not mistaken as to which one of the boys I was. If, however, you have educated yourself with grades, and have plenty of room and money I would say you might safely start out with twenty sows and three boars, selecting them so as to have as few of them closely related to each other as practical. By avoiding close relationship in your selections you will be able to make your crosses and matings within your own herd for several years.

"Ten sows and two boars will make you a very pretty start and my opinion is, it is enough to begin with.

"Select your sows as nearly uniform in color, constitution, size and symmetry as possible and whose ancestry have been of like character, and get good ones or none. It is much cheaper to pay fifty or even one hundred dollars each for good ones than to take inferior ones at ten or twelve dollars each. I do not mean that high priced pigs are always the best. What I desire to impress upon you is, select the sow you want and get her as cheap as you can, but get her or none. In selecting sows be sure to get heavy hammed and broad hiped ones, that is nature's model for the female form. The broad hips and heavy hind quarters insure easy delivery in farrowing, and usually good milking qualities. Nature constructs the males with large shoulders and big neck, while the female is lighter in the neck and shoulders and broad in the loin and hips."

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

The Best Wool.

An English authority says: The property for which wool is perhaps most valued is trueness of breeding. In a true-bred sheep each staple of wool, that is, each lock into which a group of fibers naturally forms itself, will be of equal growth throughout. The fiber will be the same thickness as nearly as possible the whole length, or will be finer at the point than at the root. There will be no shaggy rough wool in it. But if the sheep be cross-bred, or ill kept and exposed to storms, the fibres will be rough at the points, and coarser there than at the roots; the reason of that being as the wool gets longer, or as it is more exposed to bad weather and hard treatment, nature makes it stronger to resist what it has to encounter, while the part which is next the skin remains fine to give greater warmth. Such wool, even when combed and spun into yarn, never lies smoothly and evenly as true-bred wool, and is consequently not of as much value. There is another sort of wool which farmers do not seem to understand, and writers on the subject often ignore, but which is found more or less on all cross-bred sheep, and on sheep which are too much exposed and fed in hilly districts. This is known as "kemp," or dead hair. These kemps vary in length and coarseness according to the breed of sheep. In white Highland they are about two inches long and very thick; in cross-bred Australian they are very short. In the former they cover the under side of the fleece; in the latter they are so few as not to be of any importance. They are, however, all alike in this, that they are a brilliant shining white (except on sheep with gray wool, when they may be black), and they will not dye the same color as the rest of the wool. They consequently depreciate the value of the wool very greatly, making it only suitable for low goods. They seem to be fibers of wool, which, owing to the coarseness of the breeding of the sheep, or owing to its exposure to rough weather, have been killed, so far as power to grow long is concerned; but they grow in thickness and hardness till they become solid glazed, and horny, and thus are unable to receive the substance of the dye. They never alter in the process of carding, combing, or spinning, nor do they unite with the rest of the wool to form the thread, but lie on the surface, only held down by other fibres of wool which may be wrapped round over them. It should be the object of every breeder of sheep to diminish, if possible, these very kempy varieties of wool.

FORTY CENTS will secure the KANSAS FARMER the rest of this year on trial.

The Boss Combination

Zinc and Leather
COLLAR PAD.

The Strongest, Most Durable and Safest pad ever made. The tips being pressed into the leather and firmly clenched, act as rivets, and make a pad of zinc and leather firmly riveted together. The zinc plate being heavy enough to prevent the pad closing together at the top of the withers and pinching the neck. It also keeps the pad open, giving a chance for the air to circulate and dry and cool off the neck. The zinc being pressed into the leather on the under side brings a smooth zinc surface to the flesh of the horse; the leather, meantime, preventing the zinc from becoming heated by the rays of the sun. It is always cool, rather than moist, is easily kept clean, and will positively cure sore withers caused by the use of leather or other soft pads. There is more suffering from sore withers than from any other cause. THE BOSS PAD is guaranteed to wear longer and give better satisfaction than any other pad now in use, or the money refunded. Manufactured by DEXTER CURTIS, Madison, Wis.

Stewart's STOCK REMEDY.
Is a Tonic, Appetizer and Blood Purifier for all live stock. The best Condition Powder in the world. 25 CENTS.

PATENTS! Thomas P. Simpson, Washington, D. C. No pay asked for patent until obtained. Write for inventor's guide.

In the Dairy.

Modern Cheese Methods.

Mr. J. A. Smith gives some of the leading points in the method of cheese-making as practiced by Prof. Harris, who is in the employ of the Dominion government as cheese instructor for a portion of Canada. Mr. Harris uses rennet partly in proportion to the time he intends the cheese to be kept before sale and use. He wishes to cut the cheese in from ten to twenty days, he coagulates the milk of which they are made, so it will thicken in from eight to twelve minutes. Prolong the time of thickening, by using less rennet, if a slower-maturing cheese is desired. We regret, says Mr. Smith, that Mr. Harris did not put a limit on the time that might be taken to thicken, as there is a wide difference of opinion on that point—some holding it may be as long as 35 or 40 minutes. Our belief is that when more than 20 minutes is required, it induces weakness in the curd and waste of the best part of the weight. He prefers the extract of rennet, as now known in commerce; but if he makes his own from the skins, he soaks them five days in a stone jar, uses two quarts of water and one-quarter pound of salt to each skin. Then wrings them out, strains the liquor, and adds to it more salt than it will dissolve. Soaks the skins again in a weak brine, rubs them thoroughly, occasionally, for two days, wrings them out and throws them away. The liquor is then strained and added to the first—care being taken that there is salt enough to forbid any approach to putrefaction. Says this way never fails, and detests the use of whey instead of water as damaging to the flavor. Keeps the liquor in the coolest place in the factory.

When setting stirs lively for three minutes; then lets it stand four minutes; then merely moves the surface with the bottom of a dipper till he sees signs of coagulation. Cuts when the curd will break square, and cuts very thoroughly. Is not then in haste to apply the heat, but takes fifteen minutes to let it harden, and uses the hand to gently stir up and break any cubes the knife has failed to divide. Too quick or sudden application of heat hardens the curd too much and makes it harder for the whey to escape. Heats gently to 98, and stirs enough to keep the curd fine, unless matting is permitted and the curd ground in a mill—which latter way he prefers, and avers it promotes firmness of texture and at the same time a soft flexibility that is not attained by the other method.

Likes the Dominion cutter (which is a sieve made of knives crossed, through which the curd is forced, by pressure), better than the United States knife or peg mill.

He insists upon having the whey drawn while sweet; and also upon keeping the curd warm after being drained, until acid enough has developed. Inveighs loudly against drafts of cold air on the bare curd, either from cold room or open doors or windows. Relies on the hot iron test, and says while it gives off an odor of burnt milk it is safe, but the moment the odor changes to that of toasted cheese, the salt should be applied. Delay at this point results in a tallowy cheese. He salts from 1½ to 3 lbs. per 100 lbs., according to the time he intends to have them keep before being consumed. To cure in twenty days salts 2 lbs. 6 oz. In filling hoops he believes in doing the work pretty rapidly, to prevent the salt from settling in one end. Cures in temperature of 60 to 70. Too low heat makes a soggy, clammy cheese.

Making Cheese Digestible.

Cheese is one of our most valuable foods, but many persons, unfortunately, cannot eat it. Any method that renders this nutritious food suitable to all is one that should be put into practice. Prof. Williams states that the reason why salt junk is indigestible is because the salts of potash are driven out of it in pickling. In separating the curds in the milk by rennet, cheese is also rendered indigestible for the lack of potash salts. In order to restore these salts and render the cheese digestible, he suggests the following:

1. Cut the cheese into shreds, or grate it, or chop it up fine like suet.
2. To every pound of cheese thus treated add one-quarter ounce of bicarbonate of potash.
3. Put the mixture of cheese and bicarbonate of potash into a saucepan with either three times its bulk of cold water, or four times its bulk of cold milk, and mix well.
4. Put the saucepan on the fire and bring the mixture slowly to the boiling point, taking care to stir it all the time.
5. Having got it to boil, keep it hot until the cheese is melted, which does not take long.
6. Turn it out into a dish, and the result gives a beautiful, nutritious mixture which thickens like a custard in cooling. This custard may be eaten with impunity even by those persons who would be ill after a piece of cheese the size of a nut, and is peculiarly adapted as food for all persons who work hard with either brains or muscle.

Fancy dishes may also be made according to the following recipes: Take the mixture of cheese and bicarbonate of potash, and water or milk, given above, and add to it two eggs, white and yolk beaten up together for every quarter of a pound of cheese in the mixture. Put into a dish or a series of little dishes (previously buttered), and bake till brown. This must be eaten with bread or biscuit. Another way is to make the mixture a little thinner by adding a little more milk or water, and to put it into a pie dish with slices of bread laid one over the other. The custard should be poured in cold and left for an hour to soak before it is baked. This dish is a great improvement on the ordinary bread and butter pudding.

Perhaps some of our expert housekeepers may find it worth their while to try this recipe.

World's Fair at New Orleans

Will be open to the public on December 1st, next, and continue until June 1st, 1885. The MEMPHIS SHORT ROUTE SOUTH will enable people in the West and Northwest to visit the great Exposition at a trifling cost, as this new route (the only direct line between the West and South) makes the trip to New Orleans a comparatively short one.

During the Great Fair, round trip tickets to New Orleans, good to return until June 1st, will be on sale via the MEMPHIS ROUTE, at very low rates from Kansas City and all points in the West, and especial arrangements will be made to accommodate the people in the best possible manner. Entire trains, with new Pullman Buffet Sleepers, between Kansas City and Memphis, where close connections are made with all lines South and East.

The MEMPHIS SHORT ROUTE SOUTH is the only direct line from the West to Chattanooga, Atlanta, Nashville, New Orleans, Jacksonville, and all Southern cities. Round Trip Tourist Tickets are sold via this route to all the pleasure resorts of the South.

Send for a map and time card of this SHORT ROUTE, and note particularly its quick time and superior accommodations.

J. E. LOCKWOOD,
General Passenger Agent,
Kansas City.

Kerosene is better than crude petroleum for the softening and clearing out the gummed and hardened oil in the boxes of mowers and reapers.

BREEDERS' DIRECTORY.

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

CATTLE.

J. M. MARCY & SON, Wakarusa, Shawnee Co., Kas., breed Thoroughbred Short-horns of fashionable families. A few yearling bulls and young cows left for spring trade. Correspondence solicited.

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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.

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HOLSTEIN CATTLE AND SHROPSHIRE SHEEP bred and imported by Jos. E. Miller, Ellwood Stock Farms, Belleville, Ill.

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IMP. BARON VICTOR

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Correspondence.

Jersey Reds in Brown County.

Kansas Farmer:

After a hot July, with frequent showers, we are having a cool and dry August thus far.

Wheat was fair—fall wheat better than spring; oats are a failure on account of rust; many large fields were not cut at all. Corn looks very promising.

Stock generally is doing well. At Hiawatha, our county seat, a cattle disease broke out. Many cattle died in rapid succession. It is believed to be Texas fever, as some Texas stock had escaped from a train wreck, and planted the disease there.

In the FARMER of July 16th, over the signature of "Farmer," a correspondent from Osage county warns us against red hogs. He says he can give the names of at least twenty persons that corroborate his statement. If he would give his own full name we might have more credence in his statement. As it is, it looks suspicious that he has an axe to grind. The last time I came across New Jersey (nineteen years ago) I saw very few of the mast-producing forests that he mentions as the profitable place of Jersey Red hogs. They do graze, as he says. I have tried the half-bloods—a cross of Jersey Red male on Poland-China sows, and found the cross an excellent hog, strong and active as soon as born, fattening well at nine to fourteen months old. Again, I tried the thoroughbred Jersey Red on the above named cross, which did equally well, so far as I can see at present, the sows being remarkably prolific. I have not tried the thoroughbred Jersey Red long enough to speak from experience. But the crosses mentioned were strong and hardy as pigs, grew fast, but were rather thin and not nice looking from weaning till six months old; at that age and after they spread out and got much ahead of the other hogs, in the same pasture and at the same feed with them, and on market at twelve to fourteen months, they were from fifteen to twenty-five pounds heavier than my black hogs and Poland-Chinas. H. F. MELLEBRUCH.
Hiawatha, Kas.

Notes from Labette County.

Kansas Farmer:

I thought I would let you know what this part of the country is doing. It commenced raining here last Tuesday, the 12th, and it has rained every day since. It has been a nice, gentle rain. Crops are good here. Wheat that has been threshed is making a good yield, running from 16 to 28½ bushels to the acre. I will tell you what kind of a wheat crop I have. Last fall I went into the Neosho river bottom with my breaking plow and broke the sod about two inches deep; then followed up with a common twelve-inch stirring plow, and subsoiled about two and a half or three inches out on top of the sod. I broke about the first of August and let lay until the first of September; then I harrowed it, and drilled in the wheat about the 10th or 12th of September. I used a roller press drill made some place in Ohio; sowed four and a half bushels to six and a half acres of ground; and the sod wheat was the prettiest wheat I ever saw anywhere. I have not threshed yet, but when I do if the readers would like to know the yield I will report. Corn is good. That rain is finishing up the crop. Oats were not as good as usual. The castor bean crop is light, and there was not many planted. Wheat is not good, but millet and cane are. The fruit crop is light—that is, apples, and as for peaches, there are none.

Stock water has been very scarce in some places on the prairies.

R. B. WILLIAMS.

Parsons, Kas., August 16.

The Plummer Fruit Evaporator Co. are building up a very large trade in Michigan, and are shipping their Evaporators in car-load lots. They are making arrangements for another large manufactory in Michigan at the commencement of next season to save expense of freights and facilitate their business, as the capacity of their Leavenworth factory is already overtaxed with local trade.

A French paper says: "It is a remarkable fact that there are no rats in the islands of the Pacific Ocean. Repeated attempts have been made to acclimatize the rodents there,

as the flesh is much esteemed by the natives as an article of food. But the attempts thus far have failed, as they invariably die of consumption."

The Governor's Proclamation.

Governor Glick has issued the following proclamation in regard to the Texas fever:

STATE OF KANSAS,
EXECUTIVE DEPARTMENT,
TOPEKA, August 13, 1884.

WHEREAS, Great fears exist among the people of this State who are in the cattle-raising and cattle-shipping industry, that the Texas or splenic fever may be introduced into this State by cattle from Texas, Arkansas, Mississippi, Georgia and Florida, and thus jeopardize the great stock interests of the State; and

WHEREAS, I am requested and advised by the Live Stock Sanitary Commission, a large number of persons engaged in the cattle-raising industry, and railroad managers, that the only safe and practicable method to secure absolute protection and immunity from the introduction of this dangerous disease is to quarantine the State against cattle from the localities named, at any time before the 1st day of November, A. D. 1884;

Now, therefore, in order to protect the great stock interests of the people of the State of Kansas against the introduction or dissemination of the Texas or splenic fever, I, G. W. Glick, Governor of the State of Kansas, under and the authority of "An act for the protection of domestic animals," do hereby order established, and declare a quarantine until the first day of November, A. D. 1884, against all such cattle from the localities named from coming into the State of Kansas (except those from the Indian Territory and the Pan-Handle of Texas, with a certificate of health, and shipped by railroad); and I call upon all citizens, railroad managers, and those in charge of stockyards, to aid the Live Stock Sanitary Commission in the enforcement of said quarantine, and request all Sheriffs and County Attorneys to render all assistance necessary to enforce the law under which this quarantine is established.

In testimony whereof, I have hereunto subscribed my name and caused to be affixed the great seal of the State. Done at the city of Topeka, the day and year first above written. G. W. GLICK.

By the Governor: JAMES SMITH,
Secretary of State.

Frozen Mutton Trade.

Bell's Messenger has an interesting article on the immense trade that has grown up in frozen mutton. We are not romancing, it says, when we say that the importers of dead meat from Australia, New Zealand, the River Plata, and elsewhere are preparing to double the mutton supply of the metropolis. In the year 1882 there were brought into the Metropolitan Cattle Market 561,600 home-bred and foreign sheep, together; and into the Foreign Cattle Market at Deptford 783,449 foreign sheep, making at both markets a total of 1,345,049 live sheep. This gives us an average of 25,806 per week. Have agriculturists any idea of the scale on which preparations have been already made for supplementing this supply by importations of sheep carcasses, brought through the tropics in a frozen state by means of the cold "dry-air refrigerator" process? Well, one of the principal makers of cold air machinery, Mr. A. Seale Haslam, of the Haslam Foundry Company, at Derby, states that he has now at work in Australia and New Zealand machines capable of freezing 300 sheep per day, and that he has fitted steamers and sailing vessels which, reckoning an average number of voyages per year, can bring to England about 500,000 sheep per annum. Further that he has machines at the River Plata, capable of freezing 900 sheep per day, and in ships trading between that country and England able to bring over 130,000 sheep per annum. The Bell-Coleman Mechanical Refrigerator Company also have fitted vessels which have brought over 131,000 carcasses of mutton from America, and 110,000 carcasses from Australia and New Zealand. But the trade is actually proceeding by leaps and bounds. In 1880 Australia sent 400 carcasses of mutton by way of a beginning. In 1881 the number was increased to 17,275; in 1882, Australia and New Zealand sent 66,095 frozen sheep. In 1883 this supply was nearly tripled; the number being 184,626

sheep. The first three months of 1884 have shown imports of 96,115 carcasses of frozen mutton from Australia and New Zealand; or at the astounding rate of 384,460 sheep per year, or an average of 7,373 per week. But the arrivals are increasing so rapidly that this total will certainly be greatly exceeded. Then, according to the trade and navigation accounts, in addition to the imports of frozen meats from the colonies, we received in the first three months of the present year 20,360 cwt. of "fresh mutton," say equivalent to perhaps 4,680 sheep; while Holland sent 39,387 cwt., say equivalent to perhaps 8,000 sheep, say at the rate of about 51,000 sheep in the year.

A trade that in three years has grown from nothing to an import equal to one-third of the sheep at the Metropolitan and Deptford markets, and is more than doubling its rate of growth at the present moment, will not be long before it accomplishes the proposition at the opening of this article. For there is practically no limit to the possibilities of importation, except the fear of being too quick in pouring in the supplies, with the effect of glutting the market, before the country butchers have found out that in London they can buy frozen mutton as good as they can buy at home. There are 76,000,000 sheep in Australia and New Zealand, whereas in the United Kingdom our sheep stock stands at 27,000,000; and granting that a major portion of the colonial flocks may yield only small Merinos, it is well known that the carcasses now coming over are larger cross breeds, and that the sheep farmers of the Antipodes are rapidly preparing, by the use of rams from England, to cultivate improved sorts.

Now we come to the most serious aspect of the whole matter. The trade has not to wait for the provision of cold storage at the waterside in England, as, up till lately, has always been understood. To prepare for the slaughter of imported animals, we had to establish the great market at Deptford, with its lairs and abattoirs; but no such great public work has to be undertaken in the present case. It is already done for London. The cargoes of frozen mutton on arrival must, of necessity, be transferred to cold stores, if they are not to be thrown upon the market and sold for what they will fetch within a day or two—thus leaving the importers at the mercy of hot weather and a glut. And the London and St. Katharine's Dock Company have now completed, at their Victoria docks, immense stores, consisting of vaults, which were previously used for bonding brandy, now fitted with a number of powerful steam engines driving cold-air machinery, capable of holding in an atmosphere 20 degrees below zero no fewer than 50,000 to 60,000 sheep at one time. At these docks alone are now cold storage for preserving meat any reasonable length of time without deterioration. At an average of ten days' storage per cargo, these chambers can deal with 34,000 to 40,000 sheep per week, according to the size of the sheep; and that is 1,768,000 up to 2,080,000 per year. Consider: this amounts to one-third or one-half more than the 1,345,049 sheep which were shown in the Metropolitan and Deptford cattle markets in 1882.

The Education of the Indians.

The United States has finally concluded to apply the common theory as to the civilizing power of education to the long deferred solution of the Indian problem. In 1875 a band of Indian prisoners was taken to St. Augustine. After being held for some time as prisoners of war, seventeen of the younger Indians begged for instruction in the ways of the white man. The school for colored youth at Hampton, Virginia, seemed to be the only place at all available. Hampton Institute consented to receive them at an expense to the Government of \$707 each per annum. They spent two years here, and in 1879 were removed to Carlisle, Pennsylvania, and formed the nucleus of the Indian Training School at that place.

The result of the Hampton experiment encouraged the continuance of the co-education of the negro and the Indian; the facilities and accommodations at Carlisle were rapidly increased; the success in these places led to the establishment of another training school at Forest Grove, Oregon. These schools were sustained by special Government appropriations, which were steadily increased in amount. For the year ending last June, the appropriation for In-

dian affairs included, for educational purposes, the following items: \$68,500 for the Carlisle School; \$30,000 for the Forest Grove School; \$16,700 for the support of Indians at Hampton Institute; \$230,000 for other boarding and day schools in connection with agencies and reservations. Provision was also made for the erection of buildings and the establishment of two new schools, one to be located in Dakota and the other in Kansas, in the vicinity of the Ponca and Pawnee reservations. This is the warrant for the school, which, after personal inspection of various localities by a special agent, has been located at Lawrence. To increase still further the number of Indians receiving instruction, Senator Hoar, of Massachusetts, offered an amendment, placing at the disposal of the Secretary of the Interior \$250,000 more to provide for the support of Indian children, in satisfactory schools in any State at an expense not exceeding \$200 a year for each pupil.

The expenditure of \$150 to \$200 apiece on these Indian children can easily be justified, merely on the score of economy. It costs the Government \$60 apiece to support Indians not in school, and it is cheaper to pay \$200 a year for five years than to pay \$60 a year for thirty years. And, though the total appropriation may seem a large sum, it does not approximate the amount that would be required to carry out the provisions of our Indian treaties regarding the matter of education.

The more thoughtful among the Indians themselves fully realize that civilization alone can prevent the extinction of their race. This class earnestly desire the education of their children. Five years ago there was some hesitation and reluctance about allowing children to be carried away to the East to be kept for years by agents of the Government, which could scarcely expect the entire confidence of the Indians. This feeling has passed away; and the three hundred Indians at Carlisle, representing more than a score of tribes, are a picked company, chosen from hundreds who are eager to come. Now that education has become the settled policy of the Indian Commissioners, the schools are to be established nearer the field of operations. This will lessen the cost of transportation, interest the parents in the school, and bring them somewhat under its influence through the possibility of occasional visits. At the same time, the location must be such as to remove the pupils wholly from their savage surroundings and place them in the midst of a civilized community. Another somewhat new departure consists in the exclusive use of the English language in these schools. The results of school work among the Indians, where the children have kept up their language and have returned to their wigwams every night to sleep, have not been entirely satisfactory. The plan now pursued will remove the children entirely from their old surroundings during their school life, and, if the number educated is large enough, we may reasonably expect the gradual transformation of the "wards of the Government" into workers and citizens.

No attempt is made in most cases to give more than the rudiments of a common English education. Industrial training is regarded as of least equal importance with the education of books. There is systematic provision for daily work from all. Most of the boys learn trades. The school at Hampton has students learning carpentry, blacksmithing, wagon-making, shoe-making, harness-making, and tin-work. The Indian Commissioners, in their report for 1881, state that the wagons, harness and tinware furnished by the Carlisle school compare favorably with old established manufactures.

Observations thus far indicate that the Indian learns readily, but experience has shown that he also forgets readily. If these students are not to relapse into barbarism when they return to their tribes, they must be numerous enough to afford each other mutual support and sympathy in maintaining the habits and occupations of civilized life. It is unreasonable to expect solitary Indians scattered here and there through a tribe to remain civilized when all of their associates are those who can neither understand their language nor appreciate their efforts at improvement.—Prof. Cowles.

ON TRIAL.—The KANSAS FARMER for 40 cents the remainder of 1884.

Wheat and Its Culture.

A Boston paper, the *Cultivator*, says: Something more than two-thirds of the wheat grown in the United States is of the winter variety, and in the large extent of country where winter wheat is an important crop, preparations for seeding should now be in active progress. While it is not considered necessary to take a whole season in preparing the seed bed for wheat, there is the same necessity for getting it in the best possible condition. The differences between former practices and present methods is that knowing now by experience what is required, farmers are able to accomplish the desired result with less waste of time.

The land must be clean. Not only do live weeds choke the wheat but dead weeds cumber the ground, and when plowed under make the soil so porous that it absorbs a vast amount of water in fall and winter, which freezing and thawing, expands the soil, snaps the roots and throws the wheat plant on the surface. It is in the fact that heavy clay soils are only slightly pervious to water that their advantage in holding wheat roots consists. Farmers sometimes say that the roots get firm hold so that they cannot be thrown out. No matter how firm the hold the roots may get, frost will break them though they were tenfold as strong as they are. A good growth of wheat is a help, not by making the roots go deeper, but by covering them so that they will be partially protected from sudden freezing and thawing. Under a sod, frost never penetrates so deeply, and when once frozen early in the winter the soil does not thaw until spring. A close matted growth of wheat, completely covering the roots, is in this respect very like a sod.

One of the important points in wheat culture is to obtain a large spreading but not tall growth of the wheat plant in the fall. This will insure a similar condition of the wheat roots, while a tall growth, not spreading, indicates that the roots have struck downward rather than pushing out horizontally near the surface. It is desirable to secure a large leaf growth in the fall, provided it be of the right kind. In a wet, cool season wheat makes such a growth. In hot weather, especially if dry, the thrifty appearance of wheat is no indication at all of its probable condition the subsequent spring or of the yield at harvest. Hence there is a great variety of opinions among farmers as to the advantage of a large growth in the fall, those who have secured it of the right character deeming it very important, while others say they can succeed just as well to sow very late and let the plant barely make its appearance before winter.

There is no invariable rule as to the date for sowing wheat. It is far better to be governed by the weather. So long as it continues dry and hot wheat should not be sown, no matter if such weather continue until October. But after heavy rain or a succession of rains, followed by cooler weather (and all the better if there has been some frost) it is safe to sow wheat. This may come as it did in many localities a year ago, early in September. It is after early wheat seeding under such conditions that the largest and best crops of wheat are grown. The winter wheat crop this year is generally conceded to be very large, although the winter was everywhere unusually severe. The fact is owing to the favorable growth of the wheat plant, which enabled it to endure the severe cold without injury.

Something also depends on the mechanical condition of the soil and where its fertility is placed. The best farmers no longer plow under manure for wheat,

nor do they attempt to make the soil in fine tilth to any great depth. Two or three inches of the surface is sufficient to enrich or to make fine for the seed bed. If we go deeper it is only with the effect of discouraging growth where it is wanted and encouraging it where it is not desired. It is for the purpose of compacting the soil that the roller is often and justly commended to wheat growers. But the fault of the roller is that it only compacts the surface. The lower soil, where firmness is most desired, is rather made more loose and friable. Rains and time will compact soil better than any other means. It is to secure these natural aids that land intended for wheat should be plowed as early as possible and only cultivated on the surface until ready for seeding. One of the very best implements for this purpose is the smoothing harrow, whose slanting teeth press the soil downward while sufficiently pulverizing the surface.

After the wheat is up in the fall something may be done to produce a spreading habit of growth. It is well known that checking the leaves will induce the plant to spread at the root and send out three or four and often more in place of one. Pasturing wheat with stock in dry weather is seldom hurtful, and often beneficial to subsequent growth. Sheep are better than cattle for this purpose, as they will not trample the ground sufficiently to destroy the plants, and what manure they drop will be so divided as to be a benefit rather than an injury. But sheep gnaw closer to the root than is good for the plant, and at best they will only eat in patches. Something that will cut the leaves of the young wheat plant when three to five inches high, cut them uniformly and without too much tramping of the ground, would undoubtedly be beneficial to the crop. On a level, smooth surface, a light mower will cut off the ends of the young wheat leaves most effectively.

With such treatment on rich soil and with a good growing season, wheat may be made to nearly cover the ground before winter, and the danger of winter-killing can influence results. Harrowing and rolling wheat ground after the plants are above the surface will serve the same purpose to some extent, though the bruising of the wheat leaves which these operations effect is more injurious to the plant than a clean cut of the leaves with a mower. The experiment of clipping the leaves of wheat in the fall is well worth trying on a small scale, whether it can or cannot be made practicable for large fields.

The "Purliest Fight He Ever Saw"

"The purliest fight, though, gentlemen," remarked an old stager, "is between a deer and a rattlesnake. I was hunting one day when I saw a deer come to a sudden stop and turn and gallop off through the woods. Directly it came back, followed by a powerful buck, and when it got up within about twenty feet of where it had topped before, it stopped again till the old buck came alongside of it; then both come back about twenty feet and took a running start, and when the foremost one got to a certain point she gave a snort and jumped clear over the place, and the old buck followed in the same way. They kept this up for several minutes, when the buck commenced to come down on the spot with his fore feet. When they got through I went up, and there was a rattlesnake as big as a fence rail, all mashed up. Now, sir, it's amazing how they worked their little game. They first got the snake so tamed that he would strike at a shadow, then the first one would go over, and when the snake had struck at him the old buck would come along before it could coil up again and get in his hoof work. It was the purliest fight you ever saw."

"What is the hardest thing a man can do? Tend somebody else's baby."

Kansas Fairs.

A revised list of State, district and county agricultural societies in Kansas that will hold fairs in 1884, with names of Secretaries and places and dates of holding fairs:

- Shawnee county—Kansas State Fair Association, Topeka, G. Y. Johnson, Secretary, Sept. 8, 9, 10, 11, 12 and 13.
- Douglas—Western National Fair Association, Lawrence, B. W. Cunningham, Sec'y, Sept. 1, 2, 3, 4, 5 and 6.
- Anderson—Anderson County Fair Association, Garnett, M. L. White, Sec'y, Aug. 26, 27, 28 and 29.
- Bourbon—Bourbon County Fair Association, For Scott, Ira D. Bronson, Sec'y, Oct. 7, 8, 9 and 10.
- Brown—Brown County Exposition Association, Hiawatha, C. H. Laurence, Sec'y, Sept. 16, 17, 18 and 19.
- Butler—Butler County Exposition Association, El Dorado, W. H. Litson, Sec'y, Sept. 16, 17, 18 and 19.
- Chase—Chase County Agricultural Society, Cottonwood Falls, W. P. Martin, Sec'y, Sept. 23, 24, 25 and 26.
- Cherokee—Cherokee County Agricultural and Stock Association, Columbus, John Henderson, Sec'y, Sept. 2, 3, 4 and 5.
- Clay—Clay County Agricultural Society, Clay Center, D. A. Valentine, Sec'y, Sept. 23, 24, 25 and 26.
- Cloud—Republican Valley Fair Association, Concordia, Thos. Wronz, Sec'y, Sept. 16, 17, 18 and 19.
- Coffey—Coffey County Fair Association, Burlington, J. E. Woodford, Sec'y, Sept. 16, 17, 18 and 19.
- Cowley—Cowley County Fair and Driving Park Association, Winfield, Ed. P. Greer, Sec'y, Sept. 23, 24, 25, 26 and 27.
- Crawford—Crawford County Agricultural Society, Girard, A. P. Biddle, Sec'y, Sept. 23, 24, 25 and 26.
- Davis—Kansas Central Agricultural Society, Junction City, P. W. Powers, Sec'y, Oct. 1, 2 and 3.
- Dickinson—Dickinson County Agricultural and Industrial Association, Abilene, H. H. Floyd, Sec'y, Sept. 23, 24, 25 and 26.
- Doniphan—Doniphan County Agricultural, Horticultural and Mechanical Association, Troy, Thos. W. Heatley, Sec'y, Sept. 23, 24, 25 and 26.
- Elk—Elk County Agricultural Society, Howard Thos. Bruce, Sec'y, Sept. 18, 19 and 20.
- Ellis—Western Kansas Agricultural Fair Association, Hays City, D. C. Neils, Sec'y, Sept. 24, 25 and 26.
- Franklin—Franklin County Agricultural Society, Ottawa, A. H. Sellers, Sec'y, Sept. 23, 24, 25, 26 and 27.
- Greenwood—Greenwood County Agricultural Association, Eureka, A. W. Hart, Sec'y, —.
- Harper—Harper County Agricultural and Mechanical Association, Anthony, John D. Brown, Sec'y, Sept. 3, 4 and 5.
- Harvey—Harvey County Agricultural Society, Newton, Allen B. Lemmon, Sec'y, —.
- Jefferson—Jefferson County Agricultural and Mechanical Association, Oskaloosa, A. J. Buck, Sec'y, Oct. 1, 2 and 3.
- Jefferson—Valley Falls Kansas District Fair Association, Valley Falls, M. M. Maxwell, Sec'y, Aug. 26, 27, 28 and 29.
- Jewell—Jewell County Agricultural and Industrial Society, Mankato, Geo. S. Bishop, Sec'y, Oct. 1, 2 and 3.
- Jewell—Jewell District Fair Association, Jewell, Jno. S. Foster, Sec'y, Sept. 17, 18 and 19.
- Johnson—Johnson County Co-operative Fair Association, Edgerton, C. M. T. Hulet, Sec'y, —.
- Lincoln—Solomon Valley Farmers' Club, Ingalls, N. B. Alley, Sec'y, Sept. 11 and 12.
- Linn—LaCygne District Fair Association, La Cygne, O. D. Harmon, Sec'y, Sept. 30 and Oct. 1, 2 and 3.
- Marion—Marion County Agricultural Society, Peabody, L. A. Buck, Sec'y, Sept. 2, 3 and 4.
- Marion—Marion Fair Association, Marion, Geo. C. Lockwood, Jr., Sec'y, Sept. 23, 24, 25 and 26.
- Marshall—Marshall County Fair Association, Marysville, L. W. Libbey, Sec'y, Sept. 23, 24, 25 and 26.
- McPherson—McPherson County Fair Association, McPherson, Jas. B. Darragh, Sec'y, Sept. 30 and Oct. 1, 2 and 3.
- Morris—Morris County Exposition Company, Council Grove, F. A. Moriarty, Sec'y, Sept. 30 and Oct. 1, 2 and 3.
- Morris—Morris County Agricultural Society, Parkerville, C. N. Hull, Sec'y, —.
- Nemaha—Nemaha Fair Association, Seneca, Abijah Wells, Sec'y, Sept. 2, 3, 4 and 5.
- Osage—Osage County Fair Association, Burlingame, C. H. Taylor, Sec'y, Sept. 16, 17, 18 and 19.
- Ottawa—Ottawa County Agricultural Society and Mechanics' Institute, Minneapolis, A. C. Jackson, Sec'y, Sept. 30 and Oct. 1, 2 and 3.
- Phillips—Phillips County Agricultural and Mechanical Association, Phillipsburg, J. W. Lowe, Sec'y, Oct. 8, 9 and 10.
- Rice—Rice County Agricultural, Horticultural and Mechanical Fair Association, Lyons, C. W. Rawlings, Sec'y, Sept. 24, 25 and 26.
- Riley—The Blue and Kansas Valley Agricultural Society, Manhattan, S. A. Sawyer, Sec'y, Sept. 23, 24, 25 and 26.
- Roos—Lanark Agricultural Society, Stockton, Albert Lambert, Sec'y, Oct. 9, 10 and 11.
- Saline—Saline County Agricultural, Horticultural and Mechanical Association, Salina, Chas. S. Martin, Sec'y, Sept. 23, 24, 25 and 26.
- Sedgwick—Arkansas Valley Agricultural Society, Wichita, D. A. Mitchell, Sec'y, Sept. 30 and Oct. 1, 2 and 3.
- Sheridan—Sheridan County Agricultural and Mechanical Association, Kenneth, Geo. W. Crane, Sec'y, —.
- Sumner—Sumner County Agricultural and Mechanical Association, Wellington, I. N. King, Sec'y, Sept. 17, 18, 19 and 20.
- Washington—Washington County Exposition Association, Washington, C. W. Aldrich, Sec'y, Sept. 2, 3, 4 and 5.
- Washington—Washington County Live Stock, Agricultural and Mechanical Association, Greenleaf, F. L. Joslyn, Sec'y, Sept. 10, 11 and 12.
- Woodson—Neosho Valley District Fair Association, Neosho Falls, R. P. Hamm, Sec'y, Sept. 22, 23, 24, 25, 26 and 27.
- Wyandotte—Wyandotte County Industrial Society, Wyandotte, M. B. Newman, Sec'y, —.

"Lands are measured in rods, leagues, and so forth," said the teacher. "Now, what is a surveyor?" "A land-leaguer," shouted one of the boys.

There is a girl in Philadelphia so cross-eyed that she has to wear spectacles on her ears when she wants to read. The tears from her right eye flow down her left cheek.

The greatest pest of the East Indian jungle is the leech, which attacks Europeans with especial vigor. The creatures not only lurk under foot, but drop from the trees and are extremely voracious.

President Lincoln, when told on a certain occasion that Gen. So-and-so and forty mules had been captured, said: "Well, I can make another brigadier in five minutes, but those mules cost \$200 apiece."

If a man wants peace to reign in the household he should count ten before speaking at times when he feels as if his clothes don't fit him. And on days when the kitchen stove doesn't draw he should count 480.

In a house in Bromley, England, the electric light has been put in every room, closet and cellar and the owner has devised a plan for lighting his flower vases by electricity, putting small yellow lights among the blossoms.

Mr. Wyatt Hare, who died recently at Nelson, N. Y., never bought a match. A fire open or banked was kept up continually on his hearth. It had not been put out for more than a hundred years, for he only followed in the footsteps of his father.

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 1885 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" 11261, who won in 1883 the first prize at four leading shows in England, including first at the Royal Show, and also first prize at two leading shows in Canada. He thus won six continuous first prizes without being beaten, a like record I believe never attained by any other boar. I paid \$400 for "Duke of Monmouth." He is a splendid breeder, an animal of great constitution and comes from the same family as my old boar, "Lord Liverpool" 221, for whom I paid \$700, and who is now almost eleven years old and still alive. I have now a splendid lot of pigs from three to six months old, the bulk of which are got by "Duke of Monmouth." I would also spare a few of my sows, young or old, when in pig, and part of my breeding boars. I do not advertise prices as low as the lowest, for I cannot afford to sell as low as those who bought a cheaper class of stock to start with, but my prices are reasonable and within the reach of all who know the value of first-class stock. My herd of Berkshires show as much size as hogs of any breed, and I am sure I can show more quality, activity, constitution and size than is combined in any other breed of hogs. Almost if not every prominent herd of Berkshires in the West contains representatives from my herd, and this alone, considered in connection with the many prizes I have won for ten years past at our largest shows, proves beyond a doubt the quality of stock I am producing from year to year. No breeder of any kind of hogs in the United States or Canada has for several years past bought and retained in his herd so many valuable animals at an equal cost as I have. I have issued a new catalogue this season containing the pedigrees in full of my herd and a limited description of each animal, together with a complete list of prizes won for several years past. This catalogue I will mail free to all who feel interested enough to write for it.

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

I have reduced rates for shipping. All parties visiting from a distance will be met at the train, if notice is given in time.

For prices or any further information, address
N. H. GENTRY,
Sedalia, Mo.

FARMERS ATTENTION!
THE GREATEST DISCOVERY
YET. THOUSANDS OF TEST-
TIMONIALS. For Particulars
Address **J. C. EVERITT, Lima, Ind.**

BLOOMINGTON Established 1853.
by F. K. PHOENIX.
NURSERY CO. Incorporated 1883.
We offer for the
Fall Trade a very
large and fine stock of
Fruit & Ornamental Trees. Catalogue for
Fall of 1884 now ready and mailed on application. 600 ACRES. 13 Greenhouses.

CLAY PIGEON NO COUNTRY HOME COMPLETE without this sport. Traps, \$7.00; Pigeons \$2.50 per 100. N. Y. City Tournament, August 14, 15, 16. Send for circular.
Ligovsky Co., Cincinnati, O.

FAMILY PORTRAITS. All kinds of pictures enlarged to any size in CRAYON, INK, WATER COLORS or OIL. Send stamp for price-list. J. A. SHKARD, Lakeside Bldg. Chicago.

The Home Circle.

Care is like a husbandman,
Who doth guard our treasures;
And the while, all ways he can,
Spills our harmless pleasures.
Loving hearts and laughing brows,
Most he seeks to plunder,
And each furrow that he plows
Turns the roses under.

If you've tried and have not won,
Never stop for crying;
All that's great and good is done
Just by patient trying.
If by easy work you beat,
Who the more will prize you?
Gaining victory from defeat,
That's the test that tries you!

Stay with me, boy; be yet a child.
And grow not from your mother's breast;
Be not by time and years beguiled;
The world can never give such rest
And safety as you now enjoy;
Remain a child, my darling boy!
Yet fondest love and care like mine
Can never meet so poor return.
Oh! Father in thy grace divine,
As o'er his infant form I yearn,
Grant that a good man he may be,
Yet ever be my child to me.
—George W. Birdseye.

Once, in the month when tassels sweet the
corn,
A dewy rosebud opened to the morn;
My love bent low to kiss its crimson tips,
And, lo! their red remained upon her lips.
A red rose opened to the sun one summer
day;
The next, the red, red rose withered beneath
his ray;
Read thus, oh, man, the soul within this
parable:
The same that doth create doth both create
and kill.
—From the Persian, by F. G. Fairfield.

Letter from Englishwoman.

P. P. has stirred me up to once more write a few words. In our district this spring and summer we have organized a Ladies' Missionary Society. Ladies meet in turns at one another's houses monthly to do sewing, etc., and stay for a social supper at 6. We have Sabbath school too before service on Sunday; school, five or six classes, of which one falls to my share. So this, with the busy ordinary routine of a Kansas farmer's wife and six young children keeps me pretty well occupied, and that's why I don't often write to the FARMER although I always read part of it. Please tell me the different ways of preserving cucumbers and wild plums. What is the most suitable material for best winter dresses for girls? What is the orthodox winter stuff for underclothing?

ENGLISHWOMAN.

History of the Osage Orange.

There are several interesting points in the botanical history of the Osage orange. It is peculiar that the tree is native only in Arkansas, and is not generally common even there. It was noticed by the early travelers along the Red river and other tributaries to the Mississippi. Its elastic wood was long held in repute by the Indians for bows, and they called the tree bow-wood. The French fur dealers gallicized the name, making it Bois d'arc. The first botanist to notice the plant was the famous Thomas Nuttall, at one time professor in Harvard. About 1810 he first saw living plants. These were grown in a garden in St. Louis. Recognizing in the plant the type of an entirely new genus, Nuttall named it "in honor of the celebrated geologist, philosopher and patron of natural science, William Maclure," of Pennsylvania. It is consequently known as maclura. On account of the orange-like nature of the tree he named it "orange-like maclura," *M. aurantiaca*. In some parts of the country it is said to be known as bodock, a contraction of the French Bois d'arc.

The great resemblance of the tree and its fruit to the orange is also peculiar, and especially when we consider that its true nature is very widely different. In aspect the young and fruitless tree is much like the orange, while any one who has seen its peculiar warty fruit must have thought of a green orange. Coming from the country of

the Osage Indians it became known as the Osage orange. The plant belongs to the nettle family, along with the nettles, elms, figs, mulberries, cow-tree, bread fruit, banyan and india-rubber tree. All are familiar, no doubt, with the nature of the mulberry fruit, a long cluster of fleshy and thickened flowers. The large fruit of the maclura is a dense aggregation of separate, thickened flowers. The wood is solid, heavy and durable. It takes a good polish and is ornamental. The following from Nuttall gives an idea of the appearance the tree made in its native country when first seen by a botanist:

"We saw a few old, ill-grown trees on the bank of the Pottos, a few miles from Fort Smith. It was only on the rich low bottom lands of Red river, near the confluence of the Kiamesha, that we beheld the maclura in perfection, forming a great part of the prevailing umbrageous forest, and attaining an elevation of fifty or sixty feet and a diameter between two and three feet. At all times it strikes the beholder as something remarkable in the northern forest by the beauty and splendor of its dark and shining foliage, and its strong resemblance to the orange."

Animal Food.

The flesh food that civilized people consume is either vegetable, or meat derived from vegetable feeders. The principal meats are beef, mutton, veal, lamb, domestic fowl and game. The nutritive value of each kind of meat depends on age, mode of life, nature of feeding, mode of death and upon the peculiar character of each kind of flesh. The flesh of the young is more tender than that of the old, but it is less easily digested; veal and lamb are harder to digest than beef and mutton. The flesh of the young is more gelatinous, less stimulative and less nutritious than that of the old, which contains more fibrine and osmazone, or the flavoring principle. The flesh of very young animals, as calves of ten days old, is soft, flat and insipid. Experience shows that cattle of middle age yield the best flavored beef, and more nutritious and more easily digested than that of young animals. Sex influences the quality of the flesh—that of the female is more finely grained and delicate than that of the male.

It is a matter of common observation that most animals are in a better state for the consumption of the human family in some seasons than in others. Ordinarily, it is in its best condition in the late autumnal and early winter months, simply because animals usually have a large supply of fresh summer and autumnal food. Mutton and beef are always good, but still are more succulent and juicy during summer, autumn, and early winter. The venison of the male deer is in its best condition from June to September, that of the doe in the winter. The expression "in season and out of season" applied to animals is full of meaning, and indicates, among other things, that the flesh of animals is in better, healthier state for human food at some seasons than at others. The mode of life has an influence upon the flesh of animals. Those that lead a wild and active life are less fat than those that are lazy and well fed. The flesh of the wild has a higher color than that of the tame, and is decidedly gamy.

The food animals consume modifies the character of their flesh. Turnips yield a peculiar flavor to mutton. The flavor of mutton from sheep that have lived upon the highland, is different from that of sheep which have obtained their food chiefly from the lowlands. The garlic of the meadows and some fragrant herbs modify the flavor of the meat. Oily food tends to make the fat soft. Hens, partly fed on scraps of decaying meat, yield eggs that are at once unpleasant to the taste and unhealthy. Feeding animals for human food is, then, of great importance and demands experience. It is not enough that food makes fat—it should also impart an agreeable flavor.

The mode of death, in its effects upon the flesh, is well illustrated by the fact that violent exercise just previous to death increases the tenderness. The flesh of hunted animals is well known for its tenderness. Slaughtering animals by bleeding them involves a waste of nutritive material, but it renders their flesh more pleasant to the eye and more delicate to the taste. It renders their meat whiter, better flavored, and susceptible of keeping for a considerable length of time

without tainting. The Jews of the present time are wise, and will not eat the flesh of any animal that has not been slaughtered in harmony with their ancient laws, and by one of their own order of faith and practice. Meat is more or less improved by allowing it to hang in cool temperatures for some days after the creature has retired from life. The analyses of meat greatly vary. The relative amount of lean and fat depends upon the many circumstances to which we have just referred and to the amount of exercise the animal may take, to the temperature in which it lives, and the purity of the air it may inhale and absorb. The general characteristic of special meat should be known. Beef has a firmer texture, is more satisfying to the stomach, and possesses greater strengthening power than mutton, but mutton is more easy of digestion, and still a few persons may be found who cannot digest it. It induces violent vomiting and diarrhoea in some. Veal and lamb, though tender, yet resist the digestive force of some stomachs, and yield less strength than beef; so they should not be given to children with weak stomachs.

The relative amount of bone in animals varies with their condition. Twenty per cent. of the entire animal may be a fair average. In the neck and brisket of beef it is 10 per cent.; in the shins and legs, an average may be fifty per cent. of its total weight.

The fowl, turkey and guinea-fowl amongst poultry have white flesh that is tender, delicate and easy of digestion; is more stimulating than ordinary meat, and so is fit for the weak stomachs of early human life and those persons who are in a state of convalescence. The flesh of the goose and duck is richer, harder, stronger tasted, and difficult of digestion for early life and dyspeptics. The fattening of poultry, their tenderness and flavor depend upon the quality of the food they eat and the quietness of their lives. Tame birds need pure water, nutritious food and rest. Sexless birds grow to a larger size, fatten better, are more tender and better flavored than those that remain in a normal state.—C. H. Allen, M. D., in *Western Rural*.

Fire-proof Wood.

Several preparations exist which render wood impervious to heat, and also increases its durability. Some of these solutions have been tested on a large scale, and have proved a success. Although these measures are cheap and their success demonstrated, they have, with few exceptions—as, for example, at Frankfort-on-the-Main, the Hoftheater at Berlin—not been employed. Perhaps constructors of theaters will, in view of these frequently occurring catastrophes, at least comprehend that even the incombustibility of the woodwork would be of inestimable value in securing immunity from fires in theaters, and that the spreading of flames would be greatly retarded when, instead of burning rapidly, as dry wood will, it slowly, without flames, chars into coal.

The nature of wood makes it an easy matter to change it into what an exultant chemist has called a "fire proof" substance. On account of its porosity a solution applied to its surface sinks deeply into its pores, thereby attaining a firm hold, and on account of its rigidity exposes the covering to abrasion only. Care should be taken where such solutions have been used, to replenish them from time to time, so as to keep the wood entirely covered. It may be well to state here what is meant by "fire-proof."

As this term is usually used, it signifies the property of remaining intact in high temperatures, such as are produced by the conflagration of buildings; but this is not the state impregnated wood or scenery is in. These are destroyed when in contact with a flame; not, however, by burning, but by charring.

If we would hold a piece of impregnated scenery in the flame of a Bunsen burner, we will find that the part which was in contact with the flames has been destroyed; that is, it has been charred without producing flames or injuring the parts not in direct contact with the gas flame.

In experimenting on the impregnation of wood, canvas and gauzes, I was particularly careful to use only chemicals as they appear in commerce, and undistilled water. In my opinion one of the chief causes of failure in methods in practice which were successful in experiment, is that the chemicals employed in experimenting were the pure re-

agents of the analytical chemist, while those used in practice contain many impurities which must necessarily alter the results arrived at by purer supplies.

One of the oldest and best known processes is the coating of woodwork by water-glass (*sodium tetra-silicate*), which, for a short time, gives good results, but soon the covering drops off. The reason for this is that a covering of water-glass is as brittle as ordinary glass, and is as readily cracked and broken; and secondly, as it dries very rapidly, it does not enter any distance into the pores of the wood, but rests on the surface. Any jar or abrasive action will, therefore, cause the water-glass to drop off in small chips. Another objection to this substance is its solubility. It cannot be employed in places exposed to the action of water.

Another process is to paint wood with a solution of three parts of alum and one part of sulphate of iron; after the wood has received two or three coats of this solution it is thoroughly dried; then a solution of potter's clay and sulphate of iron, having the consistency of paint, is daubed on the prepared wood until all pores are filled, and a thin layer remains on the surface.

It is claimed that in this process the alum and sulphate of iron enter deeply into the fibers of the wood, and form indestructible compounds with the chemical elements of the fibers, which cling tightly to them, and cannot, as in the case of water-glass, be readily washed out. The covering of clay greatly protects the wood from moisture, so that the first solution cannot be washed out or thrown out by the action of frost. This sounds well, but in practice would be too complicated.

Another objection which makes it valueless for theaters is that the clay on the surface comes off very readily in the form of dust, and, therefore, must frequently be renewed; it is also an unclean process; an actor unconsciously leaning against a piece of wood thus prepared would afterward appear before the audience with a strip of clay dust on his back.

The following is also a complicated process. The wood is painted with hot glue water until all pores are filled, the number of coats depending on the porosity of the wood used. Then apply to the surface, before the glue dries, a powder consisting of one part of sulphur, one of ochre (or clay), and six parts of sulphate of iron. Care should be taken to powder and mix these substances well before applying them. This process labors under the same difficulty as the preceding one described.

A clean and excellent coating for wood is asbestos paint, or better still, the thicker asbestos concrete. These substances act like true paint, adhere tightly to the wood, give good protection against high temperatures, and do not readily rub or chip off. It has but one objection; that is, its solubility in water; but for interior theater purposes this is no material objection. Great care must be taken in purchasing this article, and it should always be tested before being used, as much of the so-called "asbestos paint" which is sold is entirely worthless.—*Spec-tator*.

Hay Fever.

I have been afflicted for twenty years, during the months of August and September, with Hay Fever, and have tried various remedies without relief. I was induced to try Ely's Cream Balm; have used it with favorable results, and can confidently recommend it to all.—ROBERT W. TOWNLEY, (ex-Mayor) Elizabeth, N. J.

For twenty years I was a sufferer from Catarrh of the head and throat in a very aggravated form, and during the summer months with Hay Fever. I procured a bottle of Ely's Cream Balm and after a few applications received decided benefit—was cured by its use. Have had no return of the complaint.—CHARLOTTE PARKER, Waverly, N. Y. Fifty cents.

Among the best meats for the farmers' tables at this season is mutton and lamb, with fresh fruits and vegetables, with cream instead of butter when it can be had.

Mr. E. F. Rogers, of Kansas City, Mo., writes that Leis' Dandelion Tonic is the best liver medicine and tonic he ever used in his family, and Mr. Rogers' opinion coincides with that of every one who has ever taken the Dandelion Tonic.

Since boyhood I have been troubled with Catarrh and Hay Fever, and have been unable to obtain permanent relief until I used Ely's Cream Balm. It has cured me.—E. L. CLICKENER, New Brunswick, N. J. Price fifty cents.

The Young Folks.

The Glen's Retreat.

Far down the glen, where the shadow reigns
And the lonely springs in secret weep,
Where round the streamlet's rillet-veins
The golden mosses creep,
Where, 'mong the lichen'd stones asleep,
The lingering waters love to stray—
There gladness waits, in ferny deep,
To woo us down from day.

Far down the glen 'mong growing things,
Where ne'er a sunbeam breaks the spell,
Where nature's fondest whisperings
The listless ear compel,
The springs of thought, with welcome swell,
Will round the heart their rapture spray,
And faith's resistless transports dwell
Where dwelt the doubts of day.

Ah, yonder, while the dew-drop clings
Forever to the lichen's breast,
While every breeze fresh odor brings,
And all things speak of rest,
While dreams relieve the mind oppressed
And chase the care-clouds all away—
Ah, there, if aught on earth be blest,
Tis surely blest to stay.

—Good Words.

A HORSE DETECTIVE.

How a Gang of Counterfeiters Was Broken Up by the Authorities With the Aid of an Old White Horse.

[From the Philadelphia Times]

The method employed by Detective Houser and Coroner's Physician Huldekoper to identify Albert Dieterle with the murder of Frederick Stahl, by means of the former's horse, is not a novel, one in the detective annals of this city. One of the largest and best organized gangs of counterfeiters ever brought to justice in Philadelphia was detected by almost similar means. The story, as related by a veteran detective yesterday, is as follows:

"In 1862 and 1863, when the national or greenback currency was just coming into circulation, and there were hundreds of State bank issues in circulation, Philadelphia was the headquarters of all the leading counterfeiters and shovers of the 'queer' in the country. They were as well organized as the best detective force, and included scores of intelligent and wealthy men. Their plan was to get out a big issue of bad money all on one bank, say \$100,000, and on a day previously fixed it would be shoved all over Pennsylvania, New Jersey and the adjacent States. The fraudulent stuff wouldn't be detected for a day or two—the telegraph wasn't used as much then as it is now, and the bills could be passed in the rural districts for weeks, or until the weekly or monthly 'Counterfeit Detecters' came out. But for the horse story. In the winter of 1863 Deputy United States Marshals John Jenkins and John F. Starkey discovered that an unfrequented tavern away out South street, near where the bridge is now, was a rendezvous for counterfeiters, in fact, that it was the center where the bills for circulation in all this section of country was distributed. They also discovered that a man named James Hewitt, alias Old Jim Hughes who had long been suspected of being a dealer in the 'queer,' was in the habit of visiting it occasionally with a horse and wagon, and that immediately following his visits the city and the State were flooded with bogus money. They resolved to arrest him on one of these occasions, and on the night of February 18, 1863, after a patient vigil of two or three weeks, were rewarded by seeing him drive out South street towards the tavern. After a short struggle he was arrested and driven in his wagon to the Union Street station-house, then presided over by Lieut. Goldie.

OLD JIM LOCKED UP.

"A search of Old Jim and the wagon resulted only in the discovery of a few 'bugs,' as the printed numbers for raising the denominations of notes were called, and, as the man wouldn't tell where he lived, the officers were baffled for the time being. Old Jim was locked up on the charge of having passed counterfeit money in New Jersey, and, it having been discovered that he was in the habit of stabling his horse at the White Horse tavern, near Second and Race streets, the detectives drove up to that old-time hostelry. The stablemen there recognized the horse. They had fed him a dozen times, but

all they knew about him was that he always came down Second street before being baited in the morning, and went up the street after getting his feed at night. The horse was hungry and the hostler wanted to feed him, but with the remark that a hungry horse, like a hungry man, knows the way home, the officers turned him up Second street and gave him his head. The night was pitch dark, or would have been but for a heavy snow was falling, but the old horse—he was white as the snow—went straight ahead until he came to the wide lots which then extended above Master street. Crossing one of these, he did not stop until he reached a fence back of the old Taylor horse-house, over which he poked his head and neighed. A woman in one of the adjoining houses on being aroused and asked to whom the horse and wagon belonged, said it was Mr. Hewitt's, Old Jim's alias, and that he lived two or three doors below. Hewitt's was then visited, and in the woman who answered to the name of Mrs. Hewitt the officers discovered a notorious woman who had formerly lived at Fourth and Shippen streets. A search of the house revealed a lot of paper, such as is used for printing bank notes on, but nothing else.

WATCHING THE HORSE.

"The officers were satisfied that they were on the right clue, and thanked the old white horse for his sagacity, but were nonplussed for the time being, and as the Jersey authorities didn't want Old Jim, he was released. It was resolved, however, to keep a watch on the house, Old Jim and his wife and the horse—especially the latter. Ben Franklin was then chief of police, and he and another detective were enlisted in the case. After two or three weeks' watching it was found out that the Hughes or Hewitts and the horse were in the habit every few nights of taking a trip up to a house on North Sixth street, near the Kensington basin, in what was then almost the country. It was noticed that they stayed all night, and that on the occasion of their visits lights were burned all night in the third story, while people could be seen behind the blinds, passing to and fro, as if engaged in some occupation. Everything being in shape, the house was raided one night, and Old Jim and his wife and a woman calling herself Mrs. Branch arrested. The husband of the latter was absent, as she said, in New York, but came in a little later and was taken into custody. A search of the house revealed reams of bank-note paper, a printing press, different colored inks, a number of finely executed plates, a drying machine, and all the other paraphernalia of the counterfeiter's trade, while in the third story were found thousands of printed bank-notes drying on a dozen or so of clothes horses. The net result of the raid was all this stuff, the four prisoners and the old white horse and a red fox, which Starkey caught in the yard, and which afterwards furnished sport for a fox-chase on North Broad street, gotten up by the force.

THE PRISONERS CONVICTED.

"As the notes and the plates were all on State banks the prisoners were tried in the quarter sessions. The men, James Hughes and Edward Branch, were old offenders, and in March, 1863, got long terms in the eastern penitentiary. The women, Susanna Hughes and Mary Branch, were acquitted on the ground that they were the wives of the defendants. The conviction of the men led to the arrest and breaking up of a gang consisting of Zeke Cady, Steve Payne, 'Rance' Abrams, who was convicted in New York again a few days ago, Edgar Bishop, Si Bright, Tommy Knipe and others less notorious."

When the detective, John F. Sharkey, of the firm of Sharkey & Miller, had his attention called to this case of the horse acting as detective, yesterday, he said: "Do I remember it? Certainly I do. It was one of the biggest cases I was ever engaged in, and, although Ben Franklin and Jenkins were in it, too, I believe the old white horse was the best detective of the lot."

"What became of the horse?"

"Why, he deserved a better fate, especially as there was a big reward from the banks for the capture of the plates and the conviction of the counterfeiters. But those were war days, and horse flesh was high, and although he was at least 25 years old the great horse detective was sold to pay counsel fees. He probably carried a cavalryman to victory and died a hero's death on the battle field."

Home Gymnastics.

For good in-door exercise there is nothing like a gymnasium. This is fortunate, for every house has a gymnasium in it, if its owners only knew it. It may sound like a strange statement, but it is true. Every bedroom is a gymnasium.

It is convenient to call this piece of furniture a chair; but if you call this room a gymnasium you may call this chair a pair of parallel bars and a trapeze. If it is a light chair, and the ceiling is high, you may call it an Indian club, and a pair of dumb-bells also if you like. That bed is a horizontal bar, so is the ledge over the door. The wall is an upright bar, and the pillow a sand-bag. When you are sleepy at night, you go to your bed-room; when you awake in the morning and spring out of bed, you find yourself in your gymnasium.

When you are only a little way dressed, try this exercise on your parallel bars. Turn your chair over so that it may rest upon its front legs and the front edge of the seat. Grasp the hind legs, one in each hand, and with your legs stretched out and your weight resting on the toes, lower your body until your chest is on a level with the legs of the chair; then push yourself up again by straightening your arms. Do this, without letting go the legs of the chair, two or three times. This will be as many as you will want to try at first, and you must never tire yourself. After several days' practice you will find you can do it a dozen times without any special fatigue, and you will also find that your arms are getting larger and harder.

When you can do this first exercise easily get another chair, and place the two back to back, and about eighteen inches apart. Stand between them, and grasp the chairs, one with each hand, hold your arms straight, and lift your feet off the floor. Now lower yourself by bending your arms, dip down between the chairs as far as you can, and raise yourself up again without putting your feet to the floor. This exercise is rather harder than the other, and at first you will not be able to make more than perhaps two or three dips; but you will be astonished to find with how few days' practice you will be able to make twelve dips, and soon twenty or more.

This is a capital exercise for the chest and arms, and because you are not going to be a lumberman or a wrestler you need not think you are wasting time by developing your muscles. One of the greatest poets this country has produced, and one of the most able editors of any country, William Cullen Bryant, practiced this exercise every morning, and kept it up until his 84th year. What a wonderful old man! But we shall hear more of him soon.

Now for a bed exercise. Grasp the foot-board with the hands close together, and the fingers on the side nearest the body. Bring your elbows together, and leaning forward upon them so that they support your body, balance yourself upon your hands, and go forward until your face almost touches the bed-clothes, and your legs are parallel with the floor. This is not easy, but after you have practiced the chair exercises well, you will soon be able to do this several times, and even bring your feet almost down to the floor and return to your balancing position without touching the floor.

One of the fittings of a gymnasium is a "horizontal bar." This you will find in your gymnasium in the ledge over the door. Open the door, and take hold of the ledge, and see how many times you can draw your chin up to the ledge. Not many times at first you will find. But it is a capital exercise to bring up the biceps, as the muscle in the front of the arm above the elbow is called. Mr. Bryant used to do this exercise on the ledge over the door, and pulled himself up so many times without resting that he could not keep count of them. And he was not a light boy or girl, but an old gentleman of 80 years.

Now, try a trapeze exercise, or something very like what is done on a trapeze. Sit on the chair, and place your right hand on the back of it, and with the left hand grasp the seat between your legs. Raise yourself a little by your arms, and pass your right leg through to where the left was. You will then find yourself with your face to the back of the chair. Rest in that position for a few seconds, but without releasing your grasp on the chair, and then pass your legs back to their original position. This is an excellent

exercise for the back and legs and arms, and though gymnastics are out of place in the sitting-room, it is a good trick to do, when, as sometimes happens, some one is talking about and showing feats of strength.

In many gymnasiums there are striking-bags, filled with sawdust or sand, and hung from above by a cord. The cord is not necessary. One of the pillows of your bed will do just as well as a hanging bag. Throw it up to the ceiling, and as it comes down strike it up again, first with one hand and then with the other, and see how long you can keep it in the air. This pillow fighting is a good and not at all dangerous exercise. A pillow never hits back.

Although nothing has been said about girls doing these exercises, they are all suitable for girls, especially if done before they have finished dressing. Girls must have tumbled hair some time, and what better time than before they have combed it in the morning. Girls do not care much about foot-ball and base-ball, but they do like to have nice figures, and be strong and healthy, and they will find no better way of becoming so than by practicing these and similar exercises.

Neither girls nor boys should try to do very much at first. Regular practice is very much better than hard work one day, and none at all the next three days. As soon as you feel tired leave off. That is a sign that you have done enough. Fifteen minutes' exercise every morning will soon tell its tale in strong and lissom limbs and a feeling of health.

Some day you will go to a gymnasium fitted with bars and ladders and poles, and you will find yourself quite at home there. And that will be because your home gymnasium is not so different from the public one after all.—Harper's.

Queer Things in York State.

Not long ago William Rathburn caught a white squirrel, with pink eyes, near Callicoon, Sullivan county. It was the size of a red squirrel. Later, one as large as a gray squirrel and one no larger than a chipmunk were captured near Port Jervis.

A few days ago William Huether speared an eel in Delaware county that was perfectly white, with pink eyes.

On last Saturday J. P. Hoge, of Goshen, shot and wounded a crow in a flock in one of his fields. Its plumage is pure white. Its beak, which is of pinkish color, is crossed at the tip, and its eyes are of a deep pink.

A pair of robins had built a nest in the branches of a large maple tree in Deposit, and the mother bird was engaged in hatching out a young brood. A few days ago a red squirrel, during the absence of the robin, stole quietly up the tree, and was about to help himself to a breakfast of eggs. One of the birds returned at this time, and, setting up a loud cry of distress, was soon joined by three other birds who flew to the rescue. The squirrel, finding the odds were against him, attempted to beat a retreat, but before he could do so the robins flew at him savagely. He started down the tree at a rapid pace, but before he reached the ground the birds renewed the onslaught with great vigor, pecking tufts of wool out of him all over his body. He ran down the road, closely followed for several rods by the birds, and by the time he gained a stone wall he was a badly used up squirrel. The robins returned to the tree. The squirrel was seen next day with one eye closed, and looking as if he might have passed through a threshing machine.—Utica Herald.

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TO SUBSCRIBERS:

The letter "d" represents Vol. XXII (1884) on our subscription books. When the number following this letter (d), on the label of your paper, corresponds with the number of the FARMER (which you will find to the left of date line on first page), your subscription expires with that issue of the paper. For instance: If "d 52" appears on the label, your time expires with No. 52 of this volume (1884). Then your paper will be discontinued. You should renew at once.

Send us forty cents for the FARMER till New Years day.

If frost comes before corn is ripe, let it stand in the field, where it will dry out in due time without souring, and then it may be fed to advantage.

James G. Blaine, Republican candidate for President, has sued the Indianapolis *Sentinel* for libel in publishing scandalous matter about Mr. B. and his family.

The KANSAS FARMER takes pleasure in acknowledging the receipt of a handsome complimentary ticket to the first annual exhibition of the Arkansas Valley Fair to be held at Hutchinson, Kas., Oct. 8 to 11, inclusive.

The State Historical Society has accepted an invitation to co-operate with the Kansas Old Settlers' Association in a celebration at Bismarck Grove, Lawrence, of the thirtieth anniversary of the settlement of Kansas. The celebration will take place on September 3d, 1884.

The report on the the foreign commerce of the United States shows a balance of trade in favor of this government for the last fiscal year of \$72,798,997, against a balance in our favor \$100,658,488 for the preceding year. The total value of exports of merchandise for the fiscal year just closed was \$740,573,560, against \$823,839,402 for the preceding fiscal year, a falling off of \$83,325,842. The imports of merchandise amounted to \$677,714,563, against \$723,180,914 for the preceding fiscal year, a falling off of \$55,465,357.

Bismarck is booming its Fair for 1884, September 1 to 6. Great efforts are in progress to make the Fair a success, and we do not see what is to hinder. Kansas is alive with good things to show, and Bismarck is an excellent place to show them. The management is putting forth extra efforts to make the display good, and we have no doubt of their success. The FARMER wants to see all the fairs succeed. Kansas needs more people to tickle her smiling prairies, and fairs set the people to coming. They see what we are doing and they can then guess as well as we what we can do.

TO FORT SCOTT AND BACK.

The Country--Some Corn--System and Safety in the Nursery Trade.

The editor took a run down to Fort Scott a few days ago, and our readers may be interested in a report of the trip.

Recent rains had cleaned up the country and set everything wild in its hurry to get bigger and worth more. Grain stacks were visible in all directions looking like so many bee-hives in the world's apiary. There seemed to be an endless succession of cornfields; the country is threaded by deep green lines of the hedges; and beautiful undulations of surface extending far away to the horizon all around, adorned as it is by billowy fields, dark shades of the orchards and groves, and bright spots where farm houses glisten in the sun, presented a continuous picture of rare interest and picturesqueness. If there is anywhere on earth a handsomer spot than is included within the boundary lines of Johnson county, Kansas, that particular spot has never been pointed out on the maps.

Corn, corn, corn, everywhere, and of a strong, vigorous growth, much of it now in brown dry silk, positively safe from drouth and frosts alike. This immense area of corn inspired a live reflection. Kansas this year will raise little if any less than two hundred million bushels of corn. Say there are one hundred ears in each bushel, and put the ears at an average of nine inches in length and 2½ inches in diameter. If all the ears were laid in line end to end, it would make a line two million, eight hundred and forty-one thousand (2,841,000) miles long, equal to one hundred and thirteen and a half (13½) times around the earth at the Equator. Put it into cars giving to every one 500 bushels, it would require four hundred thousand (400,000) cars to carry it all; and allowing twenty-five feet in line to a car, it would make a solid train that would reach from Boston, Mass., to Salt Lake city. Put it in one pile on the open prairie, laying the ears orderly as if in mason work, it would make a mountain of solid corn ears forty rods wide, one thousand feet high and two hundred and eight miles long. A good deal of corn, that; and yet they say we tell big stories about Kansas.

At Fort Scott, his honor, the Mayor, Col. U. B. Pearsall, with horse and buggy, presented himself, and we had a delightful drive about the city. The town has a clean, thrifty look. The principal streets are neatly graded and macadamized with limestone rock. A good system of sewerage has been adopted, which, with the help of water works, affords excellent sanitary means. Among the home adornments our attention was particularly attracted by the shade and forest trees, especially some groves of catalpa which were very handsome. National Avenue is a handsome thoroughfare. The city is compactly built and contains many imposing business houses. The new hotel, the Huntingdon House, is an honor to the place. It is large, roomy, clean, and is really a first-class house that would be so considered in a large city. We had not time to visit the various manufacturing industries, merely learning of their locality by the columns of black smoke issuing from numerous furnaces.

In our drive in the suburbs north of the city we met Henry B. Hart, whose farm was but a little way behind him. Addressing him in military style, he surrendered at once and placed himself and his two-horse team and carriage at our disposal, for a ride over his place. His farm lies about three-fourths of a mile north of the city, and is recognized

by a fence in front ninety rods long built of limestone laid in mortar and neatly capped by well joined flagstones two feet wide. The fence cost \$15 per rod. It is the best stone fence we ever saw in Kansas or anywhere else. At the house we took in Master Freddie who proved to be an interesting member of the company, and we drove over this and several other farms, at some points, and particularly at the residence of Mr. Pearl Hart, having excellent views of the city and surrounding country.

Henry B. Hart is the pioneer nurseryman of that region. He began business in that line on a small scale in Dade county, Mo., before the war, where he supplied his neighbors with fruit trees. He adopted a specific method in the beginning; he raised all the stock he sold, and did not deal in anything else, so that he always knew just what he was selling, and he never sold to any persons except those who bought the trees to plant. In that way there was no opportunity for either himself or his customers being defrauded by any middle men. His business grew until it extended into adjoining counties, and he says that now, among his principal pleasures are the friendly comments of his old customers concerning his method of dealing with them. But the war did not favor men of his kind in that region and he came over to Kansas, locating near, Fort Scott, where, in 1865 he resumed work in his favorite calling, and in 1870, at the Kansas State Fair held at Fort Scott, he was awarded a medal for the best fruit and fruit trees. He is justly very proud of that medal. His business grew as it had done in Missouri. He continued the same methods and established a reputation that serves him well now.

About a year ago, Mr. Hart and a few other gentlemen organized a company, chartered under the laws of the State, known as the Hart Pioneer Nurseries. Mr. Hart was properly made President, and Col. Pearsall Treasurer, with the business office in the city. Mr. Hart's farm, and that of his son, are now platted into blocks of ten to twelve acres each of nursery grounds.

It was a delightful drive among groves of all manner of young fruit, shade and ornamental trees, with evergreens, small fruits and shrubbery. It is the budding season and men were busy operating on the seedling stock, preparing for next year's trade. The stock of apples from last year's grafting—that is, graft that have grown this year, are two to four feet high; the two year stock is four to six feet high. Peaches have grown from the bud this year five to seven feet, and the trees now average ½ of an inch in diameter. The stock is all bright, glossy, healthy looking and growing so fast that the terminal leaves of the apples look like so many flowers in the sunlight. The ground occupied by young fruit trees on this and other farms that we visited, all belonging to the Hart company, is upwards of a hundred acres, and two or three other farms are to be rented for similar use. In all our round, nothing was more interesting than a block of Russian mulberry trees—at least half a million plants, averaging ½ inch in diameter and two feet in height, grown from seed planted last spring. These will average four feet when frost comes for many of them are now full three feet in height. We had not time to visit the catalpa field where a quarter million plants are growing vigorously as these, we were told. The system of platting and marking renders it almost impossible to make a mistake even of one tree.

There is another interesting feature about this particular nursery—its busi-

ness method. After leaving the grounds we drove back to town where the business is done. The object of the company, as stated in their charter, is to deliver to the purchaser what he buys. In order to do that, the company deals only in what is grown on its own grounds; they do not, nor will they permit their agents to, sell or promise to deliver any kind of stock which they do not grow themselves; and they do not sell any stock to other dealers, nor do they wholesale any; they sell only to the person who buys to plant, and to him direct, so that there is no danger of persons being deceived as to the kind and quality of stock which they receive. It is simply following the method long ago adopted by Mr. Hart. Agents of the company are regularly commissioned under the company's seal; they are bound to strict accountability, binding themselves to obey instructions and not to sell or promise anything not named on the company's lists of their own stock; and no person is authorized to represent the company as salesman unless he has a regular commission. Accounts in books are kept with every variety of trees, shrubs, etc., on the grounds, as to number and value, and also with every agent; and as soon as any particular variety is exhausted, the account is closed, the agents are notified, and no more orders are taken for it. If an order cannot be filled on the grounds, credit is given for what is lacking. Every agent is required to make and verify his returns. It would seem almost impossible for mistakes or fraud to occur in a business thus conducted.

Having seen the stock and grounds of this company, personally, we know what we are writing about. The stock is good—very good, and there is a great deal of it.

But we feel particularly interested in the means adopted by the company to protect their purchasers. Having examined their rules carefully, we believe them to be well adapted to the end in view, and we will esteem it a favor if any one of our readers is ever deceived or damaged by the Hart Pioneer Nurseries, to receive information concerning it at this office. We want to see some system adopted by which people may be protected against travelling sneaks that promise anything and deliver what is convenient. This company proposes to do that thing, and if their system should prove defective, or if it is not well and honestly applied in practice, the KANSAS FARMER wants to know it.

It is very gratifying to the publishers of the KANSAS FARMER to note the promptness with which subscribers renew. It shows that the work and money expended in making a representative paper for the farmers is appreciated. We hope all will assist in extending its circulation. We want, in Kansas alone, 20,000 new subscribers by January 1st, 1885. If this paper should fall into any new hands, we hope that they will give the FARMER a trial trip, at least. Until next January—over four months—for 40 cents.

The *Poultryer's Guide*, a little 25 cent book, is kindly forwarded to us by S. G. B. Ward, of Oreida, Nemaha county, this State. It is a little "doctor book," and is very handy for anybody that is raising poultry. It contains remedies and suggestions in all diseases of fowls. We think it well worth owning. Mr. Ward is agent for the book. Send him a quarter and get it.

We want every farmer in Kansas to take and read this paper. Forty cents will pay for it till December 31 on trial.

Railroad Commissioner's Report.

Under the railroad law of Kansas, the Board of Commissioners is required to report its proceedings and certain specific facts to the Governor at stated periods. The first report is now published, and through the courtesy of the Secretary, Mr. Turner, the KANSAS FARMER is supplied with a copy. It is a voluminous report, filling 299 large pages, and most of it in small print. It contains a vast amount of information important to the people separate and apart from the details of what the Commissioners have done. The condition of the different roads, their cost of construction, their capital, their property, their mileage, their routes and a great many other things of special interest connected with the railroads of the State and their management, are given with a careful particularity of detail which go to make up a large aggregate of valuable statistics that must be of practical service to the people and their representatives in the legislature. A great many of these facts and details have never before been presented to the people in a form to be really useful, and still others have never been made public at all.

Readers of this paper know that we did not have much faith in the law creating this Board of Railroad commissioners. We criticized it often and in plain language. Our objections were in two general directions—rates and power. We favored the adoption in the law of certain graduated scales of freight rates which should be maximum, giving the railroad management full freedom of play on and below the rates named in the law, avoiding discriminations for or against persons and places. And then we believed the Board ought to be clothed with power to enforce any order they should make, reserving the right of appeal to the Supreme court.

But we did not have our way, hence dismissed the subject with a hope that in practice the law would be found to be better than we anticipated. It is gratifying to know that the defects to which we called attention have been, at least temporarily, and in the opinion of the Commissioners permanently, obviated by a good understanding between the Board and the Railroad companies. After a great deal of friction and many attempts on the part of the Board to effect changes which were deemed advisable but which could not be enforced because the law gave no authority, it became evident that trouble would follow unless some agreement was reached. The people set out to regulate the railroads, and it was evident they were in earnest. The people have the satisfaction of knowing that the Commissioners and the companies have agreed upon certain general outlines of procedure which has produced two good effects, namely: substantial reduction of freights and removal of irritation and bad feeling. And the KANSAS FARMER has great satisfaction in knowing the basis of agreement is precisely such as we advised should be incorporated in the law. Certain general outlines are drawn for the management of the roads, and within them the companies regulate their own details, subject only to the provision that what reductions they may make in special or particular cases shall not have the effect to injure patrons. And then they expect to obey without question all reasonable requirements of the Board.

In stating these matters, the Report, now lying before us, says on pages 4 and 5:

Generally, the power to make its requirements imperative through the power of enforcement, is not necessary

in order to make the requests and recommendations of the Board felt and obeyed. We feel justified in further observing, that as the irritation, the friction and the misunderstandings which inevitably arise from the attempt to adopt an extensive and well established system of transportation, involving vast pecuniary interests, to a new and untried system of regulation, imposing restraints on numerous points where before there existed unrestrained freedom, shall wear away, all reasonable requirements or advice of the Board will come to possess the character of commands to railroad managers. Such has come to be the condition of things, after the lapse of time, and parties have become accustomed to the new order of things in other States wherein commissions have been in existence a number of years.

It will be seen from that statement of the Board that, in their opinion, the law is working well enough, and that, as soon as obstacles are removed, the Board will have no difficulty in enforcing all "reasonable requirements or advice" without any further authority than is now given in the law. The Board further states that they "have ventured upon these observations because of the frequent criticisms of the law in not investing the Board with the power of enforcement of its own orders, coming from many persons who ought to be well informed."

The FARMER is well pleased with the situation as presented by the Report, and is willing to conclude that so long as the railroad managers comply with the suggestions and recommendations of the Board, if the Board does its duty, that long the law is strong enough; but whenever the roads object, then it will be necessary to fall back upon first principles as advocated by the KANSAS FARMER and make them obey by so stating in the law.

Keeping Fruits Without Cans.

The editor of the Sharon (Mass.) *Advocate* says that in his family they are not particular about cans in saving fruit. He says it is often desirable to use bowls and other vessels, that cannot be sealed up, for holding the preserves. This can be done, and the fruit kept securely for any length of time, by closing apertures with cotton batting. We use the unglazed batting which you buy in the stores rolled up in blue paper. Directions: Use crocks, stone butter jars, or any other convenient dishes. Prepare and cook the fruit precisely as for canning in glass jars; fill your dishes with the fruit while it is yet hot and immediately cover with cotton batting securely tied on. Remember that all putrefaction is caused by the invisible creatures in the air. Cooking the fruit expels all these, and as they cannot pass through cotton batting the fruit thus protected will keep an indefinite period. The writer of this has kept berries, cherries, plums, and many other kinds of fruit for two years with no cover save batting on the jars.

Inquiries Answered.

STEAM THRESHERS.—There is no law on the subject; and until there is, a steam wagon may travel the public road the same as a wagon drawn by horses or cattle.

SORGHUM.—It is not recommended to stack it, but to shock it same as corn. Cut when ripe and set up in large shocks is what our correspondent is inquiring about. Then it may have its own time in drying.

TARRED PAPER is not a good roofing in any form, chiefly because of the difficulty in keeping it in place without nailing, and nails make leaks. If the paper can be securely laid, then tarred and sanded, it would make a good roof.

In his report on Texas cattle fever in Kansas, Dr. Holcombe says it is dangerous only to native cattle, and is spread by the Texas animals wherever they may go. Native cattle do not communicate the disease. The fatality

is always great. Treatment consists in keeping the infected herd on a large pasture so that they may have exercise and may not be crowded; constipation being present, the bowels should be opened with Epsom salts, followed by one to three-drachm doses of carbolic acid, repeated every six or eight hours. The acid should be diluted with two ounces of oil and given as a drench. Disinfectants should be freely used around the sick.

Gossip About Stock.

There was a conference of stockmen at the Governor's office last week, the result of which was the issuance of a proclamation, which the reader will find in another part of the paper.

Clint Tillery, Liberty, Mo., writes that the Clay County Missouri Short-horn Breeders' Association will hold a public sale Oct. 16, at Liberty, when they will offer seventy head of representative Short-horns.

Pleuro-pneumonia has appeared among cattle in Lancaster county, Pa., and also at Blissville, N. Y. Several cases were reported in Illinois, but on examination it was found that the disease was only "severe cold."

A singular statement comes from St. Petersburg in a dispatch of the 15th inst. Three deaths occurred from blood poisoning caused by stings of flies that had been feeding on cattle infected with rinderpest, a contagious and fatal disease.

John Carson, Winchester, Kansas, importer and breeder of Clydesdale and Percheron-Norman horses, announces that he will be at the Bismarck and the State Fair, where he will be pleased to meet the lovers of the draft horses.

Attention is called to the interesting card entitled Berkshire Hogs, in this issue, over the well known name of N. H. Gentry, Sedalia, Mo., the great Berkshire breeder of the West. It is patent to all that he is a reliable as well as the most extensive of Berkshire breeders in the country.

Jay Eye See and Phallas were put against their own record at Philadelphia last Friday, and both failed to beat the time already recorded in their favor. It is said, however, that a break made by the little black on the third quarter is all that prevented him from eclipsing Mand S. As it was, his time was 2:11.

A glance at our advertising columns this week will show that two very important cattle sales will soon occur. On Sept. 9, A. H. Lackey & Son sell 150 head of good cattle at Peabody, Kas., and on Sept. 16 and 17, several of the prominent Hereford breeders will hold a joint public sale of 100 Herefords at Kansas City.

We have received a joint private herd catalogue compiled by L. L. Seiler, for the following representative breeders of Missouri: Joel B. Gentry and D. W. McQuitty, Hughesville, Mo.; and Harry McCullough, Fayette, Mo. The catalogue represents all kinds of pure bred stock and poultry. A card addressed to either will secure one.

A Denver dispatch says: Cattle men are meeting with only indifferent success in stamping out the Texas fever, as it still exists in different parts of the State. The Cattle Growers' association has kept the State veterinary surgeon constantly on the go for several days investigating the reports of heavy mortality among the herds in the northern counties, which are constantly being received and published. In every instance so far he has found them highly exaggerated, some cases wholly false. The disease has not made its appearance among the large herds on the ranges, and leading cattlemen do not regard the danger as imminent.

Topeka Commonwealth: Three Topeka horse dealers, Johnny King, one of the Givens Bros., and James Wahls, made a trip recently through the southern border counties of Missouri, in search of horses, for speculation. They stopped at all the farm houses, and found but very few horses for sale, and those that were offered were at prices so high as not to leave a margin of \$5 over Topeka prices. The reasons given for the scarcity of horses, are the large number of new farms opening, the heavy shipments East within the past two years, and the non-shipment of droves here, as used to come annually from Texas and California. A good horse that would scarcely bring \$80 a few years ago in Topeka, will now bring \$150, and ponies that used to sell for from \$35 to \$50, are worth now from \$75 to \$100. This advance in prices will of course cause farmers to engage more extensively in raising good horses for the market.

THE MARKETS.

By Telegraph, August 18, 1884.

STOCK MARKETS.

New York.

CATTLE Receipts 5,700 head. Market lower, closing weak. Extremes 4 86½ 75, native steers 4 50½ 00. Texas, a few extra as fancy native steers reached 7 00½ 25, native stockers sold down to 3 7½ 45.

SHEEP Receipts 19,000. Fat sheep about steady, lambs dull and weak. Sheep 3 80½ 25, lambs 4 50½ 25.

HOGS Receipts 9,000. Market nominally dull, 5 75½ 75 for ordinary to fair.

Chicago.

The Drovers' Journal reports: **HOGS** Receipts 15,000, shipments 700. Market steady and unchanged. Rough packing 5 60½ 60, packing and shipping 6 30½ 65, light 5 90½ 60, skips 4 00½ 50.

CATTLE Receipts 8,000, shipments 1,900. Market for best corn fed firm, others 10½ 20c lower. Exports 6 50½ 90 good to choice shipping 5 90½ 60, common to medium 4 50½ 75, Wyoming range cattle 4 55½ 60, grass fed Texans 3 75½ 25.

SHEEP Receipts 2,000, shipments 500. Market slow. Inferior to fair 2 50½ 50, medium to good 3 50½ 40 choice to extra 4 00½ 25, lambs per head 1 50½ 50, Texas sheep 2 50½ 75.

The Journal's Liverpool cable reports: Market weak for best American cattle at 15c, estimated dead weight. Sheep unchanged, 15½ 16c for good heavy Americans.

St. Louis.

CATTLE Receipts 2,400, shipments 1,700. Natives steady but slow; Texans, active and easier. Exports 6 30½ 75; good to choice shipping 5 90½ 60; common to medium, 4 55½ 75, Colorado steers, 4 75½ 85, grass Texans, 3 25½ 40, mainly 3 50½ 00.

SHEEP Receipts 1,400, shipments 800. Steady for good grades: inferior to fair, 2 25½ 75; medium to good, 2 85½ 40, choice to extra, 3 50½ 25, lambs, 2 50½ 75.

Kansas City.

CATTLE Receipts since Saturday 2,387. The market to-day was steady for good to prime natives. Grass Texas with the exception of canners, were weak, slow and 10½ 15 lower. The bulk of the supply on sale consisted of grass Texas. Stockers and feeders were quiet. Sales ranged at 3 55 to 5 50.

HOGS Receipts since Saturday 4,861 head. The market to day was fairly active and steady with no material change in prices from Saturday. Sales ranged 6 00½ 40; bulk at 6 15½ 25.

SHEEP Receipts since Saturday 1,133 head. Market steady for good muttons and lambs. Sales were 103 stock, at 89 lbs., at 2 45.

PRODUCE MARKETS.

New York.

WHEAT Receipts 96,000 bus. exports 212,000. No. 2 Chicago 85½, ungraded red 74½ 95, No. 8 red 86½, No. 2 red 89½ 91½.

CORN Cash 68 to 69½.
CHICAGO.
WHEAT Cash 76½ to 77½.
CORN Cash 51½ to 52½.
OATS Cash 24½ to 25½.
RYE Quiet and firm, 86.
BARLEY Dull, at 64 for September.

St. Louis.

WHEAT No. 2 red 81½ 83½, cash 81½ 83½.
CORN Higher but very slow at 48½ 49½ cash.
OATS Easier and slow at 25½ 26½ cash.
RYE Dull at 49½ 50 bid.
BARLEY Nothing doing.

Kansas City.

WHEAT The market was still weak and values lower on change to-day with sales of cash. No. 2 red at 59½ against 60½ Saturday.

CORN There was a steady market for No. 2 mixed on change to day. Cash No. 2 mixed sold at 40½ 41½—the latter in special elevator—against 40 Saturdays; August, September, October, November, the year and May were nominal. Cash No. 2 white mixed sold at 41½ 42½ against 42½ Saturday.

OATS No. 2 cash 26c bid no offerings.
RYE No. 2 cash 40½ bid, 41½ asked.
BUTTER Supply moderate and market steady on dairy and storepacked. Creamery is dull and lower. We note sale of one lot of 14 package creamery at 10c. The same could hardly have been sold in a small way in a whole week.

We quote packed:
Creamery, fancy fresh made..... 18a19
Creamery, choice "..... 18a17
Creamery, old and held stock..... 15a16
Choice dairy..... 14a15
Fair to good dairy..... 10a12
Storepacked table goods..... 10a12
EGGS To day's receipts are light. Some dealers report large supply and others very small. Market irregular and quotable at 11½ 12½.

CHEESE We quote eastern out of store. Full cream: Young America 10½ per lb; do twin flats 10c; do Cheddar. 9c. Part skim: Young America 7a8c per lb; flats 6½ 7c; cheddar 6½ 7c. Skims: Young America 5a6c; flats 4½ 5c; Cheddar 4½ 5c.

BROOM CORN Common 2a2½c per lb; Missouri evergreen 4a5c; hurl 6a7c.

POTATOES We quote home grown 40a50c per bus.

SWEET POTATOES Home grown 1 00a1 25 for red per bus; yellow 1 75a2 00 per bus.

TURNIPS Home grown 40 50c per bus.
APPLES Consignments of Missouri and Kansas choice 1 50a1 75 per bbl. common to good 1 00a1 25 do. Home grown from wagons 85 50c per bus for shipping fruit. Stand apples 75a1 00 per bus.

GRAPE Consignments dull on account of home grown excepting Delawares which are in demand.

We quote consignments of Ives seedling 4c per lb, Concord 5c per lb. Delawares 8 9c per lb. Home grown 8a6c per lb.

SORGHUM We quote consignments in car loads: dark 18a20c, bright 22c.

Horticulture.

Strawberry Culture--Fall Planting.

From a circular letter sent out to his friends by Mr. Crawford, nurseryman, Cuyahoga Falls, Ohio, we extract a few good suggestions concerning the fall culture of strawberries. He says the soil for the strawberry should be rich and moist, but not wet. It matters not whether it be sand, clay or muck, so that it furnishes anchorage for the plant and contains an abundance of the elements necessary to its growth. It should be stirred to a good depth, but little or no poor subsoil should be brought to the surface. It is well to have it prepared some little time in advance so that it may have time to settle somewhat before the plants are set. The surface should be rich. This is especially important with fall-set plants as their roots have comparatively little time to go far in search of food. There is another advantage in encouraging surface roots: they are not drawn out nor broken by the expansion of the water in the soil when it changes to ice, but rise and fall with the ground. Roots that run deep are apt to be broken or drawn out—as red clover—while white clover roots remain uninjured, although frozen and thawed a dozen times. If the soil has been enriched for a previous crop, so much the better; but if not, well decomposed stable manure may be worked into the surface either before or after setting the plants. Bone dust and wood ashes will supply all that may be lacking in any soil, and there can be obtained in nearly all parts of the country. Of all the commercial fertilizers none is safer to buy than pure ground bone. It must, however, be decomposed before the plants can use it, as they take up all their food in solution. For immediate effect it is sometimes advisable to use dissolved bone (super-phosphate of lime) which will be washed down to the roots by the first rain. It should be impressed on the mind of every tiller of the soil that neither pleasure nor profit can be derived to any great extent from cultivating poor land.

A plant receives more or less of a check by being taken up and reset, in the growing season, even though this be done in the most skillful manner. The following method I have used with great success for more than a quarter of a century: the plants are taken out of the damp soil, with great care, divested of all runners and superfluous leaves and thrown into a pail of water. They are then carried to the new bed and each one taken out and planted. The roots are spread out in fan shape, with the crown even with the surface, and a little damp soil put over the roots and pressed firmly against them. The balance of the soil is then filled in loosely. If the weather be very hot after transplanting, a little shade during the middle of the day, for a time, will be an advantage.

Another very satisfactory method is to set the plants about four inches apart in loamy soil, with the roots spread out carefully and covered with half an inch of earth. In this situation they can be shaded and watered, if necessary, and in a few days thousands of new roots will be sent out. They may then be taken up, after a thorough watering, with the soil adhering, and set in the new bed, where they will grow from the first without wilting. This is the best way to treat all plants received from a distance. Soon after the plants are set out they will commence to send out runners which must be cut off as soon as they appear. The soil should be kept well stirred from the time the plants are set until the end of the growing season; but all deep cultivation should

be discontinued after the first of October, lest the surface roots be injured. Plants set in the fall—the earlier the better,—will produce fine fruit the following June, and will make a far greater growth than if the planting be postponed till spring.

As soon as freezing weather comes the whole surface of the bed should be covered to the depth of two or three inches with straw or any light litter. Early in the spring, when the plants begin to grow, the covering should be removed from over the crown of each plant and left between to keep the ground moist and the fruit clean.

About Budding.

Any time in July and August, and often far into September, budding may be done. The process is simple. We have frequently described it in the FARMER, yet it may be new to some.

Select a bright, healthy twig that has grown this year, and from that remove the best developed single buds for use. If the stock to be budded is the stem or trunk of a tree; that is, if the object is to make the whole tree of the variety from which the bud is taken, then the work must be done near the ground, and in Kansas we prefer the south side of the stalk, unless the tree is to be lifted and transplanted, in which case it does not matter, because the tree may be set as desired. If the location is well protected from the south wind, the bud may be set on any side of the stock. Our only reason for putting it on the south side is to strengthen it against the prevailing summer wind.

If the stock to be budded is a branch of the tree, then let the work be done on the upper side of it.

With a sharp pocket knife make an incision lengthwise of the stock about an inch and a quarter long, cutting clear through the bark. Across this, at the upper end, make another incision about half or three-fourths of an inch long. The cuts, then, will represent a T. Now, remove a bud, by sliding the knife blade under it, beginning at the upper or top end of the bud, cutting under it just deep enough to slice off a little of the wood, running the blade out about half or three-fourths of an inch below the bud. Dress off the upper end a little beyond the bud proper so as to form a smooth and straight shoulder to fit against the bark on the stock. Raise the lips formed by the incisions and slip the bud under them and have the shoulder fit up neatly against the bark on the stock. See that the two barks are well joined, squarely, edge to edge. Press the bark of the stock over the inserted bud, and wrap it lightly with woolen yarn to keep it in place. After it is well knit and the seams are healed, removed the wrapping. Any kind of string that is soft and yielding will do as well as yarn. A little grafting wax or other substance that will protect the wound thoroughly against wind and rain is serviceable.

Next spring let the branch, or the tree, as the case may be, be removed beyond or above the bud, so that there will be nothing beyond it to receive sap.

Britain has about 35,000,000 people. It is reported that in one year they use 1,000,000,000 gallons of beer, 37,000,000 gallons of spirits and 14,000,000 gallons of wine, the total cost to the consumers being about £500,000,000 or nearly \$2,500,000,000. That quantity of liquor would fill a canal twenty feet wide, ten feet deep and nearly one hundred and forty-five miles long.

One pound of whale-oil soap dissolved in six gallons of water, and applied two or three times during the season, is good to prevent ravages of cabbage worms.

The Busy Bee.

Honey Dew.

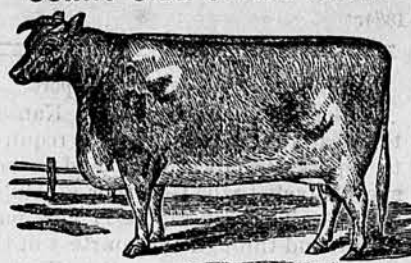
In a recent issue of *Gleanings in Bee Culture*, a correspondent has an article on Honey Dew, and asks Prof. Cook for an explanation, as follows:

"I noticed an article in *Gleanings* for June 15, from E. R. Root, about honey-dew. I had a little experience in that line this season, which may be of interest to your readers. About the 8th or 9th of this month, I went to the pasture after the cows, when, near the woods, I heard a tremendous roaring of bees, and, thinking a swarm was passing over I looked in every direction, but could see no bees. As I got nearer the woods the sound seemed to increase in volume. Just in the edge of the woods, I saw a young hickory tree in blossom, and thinking the bees might be working on that, I went up to the tree, when I found the leaves completely covered with what is known as honey-dew. The trees were fairly alive with bumble bees, honey-bees, yellow-jackets, wasps, hornets, and flies; the leaves were so covered with the honey-dew, that they had the appearance of being varnished.

"Looking up to the top of the tree, I saw myriads of small insects, which I took to be aphides or plant-lice; but on looking closer, I discovered that they were small, striped bugs, which seemed to be gathering honey-dew, with the rest. After looking around and finding the honey-dew on oak, maple, elm and beech trees, I went on over to friend Phelps', taking some of the leaves with me. I found him at home, and together we went back to the woods, to see if we could discover the source of the honey-dew. After looking at the trees for some time, we about came to the conclusion that it was a natural secretion of honey in the leaves of the trees. While we were talking and watching the bees, we noticed a bee running along the branches, stopping from time to time to gather something. Upon pulling down the limbs and looking closely, we discovered that they were literally covered with the scaly aphids, or bark-louse. Upon close inspection, we discovered a small drop of clear fluid exuding from the backs of the lice. This was what the bees were gathering on the branches, and it was falling all the while in a fine spray, it being visible on our coats when we came out into the sunshine. Now, this scaly aphid assumes the color of the bark of whatever kind of tree they are working on, and being quite small it requires close inspection to see them. I think we would not have seen them but for the bees working on the branches. Now, may not this, in a measure, account for some of those mysterious falls of honey-dew that we hear of? The flow of honey from this source lasted about two or three weeks, or until the bees began to work on white clover, and perhaps a little longer, as I find, in taking off honey, the boxes are spotted more or less with the honey-dew, while some are filled entirely with it. As to quality, all that I have to say is, that if any person can eat it, he is capable of eating anything. It looks nasty, it tastes nasty, and it is nasty; and what to do with it, I do not know, for it is not fit for a hog to eat.

"Now, as I am rather ignorant of the subject of entomology, will Prof. Cook, or some one else who is posted, inform us of the different stages of the bark-louse, and about the time that they remain in each stage, and whether they often produce this so-called honey-dew? This is a new thing to me, having never in my life noticed it before, and I would like to know how many dif-

SUNNY SIDE STOCK FARM.



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—Breeder of—

SHORT-HORN CATTLE

of the most noted beef strains, and all superior individuals.

FOR SALE—Forty Thoroughbred Pure Short-horn Bulls—Rose of Sharon, Young Mary and Princess, from 9 months to 2 years old; also, 60 High grade Bulls, all Red and in fine condition, from three-quarters grade cows and pedigree bulls.

Correspondence or inspection of herd cordially invited.

Wm. Gentry & Sons, Sedalia, Pettis Co., Mo.

Joel B. Gentry & Co., Hughesville, Pettis Co., Mo.



BREEDERS of and Dealers in Short-horn, Hereford, Polled Aberdeen and Galloway Cattle, Jacks and Jennets. Have on hand one thousand Bulls, three hundred the cattle in calf by Hereford and Polled Bulls. Are prepared to make contracts for future delivery for any number.

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



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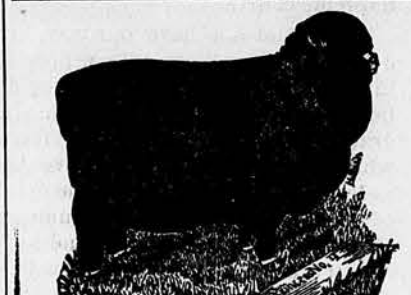
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Cattle.

I have one of the largest herds of these famous cattle in the country, numbering about 200 head. Many are from the noted English breeders, T. J. Carwardine, J. B. Green, B. Rogers, W. S. Powell, Warren Evans and P. Turner. The bulls in service are "FORTUNE," sweepstakes bull with five of his get at Kansas State Fair 1892 and 1893; Imp. "Lord Wilton" bull "SIR EVELYN," own brother to "Sir Bartle Frere;" Imp. "DAUPHIN 18th," half brother to T. L. Miller Co.'s "Dauphin 18th;" and "THE GROVE 4th," by "The Grove 3d."

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



PRINCESS.—Third fleece, 26½ lbs.; fourth fleece, 26½.

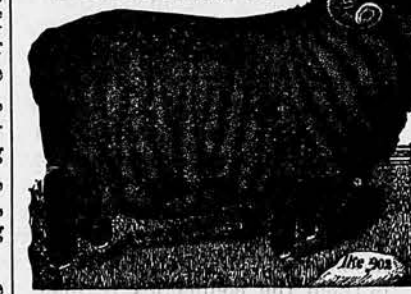
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Breeders of Pure Spanish Merino Sheep—Vermont Register. 400 Rams unequalled for length and quality of staple, constitution, and weight of fleece; 240 selected by R. T. from the leading flocks of Vermont especially for retail trade. The line of blood, coupled with the high character they possess, insures a reproduction of their excellent qualities. At prices to correspond with wool.

Also, Light Brahma and Plymouth Rock Chickens and Bronze Turkeys. All orders promptly filled and satisfaction guaranteed. Catalogue free.

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BREEDER of Vermont Registered Merino Sheep. The largest flock in the State 350 rams and a number of ew for sale. High-class poultry. Catalogues free



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R. B. MITCHELL & CO., 69 Dearborn St., Chicago, Ills.

ferent kinds of insects and worms are capable of producing honey-dew."

Prof. Cook has prepared an article on this subject, as follows:

From very numerous inquiries as to name, habit and remedies regarding this louse, I have for some weeks intended writing you; but an overwhelming amount of work has prevented, until letter drives me to it. Pres. E. Orton writes me that this insect is killing the soft maples, and wishes a remedy. Mr. O. J. Terrell, from North Ridgeville, says they are affording much nectar which attracts the bees and seems excellent, and wishes to know if it is probably wholesome. The editor of the *Coldwater Republican* asks if there is any way to save the maples. These are samples of a score of inquiries coming thick from Ohio, Illinois, Indiana and Michigan.

DESCRIPTION.

The maple tree scale or bark-louse (*Pulvinaria innumerabilis*, Rath.) consists, at this season, of a brown scale about five-eighths of an inch long, which is oblong, and slightly notched behind. On the back of the scale are transverse depressions, making segments. The blunt posterior of the insect is raised by a large, dense mass of fibrous, cotton-like material, in which will be found about 800 small, white eggs. These eggs falling on to a dark surface, look to the unaided eye like flour; but with a lens they are found to be oblong, and would be pronounced by all as eggs, at once. This cotton-like egg-receptacle is often so thick as to raise the brown scale nearly a fourth of an inch. These scales are found on the under side of the limbs of the trees, and are often so thick as to overlap each other. Often there are hundreds on a single main branch of the tree. I find them on basswood, soft and hard maple, and grape-vines, though much the more abundant on the maples.

Another feature at this mature stage of the insect, is the secretion of a large amount of nectar. This falls on the leaves below, so as to fairly gum them over, as though they were varnished. The nectar is much prized by the bees, which swarm upon the leaves. If such nectar is unpleasant to the taste, as Mr. Terrell avers, I should have no fear of the bees collecting it.

From the middle to the last of June, the eggs begin to hatch, though hatching is not completed for some weeks after it begins, so we may expect young lice to hatch out from late in June till August.

The young lice are yellow, half as broad as long, tapering slightly toward the posterior. The seven abdominal segments appear very distinctly. The legs and antennae are seen from the other side. As in the young of all such bark-lice, the beak, sucking-tube, is long and thread-like, and is bent under the body till the young louse is ready to settle down to earnest work as a sapper. Two hair-like appendages, or setae, terminate the body, which soon disappear.

The young, newly-born louse, wanders two or three days, then inserts its beak into the leaves where it first locates. It prefers the middle underside of the leaf. In autumn, the much-enlarged louse withdraws from the leaves attaches to the under side of the twigs and branches; while on the leaves, they sometimes, though rarely, withdraw their beak, and change their position. In winter, the young lice remain dormant; but with the warmth of spring, as the sap begins to circulate, the lice begin to suck and grow. The increase of size, as the eggs begin to develop, is very rapid. Now the drops of the nectar begin to fall, so that the leaves and the sidewalks underneath, become sweet and sticky. In the last Ohio Farmer, Mr. Singleton states

that leaves of the maple do secrete honey-dew. It is on the leaves, and there are no aphides or plant-lice. Mr. Singleton's honey-dew is, without doubt this same nectar from bark-lice. Had Mr. S. looked on the under-side of the branches, instead of on the leaves, he would have found, not aphides, to be sure, but bark-lice.

If these spring lice are examined closely with a low magnifying power, a marginal row of hairs will be seen.

MALES.

Some few of the scales, in late July, will be noticed to be dimmer, lighter in color, and somewhat more convex, above. In these, the setae do not disappear, but may be seen projecting from the posterior end of the scale. In August, the mature males appear. These have the scales, have two wings, and are very active. Although the females are to continue to grow till the next June, coition now takes place. The males are seen for two or three weeks, though each individual probably does not live as many days. It is quite probable that, as in case of production of drone-bees or aphides, the males of these scale-lice are not absolutely necessary to reproduction. We know they are not in some species.

REMEDIES.

By use of a long-handled broom, dipped in strong lye or soap-suds, the thickly gathered lice could be readily removed, on the lower side of the branches, at any time in the spring. This would kill the lice, and prevent egg-laying, or destroy the eggs already laid. The earlier this is done in the spring, the better. The position of the lice, on the under-side of the branches, make this more practicable. If not the only practicable remedy at this season. On a few trees, or on small trees, this is no serious task. If this is neglected, or is thought to be too great a task, the trees may be syringed in early July, just when the young lice are most susceptible, with the following: One quart soft soap, ten quarts water, and one quart kerosene oil; stir all together. This can be thrown on with a fountain pump. As the lice are mostly on the lower side of the leaves, it should be thrown from below, upward. This also applies to other species of bark-lice, which are very common this season. The bass-wood, the tulip (see my Manual, p. 249), the elm, the hickory, the blueash, etc., are all suffering from bark-lice, much like the above, except that the cottony substance is wanting. It is a comforting truth, that all these species are often destroyed by their enemies before they entirely kill our trees, though they often do great harm.

Carriage in a cow pasture will affect the milk of the cows.

Thousands saved from death by Dr. King's New Discovery for Consumption. Trial Bottles free.

The total number of patents granted for agricultural inventions is 35,960.

Those troublesome diseases peculiar to women are caused by a relaxed and flabby condition of the system. If the constitution has not been completely sapped, a radical cure can be quickly effected by taking Leis' Dandelion Tonic persistently in small doses after meals.

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

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D.M. MAGIE COMPANY, OXFORD, BUTLER CO., OHIO, Originator and Headquarters for Magie or Poland-China Swine. 751 head sold for breeders in 1883. Have shipped stock to Seven Foreign Countries. Send for Circulars.

PIG EXTRACTOR, to aid animals in giving birth. Send for free circular to WM. DULIN, Avoca, Pottawatomie Co., Iowa.



JOHN CARSON,

Winchester, : : : : Kansas,
Importer and Breeder of

Clydesdale & Percheron-Norman Horses.

Choice stock for sale. Also some fine Grades. Correspondence solicited and satisfaction guaranteed. Stock can be seen at Bismarck Fair and also at the State Fair at Topeka.

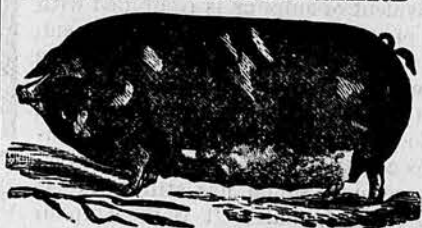
Elk Valley Herd of Recorded Poland-Chinas.



BRED BY J. WRIGHT, ELK CITY, KAS.

My stock was selected from the best herds in Illinois, Indiana and Ohio. Young stock for sale; also high-class Poultry. Send for catalogue and prices. JOHN WRIGHT, Elk City, Kas.

MEADOW BROOK HERD

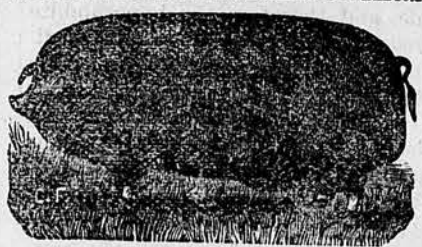


OF POLAND-CHINA SWINE.

Breeding Stock for sale in American and Ohio Records. Tom Duffield 1615 A. P. C. R. at head of herd. Always space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.

J. ELLY & FILLEY, Proprietors,
KINGMAN, KANSAS.

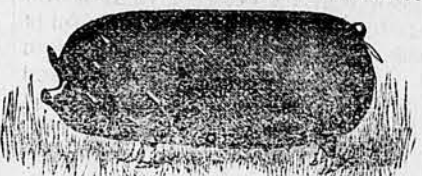
Acme Herd of Poland Chinas



Fully up to the highest standard in all respects. Pedigrees, for either American or Ohio Records, furnished with each sale. All inquiries promptly answered. Address STEWART & BOYLE, Wichita, Kansas.

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

WELLINGTON HERD

ENGLISH BERKSHIRES.



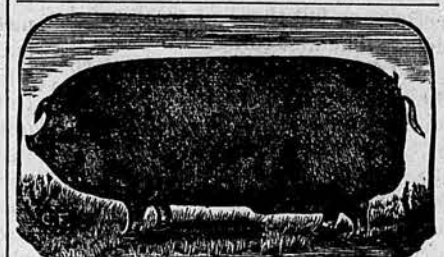
The Wellington Herd of well-bred and Imported Berkshires is headed by HOPEFUL JOE 4889. The herd consists of 16 matured brood sows of the best families. This herd has no superior for size and quality, and the very best strains of Berkshire blood. Stock all recorded in A. B. E. Correspondence and inspection invited. Address M. B. KEAGY, Wellington, Kas.

Poland-China and Berkshire HOGS.



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

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EMPORIA, LYON CO., KANSAS.



ROME PARK STOCK FARM, located seven miles south of Wellington, Sumner Co., Kansas; Rome depot adjoining farm. I have 35 breeding sows—Poland-China and Large English Berkshire swine. Also 230 high grade Short-horn cattle. Stock recorded in Ohio and American Records. The animals of this herd were and are prize-winners and descendants of prize-winners, selected with care from the notable herds in the different States without regard to price. The best lot of sows to be seen. Am using six top-class—Cornish 23, Kansas Queen, Kansas Pride, Cora's Victor, Ohio King, Hubbard's Choice,—sweepstakes. Orders booked for Spring Pigs. Address T. A. HUBBARD, Wellington, Kansas.

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Herd of pure-bred and high grade Short-horn Cattle, Poland-China Swine, Shepherd Dogs and Plymouth Rock Fowls. The best herd of Poland-Chinas west of the Mississippi river, headed by Black-foot 2261, Young U. S. 4491. Laudable vol. 6 (own brother to Look-No-Further 405) and Seek-No-Further (a son of Look-No-Further). All stock sold eligible to the Ohio Record. Send for new catalogue. MILLER BROS. Box 293, Junction City, Kas.

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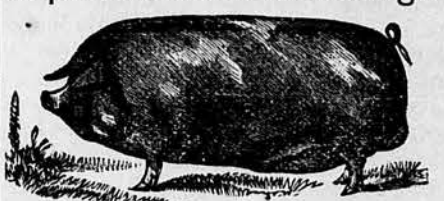


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AS PRODUCED AND BRED BY
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We are raising over 800 pigs for this season's trade. Progeny of hogs that have taken more and larger sweepstakes and pork-packer's premiums than can be shown by any other man on any other breed. Stock all healthy and doing well. Have made a specialty of this breed of hogs for 37 years. Those desiring the thoroughbred Poland-Chinas should send to headquarters. Our breeders will be registered in the American Poland-China Record. Photograph of 34 breeders, free. *Swine Journal* 25 cents. Three-cent stamps taken.

Improved Poland-China Hogs



We have been breeding Poland-China Hogs for twenty years. The long experience obtained has enabled us to select none but the choicest specimens for breeding purposes. We now have

Hogs of Quick Growth,

Easily fattened and early matured, showing a great improvement in form and style, especially in the head and ears.

Our breeders consist of the finest lot of Sows and three of the best Boars in the State, being descendants from the best families in the United States. Those wishing choice pigs should send orders in early as there is a very large demand for stock. Mail orders filled with dispatch. Pedigrees furnished with all hogs sold.

S. V. WALTON & SON,

P. O., Wellington, Kansas; Box, 207.

Residence, 7 miles west of Wellington, near Mayfield.

The Veterinarian.

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

WOLF TEETH.—Is there anything like "wolf teeth" in horses? I have two colts that some of the wise ones say have them. [Yes, colts have them occasionally. Let them alone, they will come out themselves; but sometimes they get loose or the points protrude above the molars, and then are better drawn out.]

COUGH.—What will cure a cough in young horse? He had a slight form of distemper about two months ago. [Take tincture of aconite 2 oz., water 1 pint; mix, and give 1 teaspoonful four times a day. Give one powder in feed of the following, every morning: Sulphur 1 oz., sulphate of iron 2 oz., pepsine 2 drams; mix, and make up into 12 powders.]

LAMINITIS AND BRITTLE HOOF.—Have a three-year-old horse that is sore in the fore feet; have stood him in puddle a few hours every day, but since I had him shod he is still sore. [A good hoof ointment is just what is wanted, such as lard 1 lb., wax 2 oz., melted and mixed, then add Caustic Balsam 2 oz.; mix well and rub well up over the coronet, to start a healthy hoof; keep the feet clean.]

INJURY TO COLT.—One month old; has become lame and swelled in the pastern. [Take arnica 4 oz., calendula 8 oz., aqua ammonia 2 oz., linseed oil 4 oz.; mix and rub on the joint, and keep on a bandage; rub the hip with the same. The mare must have tramped on the colt. Do not let the colt suck the mare when she comes in from work in a heated condition till she is a little cooled off.]

ABSCCESS—CALLOUS.—Cow that has an abscess on the left side of udder. I opened it and it ran matter. Give remedy, and also one for callous. [Take clean diluted White's crystal carbolic acid, syringe into the wound three times a day, then syringe in oil after the acid. Apply a poultice to the caloused part till it is softened, then rub on Caustic Balsam three times, once a day; at the end of three days rub on olive oil; in one week repeat.]

TYMPANITIS.—Hoove or blown in sheep, as in other farm stock, is due to unnatural distention of the rumen or paunch, in consequence of the animal eating greedily when first turned from a poor to a luxuriant pasture, resulting in engorgement of the rumen. When the distention is great, the blood is prevented from circulating in the vessels of the rumen. The diaphragm is mechanically obstructed from making its ordinary contractions; respiration becomes difficult in consequence, and the peristaltic (vermicular) motion of the bowels ceases. In this condition the combined heat and moisture favor fermentation, generating large quantities of gas, which unless speedily neutralized terminates in death. Prevention—Place common salt where the animals have free access to it; do not allow the sheep to run too long in a new pasture of rank growth, either in grass or clover; allow little or no water immediately after coming up from such pasture. Treatment—Speedy relief may be given by passing a trocar in the most protuberant point of the swelling, on the left side, a little below the hip bone. The gas will rapidly escape through the tube, giving speedy relief. This disease runs its course rapidly, requiring prompt and energetic, but not heroic treatment to save the animal's life.

Mention the KANSAS FARMER when writing to any advertiser.

THE STRAY LIST.

HOW TO POST A STRAY.

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

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

Broken animals can be taken up at any time in the year. Unbroken animals can only be taken up between the 1st day of November and the 1st day of April, except when found in the lawful enclosure of the taker-up. No persons, except citizens and householders, can take up a stray. If an animal liable to be taken, shall come upon the premises of any person, and he fails for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same. Any person taking up an stray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray. If such stray is not proven up at the expiration of ten days, the taker-up shall go before any Justice of the Peace of the township, and file an affidavit stating that such stray was taken up on his premises, that he did not drive nor cause it to be driven there, that he has advertised it for ten days, that the marks and brands have not been altered, also he shall give a full description of the same and its cash value. He shall also give a bond to the state of double the value of such stray.

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

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

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

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

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

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

Strays for week ending August 6, '84.

Sedgwick county—E. P. Ford, clerk.

MULE—Taken up by J. K. Kice, in Payne tp. one sorrel horse mule, 4 years old, star in forehead, indelible brand on left shoulder; value \$40.

MUL—By same, one sorrel mare mule, 5 years old, indelible brand on left shoulder; valued at \$40.

Johnson County—Henry V. Chase, clerk.

MARE—Taken up by Ed Gooding, near Stanley, one black mare, right hind foot white, shod all around, supposed to be 4 years old, 15 hands high; valued at \$40.

McPherson county—E. L. Loomis, clerk.

STER—Taken up by P. C. Emberson, in Battle Hill tp. one pale red steer, 7 months old, no brands, white line on back; valued at \$12.

Linn county—J. H. Madden, clerk.

MARE—Taken up by Edwin Kewison, in Sheridan tp. July 8, 1884, one black mare, 12 years old, scar on left fore leg, no other marks or brands visible; valued at \$50.

Shawnee county—Chas. F. Spencer, clerk.

HORSE—Taken up by W. H. Baker in Soldier tp. July 5, 1884, one horse, with saddle and bridle, branded C on left jaw and on left shoulder, 4 white feet, 7 years old; valued at \$25.

Strays for week ending August 13, '84

Cowley county—J. S. Hunt, clerk.

MARE—Taken up by Drury Warren in Silver Dale tp. July 28, 1884, one bay mare, 2 years old; valued at \$60.

COLT—By same, one bay horse colt, 1 year old, 1 hind foot white to pastern joint; valued at \$40.

PONY—Taken up by D. W. Pierce, in Nescan tp. June 23, 1884, one sorrel pony mare, 10 years old, 12 hands high white strip in face, hind feet white, a little white on right fore foot, shod all around; valued at \$30.

Riley County—F. A. Schermerhorn, clerk.

STER—Taken up by Edward Nelson, of Grant P.O., July 18, 1884, one red 4-year-old steer, line back, branded P. G. on left hip, crop and nick in left ear; valued at \$40.

Bourbon county—E. J. Chapin, clerk.

PONY—Taken up by C. T. Humphreys, in Drywood tp. July 3, 1884, one sorrel horse pony about 13½ hands high, 15 years old, white spot in forehead and on nose, right hind foot white, saddle and harness marks; valued at \$20.

Strays for week ending August 20, '84

Sumner county—Wm. H. Berry, clerk.

PONY—Taken up by J. C. Smith, in Valeried tp. July 28, 1884, one bay mare pony, branded o 3 on left hip and J on left shoulder; valued at \$40.

Sedgwick county—E. P. Ford, clerk.

PONY—Taken up by John Crittton, in Illinois tp. July 28, 1884, one bay mare pony, 3 years old, hind feet white, had leather halter on with picket rope, indelible brand on left hip and left shoulder; valued at \$50.

PONY—Taken up by Elizabeth Johnson in Illinois tp. July 28, 1884, one roan mare pony, 7 years old, blaze face, hind feet and left fore foot white, diamond-shaped brand on left hip.

Rush county—L. K. Hain, clerk.

MARE—Taken up by Ira Varney, of Center tp. July

28, 1884, one gray pony mare, 14 hands high, about 7 years old, branded on right hip with an inverted A, indelible brand on left hip; valued at \$12.

Davis county—P. V. Trovinger, clerk.

MARE—Taken up by John Butts of Smoky Hill tp. July 19, 1884, one bay mare, about 8 years old, 13 hands high, branded "O" on both shoulders, right hind foot white, small star in forehead; valued at \$30.

Rawlins county—Cyrus Anderson, clerk.

STER—Taken up by James McKnight, in Atwood tp. January 1, 1884, one gray steer, branded with 1M on left side and with a mark similar to figure 4 on right shoulder, crop from under part of left ear, and with crop from upper part of right ear; valued at \$15.

Hodgman county—J. P. Atkin, clerk.

PONY—Taken up by George T. Elder, in Maena tp. August 4, 1884, one medium-size bay mare pony, right hind and fore foot white, no brand; valued at \$25.

Harvey County—John C. Johnston, clerk.

HORSE—Taken up by G. F. Gilmore, of Walton tp. August 8, 1884, one iron gray horse, about 15½ hands high, 3 years old, no marks or brands; valued at \$10.

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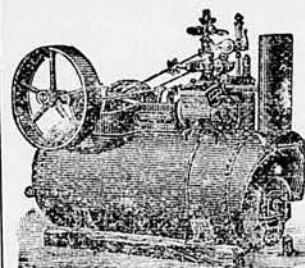
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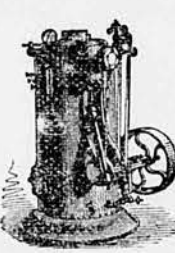
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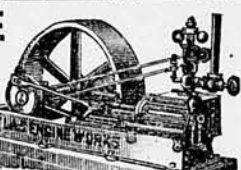
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T. S. HUBBARD, Fredonia, N. Y.

Milk as Food.

At a late meeting of the Chester Farmers' Club, says the *North British Agriculturist* Mr. J. C. Bell, analyst for the country, read a paper on this subject, in which he says that 100 parts by weight of the milk must contain 12 per cent. of total solid matter; of this 3 per cent should consist of the fat of cream, and the remaining 9 per cent. consist of sugar, casein, mineral matter, etc. This standard milk is what would be yielded by an ordinary poor dairy. There are cases within my experience where cows have not given standard milk. Thus I have found some poor cows would only give milk containing 9 per cent. of solids not fat, and 2½ per cent. of fat. Such a milk as this would be below the standard. On the other hand, I have found cows which would give solids, not fat, 10 per cent. and 4 per cent. of fat. This would be far above the standard. Thus if 3 per cent. of fat is the standard, and by some means it is reduced to 2, one-third of the cream would have been removed, or the fat would be 33 below the standard. If the cow is giving rich milk and the fat amounts to 4 per cent. then that milk would be 33 above the standard. Very few cows will give milk below the standard.

I have visited many farms, and have had some hundreds of cows milked in my presence, and have found that the average of the milk was from 30 degs. to 40 degs. above the standard. Out of seventeen dairies I visited the milk in each case was above standard, ranging from 7 degs. to 70 degs. above the standard. The 70 dairy only had three cows which had calved about a week. Feeding must have great influence upon the milk, also the manner in which the cows are housed. In taking the samples of milk, I was most particular in obtaining full information as to food, breed, time of last calving, age, and even color of the cows; for I have heard it stated that color of the cows has an influence upon the milk, and that white do not give such good milk as roan colored. According to my experience, white cows give as good milk as black or red cows.

As an instance of the effect of food, I had a sample of milk sent to me by the inspector from the neighborhood of Crewe. I found it so far below the standard that I was led to think that the milk was adulterated. I went over to the farm and had the cows milked in my presence. The cows were in a most wretched state—badly fed, badly housed and looking like animated bundles of bones. It is not surprising that the milk, upon analysis, was many degrees below the standard. Another case came to my notice where the milk was slightly below the standard, but on my suggestion more and better food was given, when the milk in less than a week rose in value. It would be well if farmers would pay some attention to this question of standards, knowing that standard milk means poor milk. Therefore, if a report from a dairy farm was milk below standard, it would at once show that the cows were not in health, or that they were not being supplied with proper food. The question of food cannot be over-estimated, and even at the present time it cannot be definitely stated what food produces the largest amount and richest quality of milk.

I may mention some experiments made at the Netherland Veterinary School on the influence of linseed cake and malt combings cake on milk production. Five cows were experimented on, and they received each about 4 lbs. of cake in addition to their ordinary food. The milk was very rich. In the case of the malt combings it was 48 degs above the standard, and the linseed cake was nearly 60 degs. above, which means

that the milk was 50 per cent. more valuable. Experiments have also been made with cottonseed meal and pea-nut meal. Two lots of cows were chosen and fed alternately for fifteen days upon these two foods. No analyses had been given of the milk, but the amount of butter made was found to be greater with the cotton-seed meal than with the pea-nut meal. It would be well if farmers would follow the example of Mr. Edwards, of St. Alban's. He keeps a strict account of the milk and cream yielded by each cow per month, and also has the analysis of each sample of milk recorded. As Mr. Edwards sells the most of his milk from about forty cows it is very important to him to know the composition of milk he is thus sending out. Thus his average milk for December last was 33 degs. about the standard.

Many will say that the following of such an example would cause a considerable amount of extra trouble and work. The labor is so small and the gain so great that the increased amount of work would become a pleasure. I think, from what I have stated, that the members of this association will see how desirable it is to pay some little attention to the scientific part of milk production, and it should be the aim of each member to join in a friendly rivalry to raise the standard of milk. As it has been said, "He deserves well of his country who makes two blades of grass grow where one grew before," so the same may be said of him who makes two lbs. of butter in stead of one lb. Thus the chemist and the farmer can go hand in hand, the chemist aiding the farmer to command that stones be made bread, and drawing sweetness out of wormwood.



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

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

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

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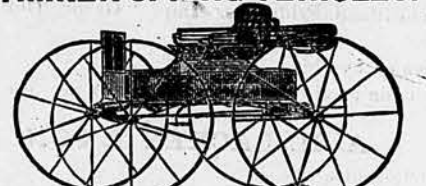
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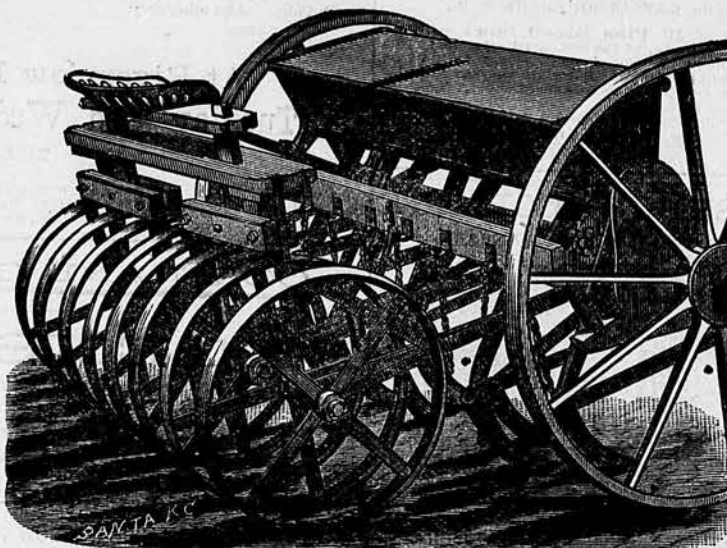
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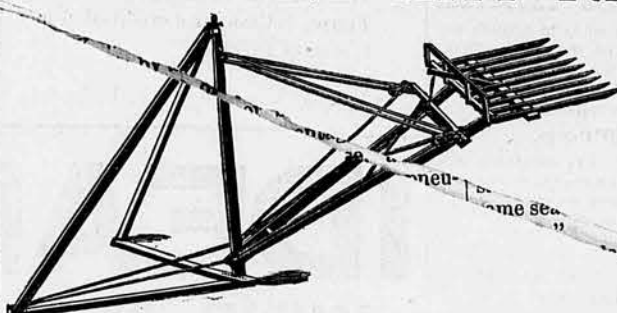
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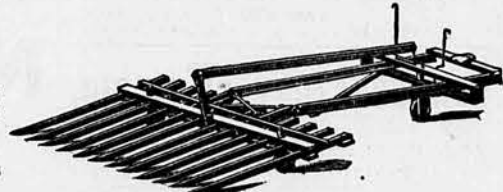
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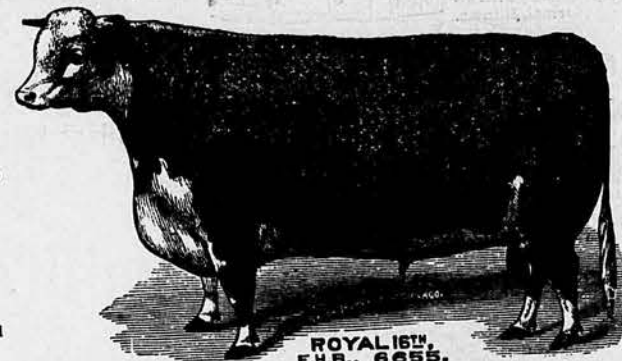
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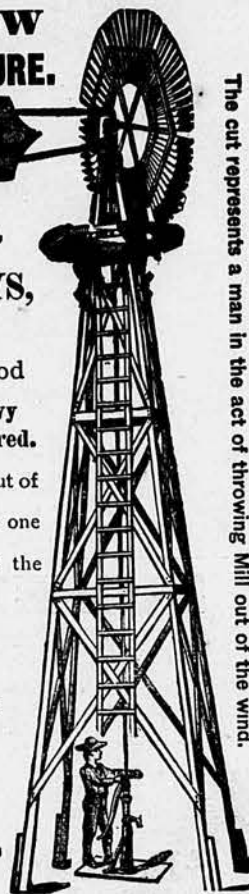
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