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About the Hessian Fly.

This is an interesting study now. In addition to what we presented to our readers last week, here is an article from the pen of Prof. E. A. Popenoe, of the State Agricultural college:

The Hessian fly is a true dipterous insect, allied to the house fly, mosquito and similar insects, and is one of an extensive family of minute flies known as cecidomyians. Most of the members of this family of flies are gall-producing insects, the presence of the egg in a shoot, leaf or bud producing on the plant a gall, or characteristic swelling, in which the larva is matured. The Hessian fly is unlike its relations, in that no gall is produced by its presence under the leaves on the wheat plant, though the stem is finally somewhat enlarged by the presence of the pupa, or "flaxseed" form.

The perfect fly is a slender, dark-brown mosquito-like insect, with smoky-brown wings, the legs being lighter than the body color, and the pale-brown antennæ equaling one-half the length of the body. Under the lens the antennæ will be seen to be beset at each joint by a whorl of minute bristles, longer in the male than in the female. The latter is further distinguished by the thicker abdomen. The insect measures in this stage about three-twentieths of an inch in length and one-fourth of an inch in extent of expanded wings. The eggs are laid in the longitudinal furrow along the upper side of the leaf, to the number of from one to thirty or even more on a single leaf. The eggs, one-fifth of an inch in length and barely visible to the naked eye, "are cylindrical, rounded at each end, soft, translucent, and pale orange-red in color." These hatch in from four to fifteen days, more rapidly in warm than in cool weather. The larva, or maggot, travels down the leaf until it reaches the point where the leaf is attached to the stalk, or, in younger plants, to the crown where they fasten lengthwise to the tender stalk, and feed by absorbing the sap, gradually, as they increase in size, becoming more or less sunken into the stem. In a few weeks the larva attains full size, and the semi-pupa stage is reached, the insect now becoming quiet, and in its protective shell-like outer covering being a bright brown. In this stage the insect bears some resemblance to a flaxseed, and this is usually known as the "flaxseed stage of the Hessian fly. According to the season in which this stage is assumed, the semi-pupa lasts a longer or shorter time, the fall-hatched larva passing the winter in this form; the summer brood remaining but a fortnight, more or less,—before transformation into the pupa, from which in ten or twelve days the perfect fly issues. It is a well-established fact that there are two broods annually of this insect; the larva found in the wheat in the fall becoming flies in the spring, and these flies depositing eggs in spring wheat, or even in fall wheat, now well advanced; but, in the latter case, the eggs are placed on the second or third leaf from the bottom of the stem. The second brood of flies, appearing in July, August and even into September, deposit eggs on the young fall wheat, and the cycle is completed.

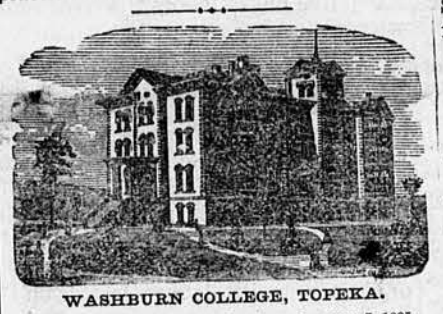
The presence of the fly in wheat may be suspected whenever the leaves of the plant at this season turn yellow without apparent reason, contrasting with the usually bright green of this plant. If a stalk of the yellow wheat be examined, and the pointed brown pod-like pupa cases are discovered in the space between the leaf and the stalk, just above the base of the former, then, at least, no further evidence is needed to prove the pest present.

In its advance over our wheat-growing areas the Hessian fly is accompanied or followed by a very destructive insect parasite, a minute four-winged fly of the hymenopterous order. This parasite deposits, in the "flaxseed" of the fly, eggs, which hatch into small carniverous grubs, feeding upon the semi-pupa within the flaxseed-like case, and so destroying its life and power to multiply. Other parasites have been observed, but the one above mentioned is much the most important, and through its assistance only are we warranted in expecting even partial relief from the attacks of the fly when once established in our territory.

As to preventive or remedial measures, from the nature of the case they must be restricted to general treatment, and in this line late sowing is most commonly undertaken, and has the sanction of much good authority. As the wheat that appears well above ground before the first sharp frost of the season is surely sought for the depositing of the eggs by the autumn brood of flies, and as it has been shown that a sharp frost destroys these insects in their adult state, growers of grain have successfully practiced deferring the sowing of wheat to that period when a frost sufficient to kill the mature insect may be expected before the wheat plant is sufficiently large to attract them. Or, to be definite, the wheat, to escape being infested, should not appear above ground before late September or early October. To quote from Prof. A. J. Cook, in Michigan Agricultural Report, 1877, p. 372: "Let all, without exception, sow a narrow strip about each field, to be sown early in September or even in August. From the fact that the flies are already in waiting, that the outer edges of a field are almost always the most injured, except when the field grew wheat that nourished flies the preceding year, and that such fields suffer most,—one may expect this early sown narrow rim to receive nearly all the eggs. Leave the balance of the field till we feel that it is dangerous to wait longer, at least till the middle of September, then sow it, after which plow deeply under the early sown strip, that is, if it be stocked with insects, which may be easily determined by examination, and sow it. We should thus kill two birds with one stone, save our crop, and destroy the pest."

Late sowing seems to have the most weight of authority, being recommended by many prominent agriculturists and, following their experiments, by most of the entomologists who have studied the habits of the insect under consideration. Still there are some who, contrary to the above, practice *early sowing* as a remedy for the work of the fly. The idea here advanced is that early-sown wheat having the advantage in point of growth over that sown later, suffers less from the inroads of the fly larva. In the same line superior culture, greater use of fertilizers, and rotation are all useful in the production of stronger plants, rendering the attacks of the fly less successful. Pasturing the wheat closely at the period of egg-laying is recommended, its value lying in the fact that many of the eggs will be destroyed by the close nipping of the sheep or calves. Certain varieties are said to be less subject to injury from the fly than are others. Other things equal, then, these hardier varieties should be planted. Different wheat-growers now recommend as more or less "fly-proof" the Underhill, Clawson, Mediterranean, Red Chaff, Red May, Fultz, Lancaster, and others, red varieties being generally recommended.

Special remedies are recommended, but to small extent. Among these we have heard of the sowing of air-slaked lime, while the dew is on, at the rate of one or two bushels per acre, to kill the larvæ already on the plant; rolling the ground to kill the larvæ or pupæ; cutting the grain very low to remove with the straw the pupæ of the spring brood; and burning the stubble. Either of these may be esteemed of little value as compared with the general preventives or remedies spoken of above; the burning of stubble indeed being probably worse than useless, as at this time the belated pupæ would only contain parasites, and by the destruction of these we are actually thwarting nature in her effort to maintain the balance and reduce the undue members of the fly. Finally, it may be said that there seems to be a periodicity in the destructive increase of this insect. A succession of warm, moist seasons favors its unusual development in number; but the facts bearing upon this feature of the problem are not sufficient to warrant any practical conclusion.



WASHBURN COLLEGE, TOPEKA.
Winter Term begins Wednesday, January 7, 1885.

Geological Survey of Kansas.

Kansas Farmer:

I have just finished reading in the FARMER an article on a geological survey of the State by Wilson Keys. I am quit sure he has hit the right nail on the head. This has been my study for many years, fourteen of them in this State, and I am very happy to say that the desire for geological knowledge is vastly on the increase. The more especially, of course, where there is a person that has has made it a study and has a collection of specimens, as is my unfortunate case. I say unfortunate case, because I am unfortunate in being poor in money values, and to make a collection for one's own education and find it house room, and then get time to attend friendly calls to see and learn is no business of a poor man, and yet the demand is great. Only once let the thought get into the head that there is wealth beneath the feet, and mankind will never rest until it is conclusively proven that it is not there, and that negative evidence is very difficult to get, when the proof is half a mile below.

The people are ripe for geological survey, and they will agree to a fair tax for that purpose. What is needed is a systematic way of doing the business. The people thought there was coal here, and last winter they organized a company, and in the spring set a driller to work. He seemed to do pretty well, and after a while reported coal, but there was no proof to the stockholders, and drilling was continued until the parties left for a time to attend other work, and on their return some person had dropped a piece of iron in the shaft that the man failed to get out, consequently another hole had to be made; and now, at 380 feet, coal is said to be found sufficient to pay for working. This company's affairs are managed by a committee of fifteen directors, not one of them know anything about the business; and after losing nearly half the labor for want of the necessary and well known precautions, are now waiting for capitalists to come and develop the mine.

But it would not surprise me that when the man with the money is found, the proof to a satisfaction would be wanting; not that I have the least doubt of the existence of coal or the honesty of any party concerned, yet the exact conditions necessary to a proof may be wanting. Consequently I favor the appropriation by the State on some such plan as Mr. Keys suggests; one or more wells in each county, and under the control of one common center.

I have not the least doubt but there is coal all over the State, as also salt and coal oil. I do not mean that each of these is continuous over the State, but that they are to be found at intervals over the State. I say this in full knowledge of the fact that the late State Geologist, Professor Mudge, said there was no coal in the western two-thirds of the State. Deep it is, but it is there, and the farther west the thicker.

GEORGE W. CHAPMAN, M. D.
Cawker City, Kas., Dec. 12, '84.

Crops, Railroads, Cholera, Prices, Etc.

Kansas Farmer:

Wheat looks about the same as it did six weeks ago. That which was sown the last of September looks the best, and where it was sown broadcast, as a great deal was on new land, the thin spots have kept green most of the fall. There is no reason to be discouraged about the price of wheat, for it has been about as low several times in the last thirty years, and we can raise wheat cheaper to-day than we ever could. After all, good crops do not seem to help the farmers (without they get a fair price) as much as it does everybody else. The grain dealer has so much per bushel; the railroads the same, and the millers say if wheat is low they must take more for grinding. Up this way they are only giving the farmers from 20 to 30 pounds of flour for 60 pounds of No. 2 wheat, which is about half. As for corn, the quality is good, and most of the farmers report the average the same as last year. They pay 17 cents at the railroad. So the railroads get one bushel for carrying two, to Kansas City, 178 miles, or 8½ cents a bushel. Allowing that ten bushels of corn will make 100 pounds of pork, they will carry it in hogs for 2 cents; but if all went to raising hogs they would not probably pay better than corn.

Hog cholera prevails some in this county. I have not seen any cases yet, but from the symptoms given by a neighbor, it acts more like diphtheria. When I last saw him he had lost some twenty head, large and small. Pigs that had the run of the fields were the first ones to take it.

Prices of things that a farmer has to buy are nearly as high as they were a year ago; so they are holding on to their produce as much as possible, hoping that it will rise, and that what they have to buy will come down. Farmers have been counseled a great deal against the holding of crops, still the most successful ones think it pays to hold a reasonable time if you have a good place to store it.

E. W. BROWN.
Clifton, Kas.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.

March 18, 1885—A. H. Lackey & Son, Short horns, Peabody, Kas.
April 23—Col. W. S. White, Sabetha, Kas., Short-horns.
May 20, 1885—Powells & Bennett, Short-horns, Independence, Mo.
May 22 and 23—Jas. E. Richardson, Kansas City, Mo., Short horns.

The Stockmen's War.

Some time in 1883, we do not remember the particular day or month, the Commissioner of agriculture requested a conference of stockmen, particularly cattlemen, at Chicago. The object was to consider the subject of cattle diseases in general, and of pleuro-pneumonia in particular. In pursuance of this request a number of representative stockmen met at Chicago in November 1883. Twenty-two States and Territories were represented. It was proposed to form a national organization of stockmen. A committee was appointed to prepare a plan, and on the 15th day of November a permanent organization was effected by the election of officers. The name adopted was—"The National Cattle Growers' Association of America." The object of the Association, as specified in section two of the constitution, shall be the promotion and development of the cattle-growing interests of the United States and Territories, and promotion of special wants of different sections of the country not inconsistent with the general good, and the securing of such legislation, State and National, as may be required for the prevention and suppression of all contagious and infectious diseases among domestic animals.

The executive committee was instructed to call another convention in 1884, and in pursuance of that authority, a second meeting was held in Chicago Nov. 13 and 14 during the week of the Fat Stock show.

In January, 1884, a call was issued by some persons interested in stock growing for a convention of cattlemen to be held in St. Louis, and in pursuance of that call, a large convention was held in St. Louis Nov. 17 last and four succeeding days. This convention was very largely attended, especially by western and southwestern stockmen. Indeed, the convention was controlled by, and in the interest of, cattlemen in the western half of the country. The proceedings were animated and the discussions took a wide range, including matters not debated by the Chicago convention, among them a national cattle trail and leasing stock ranges.

This body, also, perfected a permanent organization. The name adopted is—"The National Cattle and Horse Growers' Association of America." The objects named in the constitution are about the same as those named by the convention which was held at Chicago.

There is a disposition on the part of the Chicago association to mix with the St. Louis folks by taking them on conditions named in the constitution; and the St. Louis association concluded that their organization was good enough for them, and if there is any coalition the Chicago folks must fuse with them. A delegation from Chicago appeared at the St. Louis convention authorized to compromise, but St. Louis was not on the compromise line, and nothing was done in the way of effecting a union and consolidation. The two associations are afloat, full rigged and under sail.

Now comes a circular letter from Thomas Sturgis, Secretary, and John Clay, Jr., Treasurer of the Chicago Association, appealing to the stockmen of the country in their behalf, and hoping for favorable response from the newspaper press. So far as the KANSAS FARMER is concerned, we do not see any reason why it should take up anybody's cudgel in the fight. We think it would be better to have one national association if it is under the control of representative men. There is a national agricultural association. That is to say, there is a body of distinguished gentlemen that deliver long speeches and pass resolutions concerning agriculture, and half of them do not know a mowing machine from a road engine. Such associations are much more ornamental than useful. Practical agriculture is not benefitted by such organizations. So, with the stock interest. It needs practical work by ungloved hands. We know nothing of the underground machinery of either of those conventions, and have nothing to say about the causes which operated to call them into existence, But we do not want to see the stock industry brought under manipulation of men whose interest in cattle comes in after they are grown.

We are satisfied that this conflict will work itself out in time; and we are satisfied further, that when it is worked out, the controlling power in the resulting association will be in the west where it ought to be.

Shelter For Sheep.

The following is a brief summary of the suggestions of a French writer concerning the proper way of building shelter for sheep, which contains some hints for the consideration of our American farmers: The first criticism that he makes upon the ordinary close sheds used for the purpose is that they are not sufficiently ventilated for the health of the sheep. In Norway, it is said, as well as in Holland, which has a much colder climate than France or England, sheep live out of doors the year round without inconvenience; but where Merino or other sheep of delicate constitution are kept, they should be provided with a cover to protect them from the heat of the sun in summer, and in winter from rain and wet snow, which soak their fleeces and often chill them fatally.

The sheds for this purpose may with advantage be closed, with a wall on the north side, but left either entirely open, or sheltered with louvre boards on the south. If built thus, they can be kept dry and wholesome throughout the year. The doors of such buildings, especially should be very wide, and ought to open by sliding. Sheep, in going in or coming out of their houses, crowd upon each other, all trying to get out at once; and in the crush the lambs are sometimes killed, while the sheep nearest the sides of the doorway are pushed against the timbers or stones, and often leave tufts of their wool on the sharp edges, or suffer bruises. To prevent this in part, the writer recommends that the jambs should be provided with vertical rollers to prevent friction, and facilitate the movements of the sheep nearest the side.

With the same idea, of preventing the crushing of the animals against the jambs, a platform, of the same width as the door, may be placed in on each side of it, slightly ascending to the threshold, which is raised. With these the crowding in the opening cannot take place, as the sheep at the edges of the platform are pushed off before they reach the door.

In allotting space for housing a flock, it may be useful to remember that the shorter diameter of a sheep, or the space he occupies when eating, side by side with others, is about twenty inches, while the average length is about five feet. The rack generally used for feeding measures about nineteen inches in width, so that twenty inches by six feet seven inches will be the space required for each animal while standing and eating.

Training Farm Animals.

The relations properly existing between men and their domestic animals ought to be first authority, second sympathy. The right to command is always recognized by well disciplined armies. Authority must be recognized before good order and perfect obedience can be established. And when the right to command is recognized by the soldiery, then, the more sympathetic and kind the commander, the greater his power over his men. It is the same among animals after their domestication.

This principle is recognized and appreciated by a late writer on training farm animals. This process of breaking, he says, is a struggle or fight for mastery between the owner and the animal, and quite often the owner is broke instead of the animal, which comes out the master, a confirmed vicious and dangerous beast. Animals have very much the disposition of human beings, and an uncontrolled and uncivilized man differs very little indeed in disposition from a wild animal. But a domesticated animal has different instincts from those of a wild beast, inasmuch as it does not instinctively fear a man as an enemy, and try to escape from him, or to fight with him. It is, therefore, a very wrong idea that young cows or colts require breaking or taming, as a buffalo or tiger might do, by main force and punishment, to make the owner and master feared. On the contrary, a calf or a colt is a gentle, confiding, and friendly creature, unless it is spoiled by some rough or cruel usage which at once puts it upon its instinct of defence. Then a struggle begins in which the vanquished becomes an enemy on the watch for reprisals and revenge; and the victor, overbearing, tyranical, and cruel. And this is the principle that lies at the bottom of the system which requires societies for the prevention of cruelty to animals for the defence of the ill-used brutes against the cruel tyranny of the victorious owners who have 'broken' them. There never was an animal—or a man—thoroughly broken. The system is a cruel one, and leaves the subjected beast or the slave on the watch for an opportunity for escape or rebellion.

"Now, a system of training of which kindness is the foundation makes a friend or dependent of the animal. It cultivates and encourages a reciprocal affection, which makes the owner love his gentle, obedient, docile, patient beast, as the animal loves and obeys its owner. The young calf trained by kindness from the first licks the hand of the owner, and follows him, and submits to him in every way, as soon as it is taught the duty and understands what is required of it.

"An instance may be given which illustrates this fact. The writer has made a practice of training his animals in this way by gentle, patient treatment from the first, and using coercion, when it was required, with patience and kindness, but firmness. No animal ever needed a whip or punishment of any kind. A three-year-old bull could be led through the streets of a village and to a depot and up to a platform by a single halter, and into a car and tied, without the slightest hesitation or resistance, following the owner with confidence that no harm would happen to it. Young calves could be led in the same way and shipped on a car as easily as one would lead a dog, and the same with cows. The horses and cows would come from the pasture at a call and follow to the barn yard. No chasing and coercing reluctant beasts ever occurred. Even the fowls can be called up at any time and crowd around the owner, and can be picked up and stroked and petted. The convenience and profit of such a system of training animals over the common one of breaking them and making them vicious is too obvious to need a word more."

History of the Thoroughbred Horse.

The American thoroughbred horse is the direct descendant of the English race horse. When a horseman speaks of a thoroughbred he means just this and nothing more, viz: that the horse's pedigree runs without variation, direct to the noted horses of the English turf. The original thoroughbred is of Oriental parentage introduced to the island long before the Christian era. Herbert thought them of Thracian or Thessalic descent, improved by a later descent cross. He also believed that during the reign of Alfred the blood of German was mingled with that of the Oriental, and from this cross sprung the first running horses of England. Still later a few Spanish horses were introduced, as were also some Flanders. During the Protectorate Cromwell forbid racing, though an ardent admirer of the horse, and owner of the celebrated White Turk. Another noted animal was Helmsby Turk, owned by the Duke of Buckingham. A third was Morocco Barb. To these three horses Herbert traces the blood of the old English race horse. These facts are quoted mainly to show that the thoroughbred horse of England and America came of a mixture of bloods, but for centuries no new blood has been mingled with them. Attempts have been made to intermix new Arabian strains, but no good has resulted, and the descendants of the old stock stand as the "Thoroughbreds" of to-day. Thoroughbreds have been crossed with other horses to the improvement of their progeny in speed and endurance—the staying qualities that render horses valuable, and endear them to man.—*Prairie Farmer.*

Points of a Good Short-horn Bull.

A bull ought to be the most handsome of his kind. He should be tall and well made, his head should be rather long, but not coarse, as fineness of head indicates disposition to fatten; as it is designed by nature to be the chief instrument both of offense and defense, it ought to present every mark of strength. Horns clean and bright; large black eyes, lively and protuberant; ears long and thin, hairy within and without; muzzle fine; nostrils wide and open; neck strong and muscular, not incumbered with a coarse, wreathy skin, but firm, rising with a gentle curve from the shoulders, tapering to the part where it is connected with the head; dewlap thin, and but little loose skin on any part.

His shoulders should be deep, high, and moderately broad at the top; bosom open; breast large and projecting well before his legs, back straight and broad, even to the setting-on of the tail, which should not extend far up the roof, but be strong and deep, with lank hair on the under part of it; ribs broad and circular, rising one above another, so that the last rib shall be rather the highest.

The fore-thighs should be strong and muscular, tapering gradually to the knees; belly deep, straight, and also tapering a little to the hind thighs, which should be large and square; roof wide, particularly over the chine and hips or hooks; legs straight, short-jointed, full of sinews, clean, and fine-boned; knees round, big and straight; feet distant one from another, not broad nor turning in, but easily spreading; hoofs long and hollow; hide not hard or stubborn to the touch; hair uniformly thick, short curled, and of a soft texture, and the body long, deep, and round, filling up the shoulders and into the groin, so as to form what has not improperly been termed a round or barrel-like carcass.—*Tribune and Farmer.*

Pasturing Wheat.

A Kansas wool and wheat grower writes to the Indianapolis *Press:*

On the 27th day of November, 1881, I began running my herd of about 400 sheep on 105 acres of "volunteer" wheat, and continued to pasture them there until March 1, except four or five days, when the ground was too soft. After March 1, and until March 20, I pastured the same herd on wheat that had been sown in the fall. The result was that each piece of wheat yielded twenty-five bushels to the acre when cut. So much for the wheat.

The result of wheat-pasturing for wool I find very satisfactory. One year ago my herd came off the fall pasture very poor, but with wheat pasture during the winter they greatly improved, and about the 1st of June following they yielded nine and one-third pounds of wool per head, while the herd belonging to the Holmes boys, being the very same grade of sheep as mine, and coming off the fall pasture fat, but being winter-fed with dry food, sheared only eight pounds to the head.

This winter I am wintering on green wheat, of which I have 200 acres. I am also feeding stalk fields. That is to say, I herd one hour on the stalks, then move on to the wheat two hours, then corral for noon, and give them the same feed in the afternoon. I have fed my sheep corn and fodder only three times this winter, so far, and then only on account of the soft condition of the wheat fields. I expect to shear ten pounds to the head the 1st of next June. My sheep look splendidly now.

My sheep cost me 36 cents per head to winter them last winter, with an increase of three pounds of wool to the head owing to wheat pasture.

Three years ago, before we had sheep, we had ninety acres of very rank wheat which was not pastured back. In April a severe frost literally ruined the wheat, and we did not cut it, whereas if it had been pastured down by sheep in January and February, we should have harvested 2.000 bushels.

If I had no sheep I would have my wheat pastured by some one who had; that is, whenever it had a good rank growth before the middle of March.

Another great benefit to be derived from pasturing wheat with sheep is, that it keeps the breeding ewes in much better condition for lambing. the green feed making a great flow of milk, which is important for the lambs, and causes the ewes to own and take care of them better. If the ewe's bag is made painfully full she will seek relief from her lamb, and become much attached to it.

Alfalfa For Stock.

Our Colorado neighbors are making a success of growing and feeding alfalfa. The Colorado *Record*, referring to the value of this grass as a feed, says:

For a long number of years it had been thought by people in the midland States that no other food would do to produce beef and pork and mutton but the one article of corn. So long had this prevailed that corn had actually dethroned cotton in its commercial importance and had become King. The leading reasons for this were that the article grew prolificly in all the central and northeastern States, requiring less seed and less labor than any other crops.

It was the easiest fed and most convenient to be handled. But at last the world is coming to know that it does not make the choicest meat. It produces a large quantity of fat, which has been considered the chief object in feeding. But people are learning that fat is not desirable food in a climate so temperate as that of this country. Nutritious, tender, juicy flesh free from an excess of tallow or lard, is wanted for food.

The demand for meats of this description will grow stronger year by year. It will require and cause a marked change in the methods of feeding in this west country. Flesh forming foods for stock will be wanted and fat-producing grain will be in less demand than now.

Alfalfa is destined to revolutionize the beef feeding problems. It is the plant that may yet for cattle feeding purposes dethrone corn. As an auxiliary to alfalfa, the common Canadian or field pea will soon play a prominent part. The *Record* predicts that with these two plants, Colorado will, in the near future, become a great and wealthy feeding State.

The alfalfa that will make a given amount of bovine flesh will cost not one-quarter what will corn, and peas can be grown for a half less than that universal western product. Successful feeders and breeders in Canada and in Great Britain have found them a satisfactory crop.

Balky Horses.

Of the horses generally included under this head there may be formed two distinct classes, the purely stubborn and the nervous.

The stubborn balky horse, which cares for nothing and will stop as quickly with a carriage as with a loaded wagon, when alone as when improperly mated is, and will probably always remain, a problem to horsemen. But my opinion (proven by experience) is that the balkiness of the nervous may be almost entirely overcome by careful treatment.

To find the causes of this vice it is necessary to go back to the breaking of the colt to harness, although the tendency to balk is generally inherited. Remember this, you who consider any mare fit to breed, no matter how old, lame, lazy, balky or vicious.

One of the surest ways to balk a young horse is to hitch him beside a horse which is slow to start, especially when giving him the first lessons in pulling. His mate should be quick, strong and steady, and the load light at first until the tender muscles become hardened. If in going through a bad place your team stops and can or will not start the load at one pull, unhitch your colt and, no matter how great your hurry, devise some other means of getting your load out. Whipping a young horse when stuck with a load is one of the most prolific causes of balkiness.

The great secret of success in dealing with horses is—be quiet and hold your temper. A great many men expect their horses to know more than they themselves do, and, judging from their treatment of the dumb brutes intrusted to their care it may be a reasonable expectation.

Many times an ill-fitting collar, a chafing harness, or sore shoulders will cause a colt to refuse to pull. But no matter wha the cause, allow no crowd to gather around the poor animal, scaring him until nearly wild, while they advise you to "whip him." "tie his tail around the single-tree, that'll make him pull," and dozens of other ways of torment which are but relics of barbarism. You can never make the nervous, excitable horse pull by such means; but you can very easily make a balky horse of him, when by a judicious course of "letting alone" he will become quiet and steady.

This manner of dealing with horses requires an almost endless amount of patience. If you do not *love* horses, never buy one of this kind, although when rightly dealt with they are the most valuable, because high-lived and intelligent. They may be known by the manner of starting. Starting quickly, often with a jump, head up and thrown back, while the eyes are opened until the white is shown plainly.

Two important things to remember in working this class of horses are: never hitch them beside mates of similar disposition, and allow them to have but one master. An impatient or hasty driver will, in an hour, undo the work of months of care.

DAN. T.

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.

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

DEXTER SEVERY & SONS, Leland, Ill, breeders o Thoroughbred Holstein Cattle. Choice stock for sale, both sexes. Correspondence invited.

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

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

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.

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

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

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

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

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

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

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

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

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

Hereford Cattle.

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

E. S. SHOCKEY, Early Dawn Hereford Herd, Lawrence, Kas., breeder of Thoroughbred and High-grade Hereford Cattle.

CATTLE AND SWINE.

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

W. W. NELSON & SON, Centropolis, Franklin Co., Kas., breed pure-bred Poland-China Swine. Also Short-horn and Jersey Cattle. Stock for sale reasonable.

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

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

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

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

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

SHEEP.

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

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

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

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

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

SWINE.

V. B. HOWEY, Topeka, Kas, breeder of the finest strains of Poland-China Swine for sale. Inspection desired. Correspondence invited. Blood of Tom Corwin 2d No. 2037. Hoosier Tom 1625 Bravo 3377 Give or Take 1585. Got sweepstakes on 8 out of 9 at Kansas State fair 1884.

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

S. H. TODD, Wakeman, Ohio, breeder of Recorded Premium Chester White Swine and Imported Shropshire Down Sheep. Send for circular with price list and particulars. *It pays to get the best.*

GEO. W STONER, La Place, Ill., breeder of representative Duroc Jersey Swine. Superior boar pigs for sale.

100 POLAND-CHINA PIGS, from three to six months old, from Registered stock, for sale.
J. W. Blackford, Bonaparte, Iowa.

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

I. L. WHIPPLE, Ottawa, Kas., breeder of Recorded Poland-China and Red Berkshire Swine. Stock for sale at all seasons. Correspondence solicited.

CATALPA GROVE STOCK FARM. J. W. Arnold, Louisville, Kansas, breeds Recorded
POLAND-CHINA SWINE AND MERINO SHEEP.
The swine are of the Give or Take, Perfection, and other fashionable strains. Stock for sale in pairs not related. Invite correspondence or inspection of stock.

WM. PLUMMER, Osage City, Kansas, breeder of Recorded Poland-China Swine. Young stock for sale at reasonable rates.

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

POULTRY.

A SUPERIOR LOT OF MAMMOTH BRONZE TURKEYS at $3 each, $8 per trio, and Plymouth Rock Chickens at $2 each, $5 per trio, for sale by H. V. Pugsley, Platisburg, Mo.

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

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

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

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

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

MISCELLANEOUS

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

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

HEREFORD CATTLE.

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

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

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

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

I have one of the largest herds of these famous cattle in the country, numbering about 200 head. Many are from the noted English breeders, T. J Carwardine, J. B Green, B. Rogers, W. S. Powell, Warren Evans and P. Turner. The bulls in service are "FORTUNE," sweepstakes bull with five of his get at Kansas State Fairs 1882 and 1883; Imp. "Lord Wilton" bull "SIR EVELYN" own brother to "Sir Bartle Frere;" Imp. "DAUPHIN 19th," half brother to T L Miller Co.'s "Dauphin 18th;" and "THE GROVE 4th," by "The Grove 3d."

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

THE LINWOOD HERD
SHORT-HORN CATTLE

IMP. BARON VICTOR

W. A. HARRIS, Linwood, Kansas.

The herd is composed of VICTORIAS, VIOLETS, LAVENDERS BRAWITH BUDS, SECRETS, and others from the celebrated herd of A Cruickshank, Sittyton, Aberdeenshire, Scotland, GOLDEN DROPS, and URYS, descended from the renowned herd of S. Campbell, Kinellar, Aberdeenshire, Scotland. Also YOUNG MARYS, YOUNG PHYLLISES, LADY ELIZABETHS, etc.

Imp. BARON VICTOR 42824, bred by Cruickshank, and Imp. DOUBLE GLOSTER head the herd.

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

Correspondence.

Raising Melons For the Seed.

Kansas Farmer:

As it is raining to-day I thought I would write to the FARMER, and as I live in the midst of the big Allen county melon patch—they being planted both east and west of me, I thought I would tell your readers all about it. This being a new industry for this part of the country, it is watched with a great deal of interest, though the men engaged in it have followed the business from fourteen to eighteen years in Indiana, Michigan, Nebraska and Kansas. The patch, or rather the fields, are located three miles southwest of Moran, on the headwaters of Elm creek, and one mile south of the St. Louis, Ft. Scott & Wichita railroad, and contains 150 acres planted to watermelons, muskmelons and citrons, about twelve acres being devoted to citrons, forty-five to muskmelons, and the remainder to watermelons of the Black Spanish and Peerless varieties.

PREPARATION OF THE SOIL AND PLANTING.

The latter half of April and first half of May they plow their ground deep, prefering second sod, as it is easier cultivated; then harrow or drag it until it is thoroughly pulverized and the weeds all killed, after which they take a common two-horse corn-planter, plant the same as corn except closer in the rows, dropping every two feet. They plant thus close to insure a good stand, as that is the most important part. One hand follows the planter with a hoe and covers any seed that may be naked. One would naturally suppose that planted so thick they would not do well, and they would not if raised for market; but as they raise for the seed only, they argue that a melon weighing from eight to twelve pounds if perfect, contains as many seeds as one weighing eighteen to twenty and are not nearly so heavy to handle, and I presume they are right. Having planted as described above, the weather being favorable, the plants soon appear, and when they show the second leaf the

CULTIVATION IS BEGUN,

which is done with a common cultivator, either riding or walking, using bull-tongues instead of the common six-inch plow. From two to three hands follow the cultivator with the hoe, uncovering and loosening up the dirt around the plants and cutting up any weeds that escape the plow. This is kept up until the vines are too large to plow without injury to them when they are laid by and need no further work until ripe, the vines covering the ground so thoroughly that no weeds can grow. All that is now necessary is to watch the boys out until fully ripe, when they let all come and eat if they but leave the seeds in barrels or boxes prepared and placed in the patch for that purpose. After the watermelons are all ripe, and the leaves on the vines die down, they commence to harvest the seed. For this purpose they use rude machines made by themselves and consist of frames 2 by 8 feet, in which are placed 3 1-inch iron rods; the center one has a large pulley on it upon which runs bands that turn the other rods which are longer and extend 8 or 10 inches on either side, and upon each end are wooden heads or cylinders full of short, flat spikes; these are made to revolve with great rapidity, and upon these the melons, after being cut open, are held, the seed, water and meat all falling into a large box placed under the machine for the purpose, the hulls being thrown to one side. From this it is transferred to large vats holding several barrels, where it is left until it ferments, when it is all taken to the water and the seeds washed out. Thence they are conveyed to the drying scaffold where they are spread out, and one hand is kept busy stirring them until thoroughly dry, when they are run through a common wheat fan and all light, chaffy, and broken seeds cleaned out, after which they are sacked up and are ready for shipment. I forgot to say that the melons are piled or winnowed by two or three men who go before, then placed upon a sled and hauled to the scrapers. They used three of the above machines and employed from twenty-five to thirty hands, and were about three months cleaning their seed.

The above has reference more directly to the watermelons. The muskmelons are treated in like manner, except they have to commence with them as soon as they begin to ripen and go over them once a week. With them they use no machinery. They first go over the patch and pile the ripe ones; this is followed by several hands who come after with large buckets, three to the bucket, one to cut open the melon, the other two to scrape out the seeds. At this boys and women can work as well as men. The citrons they put through a common threshing machine, then washed the seed out of the pulp, washing them as soon as threshed.

They shipped the 1st of November something over eleven and a half tons of Black Spanish and muskmelon seed for which they received 20 cents per pound, and they now have ready for shipment about ten tons of Peerless melon and citron seeds, for which they receive 22 to 25 cents per pound, realizing about ten thousand dollars in the aggregate from 150 acres. What their expenses were I am not able to state, but they were heavy. There is no question but they made several thousand dollars cl ar; yet they inform me that this was an unusually good year for melon seed and that some years they do not make expenses. One ten-acre field of muskmelons yielded 3.500 pounds of seed. Their seed are all contracted to D. M. Ferry & Co., of Detroit, Mich.

All crops yielded well in this section except Irish potatoes. AGRICOLA.

Dec. 10, 1884.

Notes and Queries From Russell.

Kansas Farmer:

As Winter is on us once more we ought to have time to look back and review the past and see where there has been a failure in making our f rming a success; for I see a good many that have raised a good crop this season and yet have not made a single step in advance financially. Men that have toiled early and late this season, through raising a large crop of wheat, and now that their wheat is marketed they find themselves financially behind the position occupied one year ago.

Now, Mr Editor, what are such farmers to do? They are not men that drink, chew, gamble or live beyond their means; but simply try to live respectably in the most economical manner and give their children the advantages of a common school education. I would like to know why it is, for they are sober, industrious citizens that any community would welcome in their midst. It is true that wheat brings an exceptionally low price, but that cannot be the whole cause; If you can give any advice that will help to show what is the cause it will be thankfully received.

We have had splendid weather this fall, though at times a little dry; yet we have had rain enough to put fall grain in good shape for winter. Stock is in good condition to commence winter; in most places there is better shelter and more feed put than ever before in the history of this county. I notice in the New York *Witness* an article from a subscriber in Ohio in regard to sorghum (or cane) blades (or leaves) killing milch cows; in fact being very fatal. Have you or any of the patrons of the FARMER experienced anything of the kind? Our experience in this section has been the reverse. It was largely fed by nearly all stock men last year, and more raised for feed this year than ever before. My own experience with sugar cane (Early Amber) for feed has been that it is the best of anything except corn-fodder and nearly equal to that without the seed on; and with it superior for the first two months after cutting; after that, it deteriorates faster than corn fodder.

I examined a couple of pigs (about four months old) that were lame in their front legs and had been for about three weeks; the knee joint was swollen and appeared to be sore when touched. They ate well, but did not appear to thrive well, and could scarcely get up in the morning. The owner knew no cause and would like any information that could be given as to the cause or cure. RUSSELL COUNTY FARMER.

Kansas Farmer:

Permit me to make a brief report from this county. So far as the weather is concerned we are having a great deal of rain. Bad weather for corn gathering; a great deal of it out yet, crop good, cattle are not looking so well as we should like to see. Hogs, well, the fact is they are dying off, hundreds of them in various parts of the county, supposed to be cholera. In some instances it is found to be worms, and a remedy found to be successful is a few doses of Santonine taken in their slop or feed. It soon removes the worms and the hog recovers. I shipped a very fine poland-china pig last week into Osage county at fair figures.

Times close. Money hard to reach, owing to cut in prices, and dull wheat market. Commerce unsettled, no doubt the result of prospective change of administration.

W. W. NELSON.

Centropolis, Franklin county, Kansas.

"Them Trees."

Kansas Farmer:

"Them trees look very nice way out here on the prairie, but they will never amount to anything!" This remark was made by one of my neighbors to another as they were passing my place in the spring of '73, a short time after I had set my first apple trees. Setting as I did in raw sod, broke up that spring, the prospect for a crop of apples was not very flattering, and my faith in the final result was not very strong. The general opinion, I beleive without any exception was, that this was no fruit country.

Time, however, has dispelled the above opinion, and many other theories, among which is the tame grass question.

"Them trees" is what I started out to tell about, there were 106 of them; eighty are still alive; most of the eighty are nice, large healthy trees; a few of them have suffered from the attacks of borers; all have borne fruit four years past, except the Red Astracans, this season is the first they have borne, and only a few on each tree. I would advise the planting of only a few of this variety. The winesap and Rawle's Janet are the best two winter varieties that I have; both bear young, full crops, good keepers, cooking and eating.

Smith's Cider is another good early winter apple, fine and large size, one of the best for cooking purposes. One of "Them Trees" a Red June, this season brought me $10.00. Ten and one half cents the original cost of the tree, a pretty fair income for the money invested, not taking into account the fruit borne in previous years or what it may hereafter bear. The tree bears young and every year; a splendid cooking or eating apple; for a commercial orchard one of the best. Early Harvest is a fair eating apple, bears young and regular each year. Every orchard should contain a few trees of this variety. Summer Bell Flower has done remarkably well for me, it is a profuse and young bearer, large size, fine for cooking or eating. My best fall apple is Maiden Blush. These trees have borne good crops every year with less defects than any other variety that I have.

My crop of winter apples gathered this fall was nearly 200 bushels, a large part of which were grown on "them trees."

G. W. BAILEY.

Wellington, Sumner county, Kansas.

Rotten Corn, Cattle in Stalk Fields, Etc.

Kansas Farmer:

The gathering of the large crop of corn has been nearly finished during the beautiful autumn weather which this year extended two weeks into December. The quality of the corn is good, with the exception that there is an unusual number of rotten ears in most fields. Extensive observation shows that where the ground is in the best condition there is least rotton corn. So, for instance, in our corn on stubble ground there is scarcely any rotten corn. This seems to indicate that a rotation of crops not only increases the quantity of the crops but also improves the quality.

The small area of wheat that has been sown here, has gone in winter quarters in good condition.

A large number of cattle mostly young ones, died from the effects of pasturing in the stalk fields. Some thought the trouble was caused by the rotton corn; others attributed it to smut. I am satisfied that there must be another cause. In gathering we did not leave in the rotton corn, but brought it home for fuel; Yet we have lost three young heifers and a fourth is sick. There is an abundance of running water in the field; yet on opening the dead heifers, I found the smaller stomach impacted, tight, hard and dry. I have had my cattle in stalk fields over ten years without trouble. But heretofore the change from grass to dry feed was effected at a good straw stack, with hay rations added. This year we had a tame grass pasture that lasted until a stalk field was ready.

We used to lament the fact that our cattle would shrink so much between the leaving of the pasture, and entering the stalk fields, and we rejoiced this year because they cou'd go from full pasture into the stalk field. This may not be the cause, but it does look like it might be. The fact that young cattle only are effected seems to indicate that their neglect to drink enough. The older ones drink first and often. While standing and waiting to drink at the same place the smaller ones get chilly and then go off with the herd without drinking.

The people of Hiawatha, this county are boring such a well as Mr. Keys speaks of in the last FARMER. They struck a strong vein of salt water.

H. F. MELLENBRUCH.

Carson, Brown county, Dec. 13.

New Pictures of Percherons by Rosa Bonheur

The announcement, by Mr. M. W. Dunham, of Wayne, Illinois, that his catalogue for 1885 will be embellished by engravings, made from life, of horses sent to her chateau near Fontainebleau, France, by Rosa Bonheur, the most renowned of living artists, will be a surprise to the artistic world, who know how difficult it is to obtain work from her hand, ev n at the most fabulous prices. The picture of Percheron horses going to the fair, painted by her thirty years ago, and purchased, at a cost of $40,000, for the Royal Gallery at South Kensington, London, where it now hangs, and the enormous price of $51,000 recently offered for the Lions at Home, while still upon her easel, gives one an idea of the value of her productions. That Mr. Dunham has been able to secure the animals, and the sketches of the same, from such a master hand, is the greatest compliment to American enterprise.—*National Live-Stock Journal, Chicago.*

A child who had once seen a grab-bag in church, after the contribution-box had passed by one Sunday, whispered to her mother: "How much did you get? I grabbed a quarter."

A sufficient measure of oats kept dry for the purpose and placed over night in rubber or other damp boots will absorb the moisture and leave them in wholesome condition for the early choring.

Abraham paid 400 shekels of silver ($200) for a piece of land for a burial place. In Solomon's time it is mentioned the price of a chariot from Egypt was 500 shekels ($250) The price of a horse was 150 shekels (about $75.)

Boar hunting in former times was a favorite recreation. In the Middle Ages the destruction of a wild boar ranked among the deeds of chivalry, and won for a warrior almost as much renown as slaying an enemy in the open field.

It was a native of Dublin who was being cross-examined by a lawyer in an American court. "Were you ever at sea?" queried the learned man. "Och, yer Honor," answered Paddy, "do yez think I came from Dublin in a whalebarrow?"

Use bran water for cleaning smoke and fly specks from paint and walls. It will not injure the paint, but will leave it glossy. Make it by boiling two quarts of bran, placed in a bag in six quarts of water, for two hours. The bag filled with bran can be used instead of a cloth to wash them with.

T. H. Hoskins, in the *Rural New-Yorker*, says his experience in mulching apple trees convinces him that 10 cents' worth of mulch is good for at least a dollar's worth of apples. It makes the fruit larger and the crop surer. But he reminds us of the necessity of protecting all mulched trees against the attacks of mice.

A lady tells us that most of her rooms are swept but once a month! She wipes off the carpet, after picking up all litter, with a damp—not wet—woolen cloth wrung out of warm water, to which she has added a few drops of ammonia. This mode of cleaning for all rooms but her dining-room, she thinks preferable to the usual weekly sweepings, with their accompanying clouds of dust.

The Busy Bee.

Bee-Keeping in England.

The London Daily *Telegraph* of July 22, 1864, points out the many improvements in bee-keeping that have been made within the past decade.

Bee-keeping as an industry of substantial importance gains ground every year, and the hope expressed by the spokesman of the Central Society, at their latest meeting, that every county would soon have its branch organization, bids fair to be fulfilled. During the six years that have elapsed since the Baroness Burdett-Coutts became one of the Presidents of the "British Bee-Keeping Association," the prosperity of apiculture has been very marked, for in the interval, scientific ingenuity has been so successfully directed to the improvements of hive-construction and the methods of taking the combs that, to quote the paper which was read at the meeting referred to above, "the bee-keeping of to-day no more resembles that of the past than a railway train resembles a carrier's cart."

Indeed, there are not, probably, many societies which in a single decade of existence can point to more material results, and the very bees themselves, if they could compare the present with what has gone before, would be amazed when comparing the old "go as you please" procedure in the straw-hive—when the colony had to be murdered before their honey could be taken, and fifty per cent. of their best work was wasted and thrown away. They can now look around at the commodious and charming structures of wood and glass in which they are invited to store their sweet harvest, and prepare for it with a regularity and geometrical accuracy that must be eminently delightful to these small winged Euclids of orderly angles. Their lines are laid down for them in wax, and each sheet of comb is in width and depth and length exactly the same as the next, so that disparity, the bees' abomination, is impossible, and mathematic exactness, their passion, is invariably insured.

Still more to the point, perhaps, is the fact that now, bee keepers do not suffocate their colonies whenever they wish to move them, or murder them whenever they wish to rob them of their harvests. For such a reform as this all bees should be truly grateful, and, if the truth were known, they probably are.

Great, however, as has been the expansion of this industry, there is room enough in Great Britain for an enormous increase. The initial expense, trifling though it may seem, is sufficient in many cases to deter experiment, and, strange as it may appear, local superstition has, in some places, an effect in setting the country folk against the industry. But the British Bee-Keeping Association is going the right way to work; for assistance in money to those who wish to start in the enterprise and cannot afford to do so, with liberal prizes and substantial encouragement in the direction of cheapening hives and the best apparatus of the apiarist are, after all, the only methods by which this remunerative occupation can be popularized and established.

From other aspects than the money one—and there are many who are ready to confess that they recognize other than material aspects in a commercial undertaking—the culture of bees abounds in interest. Quite apart from the natural history of the insect—which sufficed, it may be remembered, for the life-long study of a great mind, and yet was left unexhausted by his researches—the tradition and folk-lore of the hives are of extraordinary abundance and most curious character. In its literature the sympathetic connection supposed to exist between bees and their owners—indeed, between the insects and humanity—forms a very curious and pleasant chapter of rural superstition.

Quarrelsome people need never try to keep bees, nor should any one hope to find honey in hives, who tresspasses upon a neighbor's land-marks. If a bee comes into a house, it must not be treated like a wasp, but deferentially encouraged to go out. They hum a hymn of joy, it is said, on Christmas eve, and on Good Friday store no honey. They love children, and share with the swallow the pretty distinction of being the returned spirits of the little ones. They are emphatically the friends of man, both in the sentimental fancies of literature and the practical results of their exemplary industry.

This, That and the Other.

When a batter makes a fowl, do the baseballers say he has made a goose of himself?

Since 1823, cholera has visited European Russia three times and killed 1,600,000 people.

When was Mrs. Noah like a county in New Hampshire? When she was rocking Ham.

A perfectly plain white breakfast set, with a rim of raised white roses, is an outre importation.

A new dressing slipper is of gray Morocco with rosebuds and gilded leaves worked on the toe in fancy silks.

Even as late as the time of Henry VIII. all foreign artificers were prohibited from working in England.

Hens are a little backward on eggs, but they never fail to come to the scratch where flower-beds are concerned.

Preserves and cranberries if stewed together make delicious filling for pies, or for tarts, or may even be used as sauce.

Floral dishes of Bohemian glass have gold figures of nymphs, goddesses, etc. supporting them, standing on a silver ground.

Where does cotton abound most plentifully? We will tell thee, Faustina. In all-wool clothes, Faustina, in all-wool clothes!

Don't blame the dudes for wearing tight pants. It prevents rats from running up their legs and consequently scaring them to death.

Why are trees among the best-mannered productions of the globe? Because they always leave in time, and never leave without a bough.

"Your manner is very shocking," said the lady to the tramp. "Ah," replied the tramp, "you noticed it, did you? That's my personal magnetism."

Watches were so rarely used in the time of James I. of England, that it was deemed a cause of suspicion that one was found in 1605 on Guy Fawkes.

It was formerly a common superstition toothache was caused by a little worm, having the form of an eel, which gradually gnawed a hole in a tooth.

"What is the worst thing about riches?" asked a Sunday school teacher. "Their scarcity," replied a boy; and he was immediately awarded a chromo.

A German physician defines the main difference in the effects of whisky and beer to be: "Visky makes you kill somebody else. Mit peer you only kills yourself."

It appears, in Shakespeare's time, one of the fashions of the day was the wearing of enormous roses on the shoes, of which full-length portraits afford striking examples.

The newest lamps have round globes of fine porcelain painted in delicate grays and browns, and over the chimney is placed a little brass hat, either a derby or stove-pipe.

Manlius, the Roman, is said to have put his own son, though victorious, to death for disobeying orders; and Cassius Brutus killed a son who had negotiated with the enemy.

According to a vulgar error, current in bygone times, the elephant was supposed to have no joints, a notion which is said to have been first recorded from tradition by Ctesias, the Cnidian. Sir Thomas Browne has entered largely into this superstition, arguing from reason, anatomy and general analogy with other animals the absurdity of the error.

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THE CENTURY
In 1885.
A GREAT ENTERPRISE.
PAPERS ON THE CIVIL WAR.
The important feature of *The Century Magazine* for the coming year indeed, perhaps the most important ever undertaken by the magazine—will be a series of separate papers on the great battles of the War for the Union, written by general officers high in command upon both the Federal and the Confederate sides—General Grant (who writes of Vicksburg, Shiloh, and other battles) Generals Longstreet, McClellan, Beauregard, Rosecrans, Hill, Admiral Porter, and others. The series opens in the November *Century* with a graphically illustrated article on
The Battle of Bull Run,
written by the Confederate general G. T. Beauregard. Brief sketches, entitled "Recollections of a Private," papers chronicling special events, descriptions of various auxiliary branches of the service etc, will supplement the more important series by the various generals.
A strict regard for accuracy will guide the preparation of the illustrations, for which *The Century* has at its disposal a very large quantity of photographs, drawings portraits maps, plans, etc., hitherto unused. The aim is to present in this series, not official reports, but commanding officers' accounts of their plans and operations.—interesting personal experiences which will record leading events of the war and possess, at the same time a historical value not easily to be calculated.
FICTION.
In this line *The Century* will maintain its prestige, and furnish the best stories by American writers that can be procured. In November begins
A New Novel by W. D. Howells,
Author of "Venetian Days," "A Modern Instance" etc. This story deals with the rise of an American business man. A novel by Henry James, a novelette by Grace Denio Litchfield, and short stories by "Uncle Remus," Frank R. Stockton, H H Boyesen, F A Janvier H. H Julian Hawthorne, and other equally well-known writers will appear at various times
MISCELLANEOUS FEATURES.
Under this heading may be included a series of papers on the Cities of Italy by W D Howells, the illustrations being reproductions of etchings and drawings by Joseph Pennell; a series on
The New North-West,
being an interesting group of papers by E V. Smalley, Lieut Schwatka, Principal Grant (of Kingston, Ontario) and others, descriptive of little known regions; papers on French and American art, sculpture and painting, with some exquisite illustrations; papers on
Astronomy, Architecture and History,
the first being by Professor Langley and others. Under Architecture are included more of Mrs. Van Rensselaer's articles on Churches, City and Country Houses, etc. Colonel George E. Waring, Jr, will describe
Progress in Sanitary Draining;
E. C. Stedman, Edmund Gosse, and others will furnish literary essays; George W. Cable will contribute in various ways; several papers on sport and adventure will soon be published, and
John Burroughs
will write from time to time on outdoor subjects.
Readers of *The Century* may feel sure of keeping abreast of the times on leading subjects that may properly come within the province of a monthly magazine. Its circulation is now about 140,000 monthly, the November number exceeding that figure Subscriptions should date from this number, beginning the War Series and Mr. Howell's novel
Price $4.00 a year, 35 cents a number All booksellers and news dealers sell it and take subscriptions, or remittance may be made to publishers.
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The Home Circle.

The Old Wife.

By the bed the old man, waiting, sat in vigil, sad and tender,
Where his aged wife lay dying; and the twilight shadows brown
Slowly from the wall and window chased the sunset's golden splendor,
Going down.

"Is it night?" she whispered, waking (for her spirit seemed to hover
Lost between the next world's sunrise and the bed-time cares of this),
And the old man, weak and tearful, trembling as he bent above her,
Answered "Yes."

"Are the children in?" she asked him. Could he tell her? All the treasures
Of their household lay in silence many years beneath the snow;
But the heart was with them living, back among her toils and pleasures,
Long ago;

And again she called at dew-fall, in the sweet old summer weather,
"Where is little Charley, father? Frank and Robert—have they come?"
"They are safe," the old man faltered—"all the children are together,
Safe at home."

Then he murmured gentle soothings, but his grief grew strong and stronger,
Till it choked and stilled him as he held and kissed her wrinkled hand,
For her soul, far out of hearing, could his fondest words no longer
Understand.

Still the pale lips stammered questions, lullabies and broken verses,
Nursery prattle—all language of a mother's loving deeds,
While the midnight round the mourner, left to sorrow's bitter mercies,
Wrapped its weeds.

There was stillness on the pillow—and the old man listened lonely—
Till they led him from the chamber, with the burden on his breast;
For the wife of seventy years, his manhood's early love and only,
Lay at rest.

"Fare-you-well," he sobbed, "my Sarah;—you will meet the babes before me;
'Tis a little while, for neither can the parting long abide,
And you'll call and see me soon, I know—and Heaven will restore me
To your side."

It was even so: The springtime, in the steep of winter treading,
Scarcely shed its orchard blossoms ere the old man closed his eyes,
And they buried him by Sarah—and they had their "diamond wedding,"
In the skies."

—*Companion.*

Letter From Claribel.

Ladies, have you all vanished except present company, or have you quit taking the FARMER?

Agnes Weir, have you had a relapse? I have looked in vain for a continuation of your last production. How we have fallen from grace when we might have made our Department so instructive and interesting. Our good editor gave us just the best encouragement, and he must feel almost abused, at least decidedly disgusted with us. I imagine he secretly thinks we have not much "get up" to us.

I feel like the one that would have the last word—you know they say—some women always will have. You ask my John; he won't dare to say it is so in all respects. I eagerly open the KANSAS FARMER every week, turn directly to the H. C., and feel so disappointed not to find some nice little letter with a familiar or unfamiliar nom de plume attached.

The farmer's wife's work does not seem to be much less as cool weather continues. Additional clothing for all is in demand. There is no abatement of appetites as I can see, so cooking remains about the same, with the exception of planning ways and means to use less butter and eggs. I find we can use less of them than we dream of when eggs sell for 10 or 12 cents, and butter nearly the same a pound.

Several children in this vicinity have died with that terrible disease, diphtheria. It makes us all feel anxious if the little ones complain much. I find that for a little hacking cough they often have, a little alum scraped fine in sugar and dissolved or not, as they like it best, will often allay it. It seems to clear the throat out finely. And that for little scratches, etc., that often make bad sores if not cured up, six drops of carbolic acid thoroughly mixed with two even teaspoonfuls of fresh lard is excellent. Simple things are sometimes best. If you like it, thanks.

CLARIBEL.

The Blessings of Life.

This is a good time for meditation. A good subject for meditation is the blessings with which we are surrounded as a people, and as individuals. Though sometimes it may seem as if the adversities and afflictions which fall to our lot are greater than we can bear, or at least so great that a measure of complaint is not unreasonable, if we would pause before condemning or bewailing our situations in life, and compare the light and dark sides of our lives, or our own lot, with that of others, we should be less hasty to cast reflections. As a people, we are the most favored upon the earth. Ours is a free country, and its people are ready to die for the principles of liberty, that they may be secured to their survivors and to posterity. We are living to-day in a land made free and preserved to us by the blood of hundreds of thousands of men who loved their country. As a people we are prosperous and happy. Nature smiles upon the land and promises a bountiful harvest. The business of the country is in a state of moderate but substantial prosperity. There has been a decline from the situation of three years ago when everything was "booming," but this was to be expected. That the country is on a solid financial basis is shown by the fact that the Wall street flurry hardly extended beyond its limits. The country was not in a condition to be scared by a shadow. There have been times in the history of the nation when occurrences like those of the past few months would have resulted in a great panic followed by a long season of "hard times." We have to be thankful that such was not the case in the present instance.

Individually, it is for ourselves to reflect and consider how much our share of the blessings of life outweigh the afflictions. If, when we are tempted to bewail our condition in life or to bemoan some new trial or adversity that has cast its shadow over us, we would compare our lot with those of others, we might see wherein we are really favored beyond our neighbors. One man may be richer in the goods of this world than another, but the trials of the rich man may be so great that his possessions give him but little comfort. A man may not be worth much, but he has less to lose, less to worry about; and in no country are riches more apt to take wings than in ours. If a man has not riches, perhaps he has good health; if so, he is far better off than his neighbor who is rich, but would give all his gold if he were not broken down and suffering with disease. A man may lose one or more of his faculties, accident or disease may deprive him of the use of a limb; but every man, if he will but cast his eyes about him, may find his fellow-men in worse condition than he. There is not one in a thousand who, if he would impartially consider the good and ill that has befallen him in the measure of his existence but would see and confess that he has much to be thankful for. We should look on the bright side, hope for the best, and never allow ourselves to be discouraged by real or seeming misfortunes. There is a purpose in the ills of life which we may not see now, but which, nevertheless, are for our ultimate good.—*Burlington Hawkeye.*

Training of the Young.

A remark made in one of the papers read before the recent Woman's Congress in Baltimore suggests an interesting argument in favor of the kindergarten. It is well known that, in its development, each new born being passes through very much the same stages that his ancestors have been through before him. Even after birth the growth of the child's intelligence stimulates the progress of the human race from the savage condition to that of civilization. It has been shown by Preyer, and others who have studied infant development, that a faculty which has been acquired by the race at a late stage is late in making its appearance in the child. Now, reading and writing are arts of comparatively recent achievement. Savage man could reap and sow, and weave, and build houses, long before he could communicate his thoughts to a person at a distance by means of written speech. There is, then reason to believe that a child's general intelligence would be best trained by making him skillful in many kinds of manual labor before beginning to torture him with letters; and the moral to be derived is, that primary instruction should be instruction in manual dexterity, and that reading and writing could be learned with pleasure and with ease by a child who had been fitted for taking them up by the right kind of preparation. The argument is a novel one, and it certainly seems plausible.

Housekeeping Fancies.

The latest agony in silk patchwork is to simulate open fans. The design is four fans wide open with the hand parts put together, and the end of the sticks covered with a flower or butterfly, a bee or dog's or cat's head cut from velvet, silk or plush, and appliqued on. The sticks are of dark and light silk or satin, and the fan itself is of strips of silk and velvet, with a spray of flowers or a small landscape embroidered or painted on it. These quilts may be made very beautiful by the exercise of a little taste.

Lovely catch-alls can be made of a fan. Select a showily covered fan and take the rivet out that holds the sticks together. Sew the outside edges and make a lining of stout paper to fit the inside of the fan. Take a piece of ribbon of some brightly contrasting color and run through the loosened sticks and tie in a double bow. Tack some lace around the top, and the bottom too for that matter, and fasten the ribbon at each side with a bow at the top and hang it up where it will be most useful.

The nicest pie paste is made of one cup of flour, one and a half tablespoonful of lard and as little ice-cold water as will put it together, adding a small quarter of a spoonful of baking powder. Roll out and cover your pie, spread a small portion of lard over the top, adding flour dredged out of a dredging bin, and lastly, just before putting the pie in the oven, pour over it some ice-cold water.

By cutting off the handles of palm-leaf fans you can make very good table or lamp mats. Bind them around the edge with either braid or ribbon, or you may knit a border of silk pieces if for a lamp mat; if for latter purpose put some tiny bows of ribbon, or some balls over the binding; if balls are used, pick them out with a needle after you make them to have them appear more puffy.

A very pretty Afghan can be made by taking all the odds and ends of worsted that you may have around the house. Have each color in lengths of about a yard and a half The brighter the shade the better. Tie them together just as they come, light and dark, short pieces can be used as well as long ones. Crochet in star stitch stripes of any length you wish, and just join as you would any other.

Every one may not know that postage stamps that will not stick at the corners may be made to do so by wetting the face of the stamp.

Kerosene poured on the haunts of ants, or salt plentifully sprinkled on them, also pulverized alum, or flour of sulphur are all exterminators of these little pests.

A very annoying thing to oneself or to one's friends is a squeaky sole to your shoe. Take the offending shoe to your shoemaker and have him put a peg in the center of the sole and you will find your sole dead to music ever after.

To have any cake that you make very nice put a little corn starch in it, taking out of the quantity of flour the equivalent quantity of corn starch. For instance, if your receipt calls for one cup of flour, put one tablespoonful of corn starch in it and taking out out of the cup of flour one tablespoonful. This will be found a great improvement in the tenderness and lightness of the cake.

An experienced seamstress says that if you would only thread your needle from the end opposite to that broken off from the spool you would never be troubled with the cotton knotting.—*Aunt Addie, in Housekeeper.*

How To Wash Blankets.

The following method of Washing blankets has been highly recommended by an experienced housekeeper; For half a dozen double blankets, take one pound of borax, dissolved in a gallon of water, with a pound of white bar soap, shaved up finely; stir until all is melted. Then put the blankets into a tub, as many as will go in, turn water upon them just warm to the hand, and mix with it the solution of borax and soap. If three double blankets are to be washed take half the mixture at one time. Never rub soap upon any kind of woolen, or rub the blankets, but souse them up and down in the suds, and squeeze them in the hands, and pull them from one hand into the other, until all the dirt and soil are removed. If there are spots of grease upon the blankets, a little borax and soap can be gently rubbed upon them until they are extracted, but much rubbing will fill up the texture. When white and clean rinse in lukewarm water, and use two waters if one does not leave them very white. Wring through a wringer, hang on the line and pull straight and smooth. Blankets should always be washed on a sunny day, when they can dry quickly, and be folded up before the dew commences to fall. They do not need to be ironed, but can be passed through a mangle, if one is at hand. They can be laid between two mattresses and pressed, or put on shelves in the linen closet, and heavy books placed upon them.

The Journey of a Million.

Statistics as carefully studied by Dr. Farr tell us that of a million children ushered into life nearly a hundred and fifty thousand pass away by the end of the first year. Twelve months later fifty-three thousand more will have followed. At the end of the third year the number living will be diminished by twenty-eight thousand more. Each year of the decade following will make its inroads upon the ranks, but less serious in amount, till the thirteenth year will call for less than four thousand. Those remaining will fall out by twos and threes till the end of the forty-fifth year, when it will be found that in the intervening period about five hundred thousand have succumbed to the hardships of the way. At the end of sixty years three hundred and seventy thousand gray-haired veterans would still be keeping step with the duties of the passing days. Eighty years would see thirty-seven thousand remaining, with strength impaired and steps growing feeble. At the end of ninety-five years but two hundred and twenty-three would linger in the darkening path, and these would be rapidly thinned till in the one hundred and eighth year the last survivor of the million would disappear, and join the ranks of his predecessors in the great host of the majority.

Laugh and the World Laughs.

Laugh, and the world laughs with you;
Weep, and you weep alone;
For this brave old earth must borrow its mirth,
It has trouble enough of its own.
Sing, and the hills will answer;
Sigh, it is lost on the air;
The echoes bound to a joyful sound,
But shrink from voicing care.

Rejoice, and men will seek you;
Grieve, and they will turn and go;
They want full measure of all your pleasure,
But they do not want your woe.
Be glad, and your friends are many;
Be sad, and you lose them all;
There are none to decline your nectar'd wine,
But alone you must drink life's gall.

Feast, and your halls are crowded;
Fast, and the world goes by;
Succeed and give, and it helps you live,
But no man can help you die.
There is no room in the halls of pleasure
For a long and lordly train;
But one by one we must all file on
Through the narrow aisles of pain.

Some one makes an estimate, or a guess, that the average daily consumption of eggs throughout the United States amounts to 45,000,000.

40 Loveliest Chromo Cards you ever saw. 40 styles with name 10 cents. O. CARD CO., Yellow Springs, Ohio.

THE BIGGEST THING OUT (new) Illustrated Book Sent Free. E. [illegible] CO., 120 Fulton St. New York.

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WANTED.—*Ladies or Gentlemen* to take nice, light, pleasant work at their own homes (distance no objection). Work sent by mail. $2 to $5 a day can be quietly made. No canvassing. Please address at once, Globe M'f'g Co., Boston, Mass., box 5344.

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The Young Folks.

Merry Christmas.

How the eyes sparkle and how the cheeks tingle,
In the keen air of this bright Christmas day!
How we all shout! How the silver bells jingle!
Swiftly the ringing steel flashes away;
All in one jollification commingle—
Dragging the Christmas trees nothing but play!
Over us bending, old jolly Kriss Kingle
Smiles through his flowing beard, frosty and gray.
From the grim churchyard afar, could the voices,
Hushed in their long, their last solemn rest—
Could they but reach us through all of these noises,
They would say, now enjoy life at its best!
Hurrah, boys, then every young heart rejoices,
Over all others this holiday's blest.
Ah, the bright morning which saw our Lord's birth,
Gave to the world one Pearl of great worth—
Sunshine and radiance and glory on earth;
Shout, then, our thanks! Shout our joy and our mirth!

The Room Beneath the Rafters.

Sometimes, when I have dropped to sleep,
Draped in a soft, luxurious gloom,
Across my drowsing mind will creep
The memory of another room,
Where resinous knots in roof-boards made
A frescoing of light and shade,
And sighing poplars brushed the leaves
Against the humbly sloping eaves.

Again, I fancy in my dreams
I'm lying in my trundle-bed;
I seem to see the bare old beams
And unhewn rafters overhead;
The hornet's shrill falsetto hum
I hear again, and see him come
Forth from his mud-walled hanging house,
Dressed in his black and yellow blouse.

There, summer dawns, in sleep I stirred,
And wove into my fair dream's woof
The chattering of a martin bird,
Or rain-drops pattering on the roof.
Or, half awake and half in fear,
I saw the spider spinning near
His pretty castle, where the fly
Should come to ruin by-and-by.

And there I fashioned from my brain
Youth's shining structures in the air;
I did not wholly build in vain,
For some were lasting, firm and fair;
And I am one who lives to say
My life has held more gold than gray,
And that the splendor of the real
Surpassed my early dream's ideal.

But still I live to wander back
To that old time, and that old place;
To thread my way o'er memory's track,
And catch the early morning's grace,
In that quaint room beneath the rafter,
That echoed to my childish laughter;
To dream again the dreams that grew
More beautiful as they came true.

—*Ella Wheeler Wilcox.*

A First Lesson in Handling a Gun.

The first thing to be learned is to stand properly. Plant your feet firmly on the ground, so that the joints of your legs are neither stiff nor bent; then lean the upper part of your body slightly forward. Grip the gunstock just behind the guard with the right hand, the forefinger lightly touching the foremost trigger, that is, the trigger of the right-hand barrel. The stock of the gun, a few inches in front of the guard, must rest in the hollow of the left hand. Hold the muzzle of the gun up and slanting away from you, so that the lower end of the butt is just lower than your right elbow. Now, if both hammers have been cocked, and you gently and swiftly draw the butt of the gun up to and against the hollow of the right shoulder, you will find yourself in a good position for taking aim, which is best done by keeping both eyes wide open, and looking straight over the rib between the barrels with the right eye.

You will soon discover the trick of doing this, by fixing your aim with both eyes open and then holding perfectly steady, closing the left eye; if the line of sight now changes you have not sighted correctly; if it remains fixed, the aim has been taken with the right eye.

Be careful after firing never to set your gun down with the hammer up. That is the cause of many deplorable accidents. To avoid accident you must constantly be on the alert and cautious, not overlooking even the slightest precaution.—*M. Thompson, in St. Nicholas.*

The earliest English ballad is supposed to be the "Cuckoo Song."

IN A DEER-SLED.

Description of Travel Among the Yakuts of Northern Siberia.

I had a thousand miles to go before I should reach the Arctic ocean, says a writer in the New York *Telegram*. I found some difficulty in first cramming myself into my deer-sled, and a few hours afterward quite as great in getting out of it. The deer-sled is a long, narrow affair, placed on high wooden runners; it is made extremely light, of a frame-work of slender birch, and is covered with a hood in order to protect the head and face of the occupant from the biting blasts. It is, in fact, in appearance a lengthened out cradle, and, I think, about as comfortable. At night one sleeps in it very comfortably. I remember the first night we were in the forest, the moon shone brightly, the road was good, and Yakut horses are trained to follow one another faithfully, and only the leading driver has any serious work to do. When I was awake, however, I found the journey strangely weird and interesting. You see before you nothing but a mass of trees and slender underwood—no opening in which you can imagine that a road exists. But the leader enters the gloom of the forest fearlessly; he darts on first to the right and then to the left, between trunks of trees scarcely more than a foot wider apart than is needed through which your sled is to pass. Now and then you lose sight of the sled in advance of you, but your horse knows the road, if you do not attempt to drive, and he follows. Strange forms then the sleds take on in the whitened gloom. The Yakuts do not put sleigh bells on the harness, and you pass on so silently, and the flitting things in front of you, of which you can catch a glimpse occasionally, seem to form a part of some strange, weird and ghostly procession.

IN A YAKUT HUT.

So you pass on for hours through the forest. Then a white, bleak space opens in front of you, over which you pass in the moonlight. It is the frozen surface of a lake, of which there are scores among the forests. Suddenly, when you have passed the crest of a hill, you look down toward the valley that seems a mile away. You imagine that rockets are being fired into the sky by some unknown friends. They seem to be shot up one after the other with great regularity, and you can imagine for the moment that a company of Cossacks has been sent in advance to point out your resting or camping place. But this is an illusion. The valley is not a hundred yards away, and the rockets are nothing more than the sparks from the blazing hearth of Yakut yourte. A welcome sight, nevertheless, and you are glad to escape from the cold night frost and to warm yourself at the blazing fire. The accommodations offered by the Yakuts are not very grand, but the people share with you all they have, and I would quite as soon sleep inside the hut of a Yakut or Tonguse as in the fetid atmosphere and on the uncleanly lounges of a Russian post-house on the Siberian post-road. The Yakut is at least kindly and respectful, which cannot always be said of the Russian post-station keeper.

A YAKUT HOME.

I will attempt to describe the dwelling of a Yakut family and my own experience in it. Outside the Yakut yourte looks a very insignificant affair. It is very low, covered with a layer of mud, and in winter of snow, and has slabs of ice propped up from the outside for windows, and a doorway only just large enough for a cow to squeeze through, and much too low for a man. Enter the hut and you feel the grateful warmth of the blazing pile upon the raised hearth, and feel at once well disposed to the inhabitants, whoever they may be. Once inside and you see that the yourte is built of stems of larch tree, the sides sloping upwards towards the roof, which is also made of larch stems laid side by side, and supported by pillars rising from the floor. In the center of the yourte is the huge raised hearth, slender stems of trees plastered with mud forming the smoke conductor or chimney. The logs for the fire are placed in an upright position, so that they burn quickly and throw out a comfortable warmth around the room, which may be from fifteen to twenty yards square. Close beneath the sloping sides are built rude benches, divided off into compartments, each about six feet long. These are the sleeping-bunks, privacy being only possible when you have a shawl or a rug to hang up before your division. On these benches you all sleep, Yakuts and travelers, the yemschiks taking the floor, and you sleep comfortably enough in the blaze and warmth of the fire. There is an inner apartment to the yourte, a kind of annex or dependence. This is not given up to the family, or even to the ladies of the house, but is the unrestricted domain of the cows, which, however, have to pass through the living department to get to their own. But they are well trained, these Yakut cows, and know where they belong much better than do the pigs in the Irish hovel.

THE YAKUT FAMILY.

In such a Yakut yourte family affairs are made very apparent to the traveler. The curtain partition in the corner cannot prevent you from hearing the puny cry of the newly-born Yakut, and if the curtain opened for a moment and another female member of the family carries off a young two-year-old who has just been enjoying his natural supper, and the cry still continues, you cannot but come to the conclusion that the Yakut mother has a busy time on hand in providing for the latest before the one preceding has been weaned from the natural mode of gaining its food. Nor is it the traveler's fault if he also comes to the conclusion at last that night-gowns are worn by the ladies of the household during the daytime, and that all of the members of the family prefer, when asleep, the warmth of the furs next to the skin rather than the cool comfort of cotton or linen. Then there are the belles of the family. These are nothing if not ugly. In one yourte there were three Yakut damsels, their ages ranging from 12 to 20. They possessed but a single pipe, which they passed around from one to the other—"three puffs and a spit"—as somebody tersely expressed it. If their brothers, the yemschiks, are just going out on a journey they allow each to take a few energetic whiffs before their departure, and then go at the work themselves again, chatting and looking after the boiling of the sour milk at the same time. The pipe is kept going almost incessantly from morning till night. The girls are not, as I said before, handsome. Their faces have too much cheek bone, their noses are too flat, their eyes too straight out, and their habits in general too peculiar for appreciation. Such a Yakut maiden is not long fancy free. She is betrothed by her parents at a very early age, say 6 or 7, when all the contracts for her future life are settled and sealed. The betrothal having been arranged in due fashion, baby bride and groom are put to bed, to be separated again on the morrow. Ten or a dozen years later they pilgrimage together to the nearest Greek church, which may be fifty or a hundred miles away, and are married.

NORTHERN CHRISTIANITY.

For all these Yakuts are Christians, though I should not like to assert that they understand very well the mysteries of the faith to which they were introduced in such a summary fashion. I noticed when we started on our journeys that the mounted yemschik in front of me invariably took off his fur cap immediately after starting out, and with a long series of crosses commended himself and the party instructed to his care and guidance to the god of the Greek church. But all along the road on the trees were tufts of horse hair and bits of rags, and these I learned had been placed there by the Yakut yemschiks in order to propitiate their old divinity, Shamai, and induce him to give them good weather and good roads. But neither horse hair nor rags were of any avail as regards speed.

YAKUT BABYHOOD.

In the Yakut yourtes there was also a curious kind of cradle that attracted my attention, filled with hay, cotton, wool and a little baby. It was a long little box, made of wood, narrow down toward the place where the feet should come, and provided with various openings whose utility I could not grasp, until I learned that when once a young Yakut was properly fixed in his place he is kept there for a week or two, or perhaps longer, until the mother has got through weaning the other little fellow from his baby habits, and teaching him to take milk from a baby's bottle made out of a cow's horn. In time the little two-year-old is allowed to run around naked, or when he is dressed he gets a bit of an old colored shirt about him, while his thin little legs are put into big felt boots that belonged to a brother still older, the shafts of which are much too large, but useful either for allowing for the growth of the legs or for the accumulation of the winter's dirt, which is only removed in springtime when the river overflows its banks, and the little fellow cannot help getting washed occasionally. Then the last summer accumulation is left for the winter again, and this takes the place of a deerskin in keeping moderately warm. As an excuse for the dirt it must be noted, however, that water does not rest in its usual shape here in the winter, but has to be brought into the yourtes in the shape of ice and sometimes of snow.

A Marvellous Little Stream in South America.

At a distance of 20 miles south of the river Diamante our route passed by a natural object of considerable interest—a stream, or rather rill, of yellowish white fluid like petroleum, issuing from the mountain side at a considerable height, and trickling down the slope till lost in the porous soil of the valley below. The source from which it flowed was at the junction where a hard metamorphic rock, int rspersed with small crystals of agnite, overlay a stratum of volcanic tufa. It was formed like the crater of a volcano, and full of black, bituminous matter, hot and sticky, which could be stirred up to the depth of about eighteen inches.

Floundering in it was a polecat or skunk (Mephitis varians), having been enticed to its fate by the desire of securing a bird caught in the natural bird lime, till a bullet from the revolver of one of the party terminated the skunk's struggle to extricate itself from the warm and adhesive bath in which it was hopelessly held captive. The overflow from this fountain was, as described, like a stream of petroleum two or three feet wide, trickling over a bed of pitch or some such substance, which extended to a much greater width along the edge of the running stream at its contact with it. This material was of a very sticky nature, becoming gradually harder as it spread further out, assuming the appearance of asphalt when it becomes mingled with the loose sand of the adjoining soil.

While engaged in examining this natural curiosity, we came upon two small birds, caught in the sticky substance at the edge of the stream; they were still alive, but upon releasing them both, the feathers and the skin came off where they had come in contact with the bituminous matter, so that we had to kill them to put an end to their sufferings. No doubt they had been taken in by the appearance of water which the stream presented and had alighted to drink, when they discovered their mistake too late. Their fate suggested the idea that in a district so devoid of water others of the feathered tribes must constantly become victims to the same delusion in a similar manner, and upon a close inspection of the margin of the stream, the correctness of this inference was established by the discovery of numerous skeletons of birds imbedded in it; nor were those of small quadrupeds unrepresented, among which we recognized the remains of a fox.

Mr. Charles Dunster, a blacksmith of Leesville, Ohio, has made a clock, mostly with blacksmith's tools, which has excited considerable comment in his neighborhood. It is principally of steel, and in a glass case so the movement can be seen, gives the time in eleven cities, striking the hours and quarters, and is seven feet high.

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TO NEW SUBSCRIBERS:

All NEW subscribers that send us their names and a year's subscription any time during this month, December, will receive the paper FROM THE TIME WE RECEIVE THE MONEY UNTIL THE END OF 1885.

TO OLD SUBSCRIBERS.

We again remind our old subscribers that it does not matter how early your renewals are sent in, you will be credited with all the time paid for, and it will be an accommodation to us in the office to have your names soon. Our rule is to check off every name on our subscription list as soon as the time marked expires. Our subscribers' names and their address and the time to which the subscription is paid, are all in type, and the invariable rule of the office is to strike off every name as soon as the time marked has expired. It is no small job to distribute the type of names by the thousand and then reset them. This is avoided in all cases where renewals of subscriptions are made before the time of the old subscription expires.

A great many of our subscribers have paid to the last of this year. The addresses on their papers are all marked—"d 52," and unless their names and money are in before the last issue in this month, their names will be taken off the list. When they renew, then their names are set in type again. By having the names early, all we have to do is to change the mark from "d 52" to "t 52."

And then, it is always well to be on hand in time. It is a good principle to act upon. So, please renew at once.

OUR CLUB RATES.

We respectfully ask attention of our readers and friends to our new club rates printed at the head of the first column of the 8th page of the paper. While the old price, $1.50 a year, is maintained for single subscribers, it is sent for ONE DOLLAR A YEAR to members of clubs where five persons unite, and still less where eleven subscribers join.

From a gentleman just returned from an extended tour in the Arkansas river valley, and who made special inquiry, we learn that he did not anywhere hear of the Hessian fly in that region.

Relations of Employer and Employed.

There is no question of political economy of greater moment than this—What are the proper and natural relations between persons employed in labor and those who employ them? If this question were correctly answered and the truth applied in practice, there would be an end to strikes and walk-outs. A great many men, (and women, too,) act as if they looked upon working people as menial servants who need nothing but food to give them strength and clothing enough to cover their nakedness. That a common laborer is equal in every natural respect to these haughty persons and entitled to as much respect on that account, does not appear to have dawned upon the minds of such, nor that they owe any personal attentions to men and women whose muscles are hard from daily labor.

But there are a great many people who recognize the natural equality of men, and who regard station in life the result of accident or chance quite as much as matters of choice and effort. The hod carrier may know more of Homer and Milton than the owner of the building which he climbs; the dusty plowman may have studied Euclid long before he saw the man who pays him his daily wages; the janitor that cleans the church and dusts the seats may be nearer Heaven than he who preaches in the pulpit. There is little in difference in station more than outward appearance. But there is much in their relative power and influence.

There is a union of effort wherever hearts are right. The natural business relation between employer and employe is always recognized by the latter, and that without training. And there is a timidity on the part of laborers, a natural modesty and politeness that comes of the peculiar relation. When this most excellent quality is duly recognized by the employer and he demonstrates his recognition by practical and substantial interest in those who toil for him, he has solved the problem unconsciously, and has established a permanent little democracy on his own premises. Many manumitted slaves preferred to remain with their old masters because of their kindness and practical good will. But the backs of those freedmen had never been lacerated by the master's lash. Manufacturing companies that treat their employes with deference, and make sacrifices in their interest, are never troubled with rebellious operatives. Kindness has continuous rewards. Good treatment of those about us is the practice of God's law. Politeness is never wasted. Little courtesies scattered here and there along the way are perpetual fountains of pleasure on life's journey. Every human heart responds to these little touches of good will.

"We often think," says the editor of the Philadelphia *Bulletin*, "that a better feeling would exist between workingmen and their employers in this country if the latter would take more interest in the physical welfare of the former. Too often the men are paid their wages and the employer neither knows nor cares what becomes of the money—whether it goes to the savings bank or the saloon. Too often employers manifest no interest whatever in the home life of their workmen, neither knowing nor caring whether or not they have homes at all, nor whether they live in clean streets with decent surroundings or in dirty alleys with indecent surroundings. This is not as it should be. There would be fewer strikes and more contented and consequently better workmen if employers would always recognize the fact that those who work for them are human beings, with wants and sympathies like their own. Tens of thousands of our workingmen do not live as cleanly and as comfortable lives, nor as moral lives, as they would live if their employers would systematically provide for them good homes and clean surroundings, or help them to a way by which they could themselves provide them. Reading rooms and free libraries would also be a great help to them, and with the view of showing that a little money will accomplish a great deal in this direction we copy below an interesting account of what one railroad company has recently done."

A Merry Christmas To All.

The giving season is upon us, and the day for whose coming millions of people have waited anxiously will be here before some of our readers see this. When the time approaches, though it be a long way off, our hearts begin to warm up toward our fellow mortals. Those of our own household seem nearest to us in all the kindly relations of life; but as the great day comes nearer, our hearts grow larger and better, going out into the highways taking in all men. And that is the spirit of the Babe of Bethlehem descended to us. To give and to do were the great duties of the Master, and in commemorating His birthday, this, the noblest, the purest trait of human nature is uppermost with us. We may be young, jolly and gay, looking ahead to amusement and fun, but away down deep in our hearts we are thinking more about what we can give, to whom, and how many persons we can make happy.

Nothing so enlarges the soul and purifies it as the habit of giving. How seldom we think of that. Not giving as the Pharisees prayed—in order to be heard of men, but giving here a little, there a little, as acts welling up from a heart bent on doing good. Doing is giving. Doing good is giving alms. A very little act of genuine politeness has often welded souls together. Nothing so much commends the Christian religion as its politeness. The heart is the fountain of all good deeds, and goodness is politeness. God does not listen to our talk, but he hears our actions. What we do is the basis of our bank account in Heaven. We may not have the polish of the schools; but if we have profitably studied after the Carpenter's Son, our rough exterior will be hidden in the glow of good deeds.

The KANSAS FARMER sends greeting to its thousands of friends; and it goes beyond them to that greater company outside, sincerely wishing to all men, women and children everywhere the choicest blessings of this life, and exalted places in the life to come. And as to the particular time and day we wish a Merry Christmas to all. And we wish, further, that the good acts performed to-morrow, and the pleasant words spoken, may heal many a sore, feed many a hungry mouth, and work good to all.

The American Live Stock Salt Roller Company has devised a simple and practical way, by which the salting of stock is reduced to a system. Out of the choicest dairy salt, they construct a hard roller which is secured in a bracket and can be fastened in the stall or feed lot; thus placing a supply of salt in easy reach of the animals. It commends itself to the common sense of every one who sees the invention, and will without doubt come into general use. One roller will last a long time, and can be readily replaced by another at trifling cost. Any of our readers, who wish further information in regard to this useful invention, can secure it by addressing the company at Chicago, Ill.

Every one of the subscribers to the KANSAS FARMER whose time expires with 1884 (d 52), can secure this paper *free* next year by securing a small club for the FARMER. Send for our new club rates, or renew promptly and not lose a single number.

Great and Glorious.

An organization has been formed at Emporia, Kansas, known as the Central Kansas Live Stock Association, and it proposes, so the Emporia *Republican* says, to usher itself into public notice properly. The officers have determined on a "great and glorious banquet" at the Coolidge House the evening of January 1, 1885.

Stock men are proverbially the jolliest fellows in the world, and these Emporia men are no exceptions. They propose to gather the boys in and feed them, and dance them to the full extent of their capacity as we learn from a report of preparations. Invitations are being distributed. It is intended to scatter them as widely as possible, but stock men are requested not to wait for an invitation as it is possible in the hurry and rush of the occasion that some may be overlooked. The most elaborate preparations are being made. Col. Whitley is giving all of his attention to it and promises a festal board beside which the banquets of old Roman history will pale into insignificance. There will be oysters in every style, fish in many varieties. Poland China ham, Berkshire ham, with anti St. John sauce; Galloway, Hereford and Durham beeves, buffalo, black, cinnamon and grizzly bear, deer, elk, antelope, jack rabbit, wild turkey, prairie chicken, quail, wild geese, canvas back duck, peacock, game chicken, English hare, with all sorts of vegetables, delicious salads, entrees and desserts. But the feasting will not be confined to the bill of fare which Col. Whitley has prepared.

The committee on toasts have prepared the following and designated the gentlemen respectively named to respond:

"State of Kansas," Gov. G. W. Glick.

"Our Common Country," Gov.-elect John A. Martin.

"Cattle Interests of the State," Prof. Shelton of the Agricultural college.

"Financial Standing of Kansas," Col. H. C. Cross.

"What will the Market be," Maj. C. Hood.

"Our Foreign Market." C. C. Quinlan.

"Short-Horn Cattle," Samuel T. Bennett, of Chase county.

"Galloway Cattle," Thomas Higgins, of Morris county.

"Jersey Cattle," H. V. Bundren.

"Feeding and Grazing Cattle," Hon. W. Martindale.

"Cattle on the Rio Grande," Lewis Lutz, of New Mexico.

"Long Horns," L. E. Finch, of Burlingame.

"The American Hog," W. A. Randolph.

"Live Stock Transportation," Hon. Almerin Gillett.

"The Wood Interests of Kansas," Major M. M. Mason.

"The Cornfields of Kansas," I. E. Lambert.

"Buffalo Grass," W. P. Herring, of the Cherokee Strip.

"The Middle Man," G. T. Wibley.

"The Ladies," Mayor S. B. Warren.

"When Shall We All Meet Again?" W. W. Scott.

Additional toasts, with the names of those who are to respond, will be added by the committee, and all speeches limited to five minutes.

The KANSAS FARMER is in receipt of a very handsomely printed card of invitation, and we expect to send our heavy man, Heath, down by lightning express billed in care of committee on supper.

Will Wheat Go Up?

There are some good reasons for believing that the price of wheat will not long remain where it is. It looks to us that the price must advance considerably before April. The crop next year will not be nearly as large as that of this year. The area sown to wheat, the country over, is not more than 75 per cent. as large as that of one year ago. The crop of 1884 was unusually good; that is, the yield was heavy, and the acreage was large. Supposing the product per acre to be as much in 1885 as it was in 1884, the aggregate yield would be much less because there is not so much ground in wheat now. But it is not expected generally that the average product will be as much, because we do not ordinarily have two flush crops in immediate succession. The falling off in area will, at best figures, cut out twenty-five bushels from every hundred in '85 as compared with '84.

The extremely low price, especially in the far western States, has made farmers careless of their wheat, and a great deal of it has been fed to stock and otherwise disposed of without putting it on the market. A farmer from Ellis county, Kas., was in this office a few days ago and stated that he has a large quantity of wheat in stack, and he is too poor to thresh it out. He said he had already fed a great deal of wheat to his stock. He referred to many other farmers who are doing the same thing. This is common all through Kansas, Colorado, Nebraska and Dakota, and in some parts of Minnesota and Iowa. This disposition of wheat will, in the aggregate, amount to a very large quantity. Just how large it is impossible to state. It can only be guessed. But it must be very large. Whatever it is, is that much taken away from the wheat on hand and available for flour. It is wholly removed from the world's supply. Add that to the 25 per cent. loss on account of the area seeded, and we have a great reduction from the usual quantity in 1885. Besides this falling off in quantity of wheat, there is a continual increase in the population; so that while the demand will be greater, the supply will be less.

These facts must operate on the markets; and while it may be some time before they are generally appreciated, it cannot be long until the pulse of the market will feel them and grow stronger.

Geological Survey of the State.

There is a movement toward a thorough geological survey of the State. We heartily approve it and hope it will be successful. A bill will be presented to the legislature providing for the survey, and a committee, appointed by the Kansas Academy of Science will urge its passage. We commend the subject to the careful and favorable consideration of every member of the legislature.

There are some things that the people as an organized body must do for the people in their individual capacity. This is one of them.

A geological survey, carefully made, of any extended area, reveals the character of the rock formations for several hundred feet of thickness, and therefore makes known where *may* or *may not* be found the useful minerals—coal, salt, building stone, iron, lead, etc.

Such a survey also makes known the *dip* or slope of the strata, and therefore gives indications of probable water supply in various localities.

Much geological knowledge of Kansas has been obtained, but it is in the hands of private persons who have in their devotion to science made many explorations, bnt this knowledge is available by the public generally to a very limited extent. Within the last two years, geologists have found mineral in our western counties which further examination will doubtless show to be one of considerable value, and which are even now being utilized.

Nearly all civilized countries have caused surveys to be made which, conducted simply as for the definite advancement of science, have yet revealed material resources which have largely added to the outlets for the useful employment of capital and labor.

Many of our sister States have caused geological surveys to be made, extending over a long series of years, which have made known mineral resources the use of which has greatly increased the wealth of the State.

A little money expended in this way will be a wise proceeding. Let the bill be carefully guarded so as to keep sponges off the working force; put the work into competent hands, and the returns will be worth many times the cost.

Inquiries Answered.

PUBLIC LANDS.—In what portion of the State of Kansas laid the land that was forfeited by the railroad and fell back to the Government, and can said lands be homesteaded? Did not the railroad manage to dispose of all that was of any value? What is the cost of the Congressional Record yearly?

—The lands you refer to lie in the southwestern part of the State, and are subject to entry the same as other public lands.——We do not know what is the yearly cost of the Congressional Record. Write to "The Public Printer," Washington, D. C.

PACKING EGGS.—"Fanny Field" published an article on packing eggs during last season ('84.) If said article was in the KANSAS FARMER, please send me the copy or publish again. My paper has been mislaid—cannot find the desired copy. May have been in some other, as I take several agricultural papers, although I think in your paper.

—The article you refer to, if "Fanny Field" was the author, did not appear in the KANSAS FARMER, we think. This reminds us to again suggest that every reader of the KANSAS FARMER ought to keep a file of it for reference, or keep a scrap-book, and paste in it every article, paragraph or recipe that is specially useful.

TUMOR.—I have a valuable colt, coming two-year-old, which has a soft lump or rising, or swelling, on the left knee joint in front. I first noticed it when I took her from pasture in September, and don't see any increase, nor does it affect its walk or action. Please tell me what it is and how it may be removed?

—Keep the condition of the colt the very best by giving it the best kind of feed (not much corn) and the best kind of care; then, every time you are near enough to lay your hand on it, (and let that be three or four times a day, if possible,) rub the lump downwards with your palm. Rub a minute or two at a time. Prevent violent exercise, if possible. If this does not remove the tumor, write us again, or ask your family physician for advice about it.

TAME GRASSES.—This is my first season in Kansas. Will those who have made a success with tame grasses, clover especially, please give their experience? How much hay they have made per acre, bushels of seed, how many seasons before they plowed it up, etc.?

—The editor wishes this request of our correspondent would be complied with by some of our older readers who have grown tame grasses successfully. It is a very important matter, and nothing will be as useful to beginners in Kansas as the facts of experience. In the meantime, we will encourage our new friend by saying that all kinds of tame grasses have been successfully grown in Kansas as far west as Rooks county. The writer of this has grown clover, timothy and blue grass, and he has seen a great many Kansas meadows. Clover (red) ought to be sown on well prepared ground in the spring, when the ground is in good condition for corn-planting. Sow thickly—about sixteen pounds to the acre; sow in clear ground—that is, not in a grain field; harrow lightly and roll; mow down as often as the grass or weeds are high enough to cut. Let the tops lie as they fall from the machine, they will make good mulching, Do not attempt to pasture it or to make hay of it the first year. If the stand is not as good as you desire, run over the ground the next spring with a light harrow, and follow with more seed. If you seed a second time, follow the first year's course of treatment, unless the grass grows vigorously, in which case, one crop of hay may be made. As to plowing up clover ground, use your own judgment as to the best time.

WALNUT TREES.—I have a small grove of walnuts. They are all sizes, from two to ten feet in height; some straight and some crooked; many of them fork near the ground, the limbs start so near the ground that they reach across the rows so that they cannot be plowed. The ground is overrun with weeds and grass. The dirt has been plowed to the trees until the ground is several inches higher close to the trees than between the trees. The small ones did not grow much this year. How shall I manage them to start them to grow? If I should cut them off close to the ground would they throw up a straight sprout and form a new tree, or would there be danger of killing them? If I should trim the limbs so that the trees could be plowed, would it do to throw the soil from the rows until the ground is level again?

—The small trees may be cut off near the ground, and when young shoots appear, rub off all but one and let it grow. If it needs the support of a stake to keep it growing straight upwards, drive a stick into the ground near the stem and loop the sprout up to a perpendicular position. In straightening up the sprout, do not fasten the string around it tightly. Take a thick roll of paper, a small rag bundle, a chip, bit of sole leather, or anything that will prevent the cord, twine, or whatever kind of string is used, from cutting the bark, and place it on the side of the tree away from the stake, and let the string rest against that. It may be necessary to fasten this protection in place by a light wrapping of woolen yarn. Where there is one good, healthy limb on the small trees, cut away all the rest and train that one to a stake. This would be better than to cut away the whole top.

As to the larger trees, we would advise the cutting away of all the main branches except one. Use a sharp knife; cut close; cut smooth. Then see that the remaining stem grows perpendicularly, as nearly as possible. The only way to do this is by stakes and cords. The pruning ought to be done in March, though it may be done in any pleasant weather during the winter.

After the pruning is done, clean away the cuttings and all the weeds possible and burn them; then, when the young weeds start in the spring, run through the grove with a cultivator, and clean about the trees with a hoe. Follow this with similar treatment every ten days, or as often as young weeds appear during the whole of the growing season.

If the larger trees are not more than four or six feet apart, wherever there is a little tree between them, cut it away and keep the sprouts down or pull it up. It is of no use there. You might try the experiment of transplanting it; but it would hardly pay.

HEAVES—SCRATCHES.—Having shipped a team of mares from the East last year, found one of them had the heaves pretty bad; but finding that she improved on the grass I turned her in the pasture as soon as I was done cultivating. The grass got short sooner than I expected. She began to show signs of getting thin; I commenced feeding her millet hay and corn, with some bran; fed some condition powders; but she don't improve. Her coat looks rough; she has no spirit, but eats well. Then, about two weeks ago, she began to show signs of something like scratches all around both hind hoofs and above fetlock joint on back part of legs; the sores are not much, but keep discharging something of a greasy character with a mattery appearance of late. I have kept the feet washed in soapsuds once a day and applied patent salve, but its getting worse all the while. I tried blue vitriol and lard, but that appeared to be too severe for her. The leg is soft all around hoof and tender; the legs are a little swollen half way up. The mare is in foal. Please prescribe for her.

—Heaves, when long established, is beyond permanent remedy. Horses affected with this disease may do light work, and if fed on grass in grass season, and soft feed, as wheat bran, oats and rye ground, clean hay cut, etc., in winter, they pay for their keeping. If the disease is not of long standing, the animal may be fitted for ordinary light farm work by feeding as above suggested. Overheating, excessive effort long-continued; deficient ventilation; straining; eating dusty feed of any kind; frequent long periods of thirst; these are causes which produce heaves. To prevent or cure, apply opposites. *Scratches*—Come from bad condition of the blood. Standing in mud or manure long and frequently; eating too much corn; bad hay; insufficient water, etc., produce just such condition of blood as tends to produce this disorder. To cure it, the animal must be put in a dry, warm, well-ventilated stable (if the time is winter), fed on wheat bran a few days, until the bowels are loose, then add oats, and rye ground, clean hay and plenty of fresh water. Keep the skin clean by frequent rubbings and brushings. If the hay is cut in lengths of half an inch, and mixed with the ground feed and water enough to make the meal stick well to the hay, it is an excellent feed. The first thing needed is, to get the bowels loose and regular; the next thing is clean, wholesome feed that is more or less laxative. If the blood condition is made and kept good and the skin kept clean, the cause of the disease will disappear. Wash the sore feet twice a day, morning and evening, with soapsuds, dry and apply salve. There is no better salve than that made of Jametown (jimson) leaves. When the animal is groomed or w shed, take it away from the place usually occupied. Keep the stable clean and dry. Exercise lightly.

[Several inquiries were crowded out this week, but will appear next.—ED.]

THE MARKETS.

By Telegraph, December 22, 1884.

STOCK MARKETS.

Chicago.

The Drovers' Journal reports:

CATTLE Receipts 6,000. Steady. Exports steers 5 50a6 00, good to choice shipping steers 4 85a5 25, comm n to fair 4 00a4 60, native cows 2 00a4 00, stockers and feeders 3 00a4 25.

HOGS Receipts 36,000. 5a10c higher Mixed packing 4 00a4 20, heavy 4 20a4 40, light shipping 3 95a4 30.

SHEEP Receipts 3,000. Slow. Common 2 00a 2 50, fair 2 75a3 00, good to choice 3 50a4 00.

Kansas City.

The Daily *Indicator* reports:

CATTLE Receipts since Saturday 997. There was a stronger feeling to the market to day for offerings of fair quality. Butchers' stuff was in fair demand, while feeders were quiet. Sales ranged at 3 15 for New Mexican steers to 4 50 for native shipping steers.

HOGS Receipts since Saturday 8,678. There was a stronger market to-day, with values 10a15c higher than Saturday. Extreme range of sales 3 6 a4 20, bulk at 4 05a4 10

SHEEP Receipts since Saturday 1,885. Market steady for good. Sales were 180 natives av 95 lbs at 3 00, 120 do. av. 71 lbs at 2 60, 22 do common av. 89 lbs at 1 50.

PRODUCE MARKETS.

St. Louis.

WHEAT Red winter, Dec 78½c.
CORN Dec 34⅜c, Jan 33⅛c

Chicago.

WHEAT Good demand and heavy selling early in the day. Dec 71¼a72c, Jan 71¾a72¾c.

CORN Market quiet and prices varied only slightly. Cash 36¼a36¾c.

OATS Dull and easy and ⅛a¼c lower. Cash 24⅜a24¾c.

RYE Dull at 52c.

BARLEY Nominally firmer at 53c.

FLAXSEED Firm at 1 36.

Kansas City.

Price Current Reports:

WHEAT Received into elevators the past 48 hours 8,980 bus, withdrawn 12,917, in store 815,445. The market was hardly so strong as on Saturday. Cash No. 2 red sold at 51¾c, against 51⅛c bid and 52c asked Saturday. Dec was offered ⅜c under Saturday's sales. Jan sold in large blocks opening at 52⅜c and closing at 52¼c, against sales Saturday at 52½c.

CORN Received into elevators the past 48 hours 5,584 bus, withdrawn 10,529, in store 40,792. Another quiet day was had in corn with values weak but not materially changed. Dec No. 2 mixed sold at 27⅛a27¼c. Jan first half sold at 26½c. There was improved trading in white corn.

RYE No. 2 cash, 4 c bid no offerings.

OATS No. 2 cash 22½c bid, 23½c asked.

BUTTER The receipts are quite light to-day, but the market is very sluggish and dull.

We quote packed:

Creamery, fancy fresh made	25a26
Creamery, choice " "	2 a24
Creamery, fair	20a22
Choice dairy	21a22
Fair to good dairy	12a14
Storepacked table goods	12a

We quote rolls:

Good to choice	12a13
Common	10 11
Inferior	6a 8

EGGS Recent receipts have been heavy and the stocks are now large. We quote choice fresh at 23c held and mixed lots 20a21c, and limed and pickled 15a16c.

CHEESE We quote new eastern out of store. Full cream: Young America 14c per lb; do twins or flats 13½c; do Cheddar, 13½c. Part skim: Young America 9a10c; flats 8½a9c; cheddar 8½a9c. Skims; Young America 6a7c; flats 5½a6c; cheddar 5½a6c.

APPLES Consignments of Missouri and Kansas choice to fancy 2 25a2 50 ℔ bbl, common to good 1 75a2 00 do. Home grown from wagons 50a65c per bus for fair to good. Stand apples 90a 1 00 ℔ bus. Apples have grown scarce.

POTATOES We quote home grown in a small way at 35a45c ℔ bus. Consignments in car loads. Early Rose 32a35c, White Neshannock 38a41c, Peachblow and other choice varieties 41a45c.

SWEET POTATOES Home grown 50c for red per bus; yellow 75a1 00c ℔ bus.

TURNIPS We quote consignments at 35a40c per bus.

SORGHUM We quote consignments in car loads: old dark 10a15c ℔ gal, new good 20a25c, do fancy syrups 35a40c.

Horticulture.

KANSAS STATE HORTICULTURISTS.

Eighteenth Annual Session of the Kansas State Horticultural Society, Held at Burlingame, Kansas, Dec. 15 to 17, 1884.

Special correspondence KANSAS FARMER

FIRST DAY'S SESSION.

This session was held in the Baptist church. The President, E. Gale, being absent in Florida, the Vice President, Judge M. B. Newman, Wyandotte, presided. The Secretary, G. C. Brackett, came up from the World's Fair at New Orleans, to take care of the proceedings. In addition to the attendance of the local horticultural society, a number of prominent horticulturists of the State were present, besides delegates from the following counties: Wyandotte, Leavenworth, Douglass, Jefferson, Franklin, Johnson, Shawnee, Jackson, Wabaunsee, Osage, Greenwood, Lyon, Morris, Davis, Riley, Ellis, Rice, Reno and Sumner. Delegates gave reports from these various counties, which generally showed that trees are in fair condition. From many localities the reports of ravages by insects on both fruit and trees was very disastrous. The growth of the trees has been unusually prolific. The apple crop generally is hardly so good as last year, while the crop of small fruits, where cultivated, has been quite large. The reports from upland orchards are quite encouraging, except in some localities, like Douglas county, where a snow fell while the trees were in bloom, which resulted disastrously to the crop. The ravages to fruit trees by the canker worm, coddling moth, the borers and the tree cricket in various counties is of sufficient magnitude to cause this to be a question of grave importance for the discussion and action of horticulturists.

In the afternoon, Judge L. A. Simmons, of Sumner county, gave a paper on the subject—What are we here for? He reviewed the work of the society, especially that of the standing committee. The prime object of this society is the promotion of the horticultural interests of our State. He desired that each session should deduce and establish certain cardinal facts and principles of horticulture that need not be again thoroughly re-discussed, but rather amended at subsequent meetings. Progress and accomplishment should be the rule of this society. The lack of attention to landscape and vegetable gardening was deplored.

The report of the committee on orchards, by Abner Allen, was a brief verbal report, not having but little to add to former reports. He favored flat cultivation in orchards.

Prof. E. A. Popenoe presented a paper regarding a new insect which troubles the red cedar. The troublesome beetle was found to be the juniper bark borer, which was observed to be working in August and worked at the base of the tree. The beetle is said to be prevalent in Canada and the eastern States. Native cedars do not seem to have been troubled with this beetle, only trees shipped in.

J. B. Schlichter, Sterling, Kansas, gave a paper on Horticulture in the Arkansas Valley—The lessons of 1884. He described a line extending from Phillips to Harper counties, west of which agriculture and horticulture was doubtful. Living just east of this line he recited the difficulties, experiments, and the success attained. Apples will grow in Rice county. No specialists can succeed in the Arkansas valley, exclusive fruit growing or anything else; nothing but mixed farming; in fact, horticulture, agriculture, and live stock must be mixed to secure the best results. Grapes are a success, also strawberries, with the aid of irrigation. Birds are becoming very destructive to our ripening grapes; blue birds, jay birds and orioles. There is now no more doubt as to the success of growing fruit, but just how profitable it will prove rests with the future.

Judson Williams, of Franklin county, made the report of the standing committee on small fruits. He first advised learning to love the business; become interested in it; be in earnest and you will have your reward. The outlook for small fruit culture is good. In Ottawa there was sold fully $7 000 worth of strawberries. Spring is the time to set strawberry plants. The plowing should be done in the fall. Use a small spade in planting, and with the help of a boy 2,500 can be set in a day. Clean culture is necessary the first year. Prairie hay is the most available mulch. He deplored the desire to experiment with new varieties so much when we have tried sorts.

The Snyder blackberry in the north and northeast is the favorite, and the Kittatinny is a good berry and popular in eastern Kansas. Plantations should be renewed every few years. The past year has been an unusually successful one for currants, and they may possibly yet become profitable. The Houghton gooseberry seems to be the best sort so far. The future outlook for small fruits in Kansas is very encouraging.

A discussion followed the report of the committee mulching consumed most of the time. It was generally believed that it was not necessary to prevent strawberries from freezing, and it should be light and clean and removed in February, except enough to keep the berries off the ground.

At the night session, Prof. E. A. Popenoe, of the State Agricultural college, read a paper on the Recent Advances in economic entomology. Of the best insecticides he mentioned kerosene, pyrethrum, and arsenic, or London Purple, as the most effective remedies.

The report of the committee on Entomology, by A. N. Godfrey, Madison, Kansas, followed. He stated that he had not the co-operation from all of the members in reporting to him observations and experiments, etc.: nor had he any funds to travel and investigate. The flat-headed apple tree borer has done immense damage to trees, the losses in certain localities amounting to 25 per cent. of the trees. Alkaline or soap and kerosene wash were found good. Soft soap, sulphur, carbolic acid, and others were found good remedies when applied properly.

F. Wellhouse, Leavenworth, adopted the London purple remedy for the extinction of the canker worm. Spraying the trees with the liquid made very strong, the fluid having a red color when mixed with the water. The cabbage-leaf beetle may be destroyed by spraying with lime-water. The root-louse could be destroyed by scattering slacked lime and coal ashes on the roots.

A paper on the subject of Horticulture connected with farming, by Chas. A. Dow, Jr., Hartford. The profits and pleasures of both fruit and ornamental tree culture were set forth in the paper, and it was urged that this was an important factor of mixed husbandry that should be practiced by every farmer.

SECOND DAY.

The report of the committee on Vine Culture, by J. G. Clark, Waveland, Kas. Grapes can be grown from cuttings 9 inches in length, which cuttings should be reversed when set out, or they may be propagated by laying the vines in trenches covered with an inch of soil. Plant in the spring at a time suitable for gardening. They should be four feet apart. Do not allow the ground to become too dry or too wet. The best location is land that is sloping, dry and rich soil. In preparing, plow deep and cross plow; harrow well; lay off in rows 8 feet apart. The rows should extend north and south. The vines should not be planted over three or four inches in depth. The trouble in Kansas, is planting too deep.

The arm trellis system of training grapes was recommended. It is not needed the first year. At the end of the first season cut the vines back to 15 inches. The trellis, 24 inches in height, is preferred and gives better results than higher ones. The renewal system has not been tried by the committee. Summer pruning not advised. It may do to cut away some rank growing shoots. It won't do to remove the shade. Vineyards should be cultivated weekly. For shipping, a tight box holding 20 pounds is preferred to baskets. The handle is a nuisance. In place of summer pruning he advised a clean and thorough cultivation until August and thus avoid grape rot.

D. Doyle reported considerable grape rot in Labette county, but instances where the renewal system is practiced and cultivation thoroughly followed in the spring.

Russian fruits was discussed by Wm. Cutter, Junction City. Russian apples are no new varieties in this country. The Red Astrichan and Duchess of Oldenburg are the prominent reliable sorts. These trees do not even grow so fast or bear so well as our common variety, and are troubled more with borers. Great damage has been done the fruit interests by the Russian fruits, which are much inferior to our own varieties. The ignorance of farmers regarding varieties make of them suitable victims for the irrepressible and unscrupulous tree peddlers. In a conference with Prof. Budd, of Iowa, he did not recommend the Russian varieties for Kansas. The Professor is the best authority on Russian apples. Experience shows that our best and reliable varieties come from the south. The only place where Russian apples may ever prove useful is in the north and northeast.

The following resolution passed with 17 votes for and 5 against it.

Resolved, That in the opinion of this society, all the Russian varieties of apples are unworthy of general cultivation, and should be stricken from our voted list of varieties.

The report of the committee on Needed Legislation was made by L. A. Simmons, Wellington. The committee urged that the Herd Law be amended so as to refer to townships; that orchard and nursery lands be taxed no higher than other improved land; that school house grounds be ornamented with trees; that a knowledge of horticultural science be made one of the requirements for first-grade certificates for teachers; that a measure and weights be established for all fruits; that protection be provided against insect ravages; that the position of a State Entomologist be created; that 10.000 volumes of the annual report of this society be published.

At the afternoon session the value of the Russian Mulberry practically considered, was the subject of a paper sent in by J. J. Measer, Hutchinson, Kas. The value attributed to it was that of a wind break when planted in rows around the field. The Russian Mulberry when grown from cuttings is a very dwarfed tree, but if from seedlings planted about May 1st, they make very desirable timber for posts, wind breaks, etc. The trees retain their verdure until late.

A. M. Switzer, Hutchinson, did not think favorably of the tree. They were valuable only for the seed which they produced for birds. J. B. Schlichter, Rice county, said the tree on the lower lands was a success as far as he had observed, beside the fruit was not so objectionable when mixed with other kinds. Thinks that the tree will make fence posts in five years.

A paper on Small Fruit Culture was read by E. G. Clark, of Osage county, who gave his experience in growing small fruits. He believed in using good land and attentive cultivation, and employing methods heretofore described.

The old officers were re-elected: President, E. Gale, Manhattan; Vice President, Judge M. B. Newman, Wyandotte; Secretary, G. C. Brackett, Lawrence; Treasurer, F. Wellhouse, Fairmount, Trustee, E. P. Deihl, Olathe.

Hon. F. P. Baker, Topeka, the U. S. Forestry Commissioner, delivered an address on the subject—What has been done for Forestry.

The committee on fruits reported 22 exhibitors, showing from two to eight varieties of apples, a few pears, quinces and Niagara grapes. Martin Allen, of Ellis county, showed seven varieties. Fruit was shown from 15 counties.

The report of the committee on Market Gardening was made by H. Manwaring, Lawrence.

At the evening session the address of welcome was delivered by Hon. Wm. Thompson, of Burlingame. It was conceded to be one of the ablest and most brilliant addresses of the kind ever given to the society. The response was given by Rev. J. B. Schlichter, of Sterling.

A very entertaining paper on—"The lessons from Horticulture," was given by Mrs. Rastall, of Burlingame, for which she received a unanimous vote of thanks.

President Gale being absent in Florida, his place was gracefully filled by Judge M. B. Newman, of Wyandotte, Vice President.—[The annual address by Judge Newman, will be printed next week. We have not room for it this week.—ED. K. F.]

THIRD DAY.

Forestry practically considered, by the Hon. Martin Allen, Hays City. He was glad that he could report progress that was encouraging, where careful cultivation was done. He had nothing to retract from former statements regarding the test of trees. He found that trees could certainly be grown. Pruning should be largely avoided; the trees should have top enough to shade the trunk. The groves enhanced the value of land tenfold. As to rabbits, they are the worst pests, but of all suggested remedies, nothing is more effectual than cats and dogs. In respect to mulching he preferred good cultivation. Nothing could be of more value to the forestry industry than the establishment of an experimental forestry station somewhere on the treeless plains.

This paper was followed by an address on Forestry in the Arkansas Valley, by J. B. Slichter, Sterling, Kansas. He stated that there is but little additional development in forestry outside of the timber claims and what little is being done is by farmers. The interest felt in other industries has caused forest tree planting to be somewhat neglected. The main question of forestry now is, how far west can we grow trees without irrigation? The varieties that will succeed in this third timber belt are the varities of native trees—honey locusts, walnut, box elder, yellow locusts, ailanthus, Russian mulberry. For the Arkansas Valley he specially commended the walnut, catalpa speciosa, the hackberry, honey locust, elms, Osage orange and native ash.

R. P. McAuley, Larned, stated in Rush, Ness, Pawnee and Ford counties,

and the western portion of Kansas generally, the difficulty is that the trees were planted before the soil was subdued, and ammonia was wanting, and to aid in this he advised a mulch of barn-yard manure and thorough cultivation; also recommended for small groves sloping land so that they might be irrigated from the wells. The rainfall is as great here in amount as in eastern Kansas, but not so well distributed.

The committee to whom was referred the President's annual address and needed legislation, reported as follows, which was adopted:

1st. That the Legislature be requested to establish the office of Commissioner of Forestry, whose duty it shall be to establish somewhere in the treeless portion of our State an experimental station for the promotion of the art of forestry.

2d. That the herd law, where adopted has appeared to work quite satisfactorily; therefore we recommend that it be left as it is without change.

3d. That, as the school district officers perform their duties entirely without pay, it might be impractical to impose the additional duty upon items of ornamenting the grounds belonging to their several districts, we believe it will be best to leave this matter to the good sense and pride of the people of each district, and these higher elements should often be appealed to until success in this direction shall have been achieved.

4th. We would most earnestly recommend that the office of State Entomologist be established by the Legislature with a suitable salary; for this measure we have to plead not only the ravages of insect plagues, but also the example of other and older States.

5th. We would also recommend that the Legislature be earnestly requested to provide for a geological survey of the State at as early a time as practicable.

6th. For the purpose of giving proper force and effect to the foregoing suggestions, we would also recommend that the Secretary of this Society shall prepare suitable petitions properly headed and place them in the hands of the several county vice presidents of the State, whose duty it shall be to procure signatures to the same and forwarded to their respective Representatives and Senators in the Legislature no later than the first or second week of the coming session. All of which is respectfully submitted.

MARTIN ALLEN, Hays City.
C. N. GRAHAM, Leroy.
A. M. SWITZER, Hutchinson.

Messrs. J. G. Clark, Wm. Cutter, Abner Allen, F. Wellhouse, and A. N. Godfrey were appointed to prepare a digest from the previous proceedings of this Society, a manual on apple orchards.

The afternoon was devoted to general discussion and the business reports, also careful reports from the standing committees on meteorology and geology. The last night's session was consumed by the Burlingame Horticultural Society, who entertained members of the State Society with vocal and instrumental music, brief papers and addresses. Thanks and greetings were exchanged, and thus closed another practical and useful session of the Kansas State Horticultural Society.

Under-draining may be done in winter to good advantage, if a time is chosen for the work when the ground is not much frozen.

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

It is said that most of the corn in the farmers' fields and cribs in Iowa is owned by Chicago speculators on contracts made weeks ago.

Branch Valley Nursery Co., Peabody, Ks.

The Russian Mulberry and Apricot specialties. Nurserymen and Dealers, write for wholesale prices. E. STONER & SON.

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FORT SCOTT, : : KANSAS.
A full line of Nursery stock, all warranted true to name. No substitution of varieties to our purchasers. Reference: Bank of Ft. Scott. For other testimonials see our catalogue.

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

APPLE SEEDLINGS
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Largest Stock in the United States. Prices on Application.
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To our Patrons, Orchardists and Planters:

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

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

Orders sent by mail promptly attended to.

BLAIR BROS., Proprietors,
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POLAND-CHINA SWINE

IF YOU WANT A Young Sow bred to our crack boars,

IF YOU WANT A Young Boar Pig,

IF YOU WANT A Young Sow Pig,

IF YOU WANT Any kind of Poland-China Swine,

IF YOU WANT A lot of Plymouth Rock Fowls at $1.00 each

IF YOU WANT A Thoroughbred Short-horn Bull Calf,

Write to MILLER BROS., JUNCTION CITY, KANSAS.

BERKSHIRE HOGS.

My herd now numbers about Forty Breeding Sows and Four Boars, including representatives of the best families of the day, and also prize winners at the leading shows of this country, Canada and England. I have now in use in my herd sows that won in England in 1883, 1882 and 1881, and descendants of noted prize winners previous to that time. The principal boar in use in my herd at present is "Duke of Monmouth" 11361, who won in 1883 the first prize at four leading shows in England, including first at the Royal Show, and also first prize at two leading shows in Canada. He thus won six continuous first prizes without being beaten, a like record I believe never at ained 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.

JAMES ELLIOTT
Abilene, : : Kansas,

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

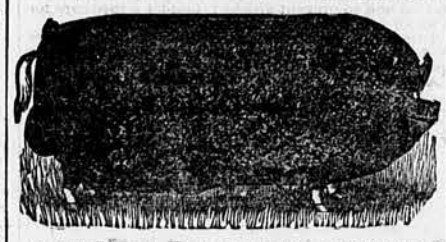
PURE-BRED
Berkshire and Small Yorkshire SWINE.

We are breeding some of the best selected sows of the above named swine to be found in the country, direct descendants from *Imported Sires and Dams*. We are prepared to fill orders for either breed, of both sexes, *at the very lowest prices.*

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

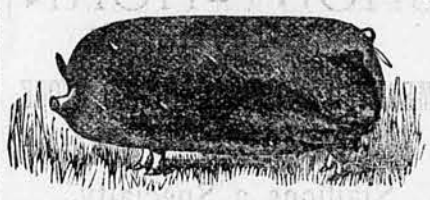
WM. BOOTH & SON,
Winchester, Jefferson Co., Kas.

WELLINGTON HERD
ENGLISH BERKSHIRES.



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

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

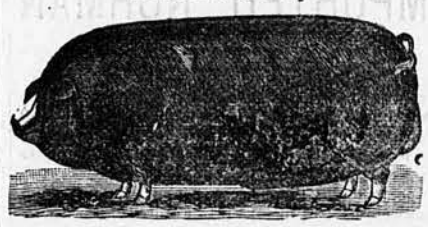


I have thirty breeding sows, all matured animals and of the very best strains of blood I am using three splendid imported boars headed by the splendid prize-winner Plantagenet 2019, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for 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.

BERKSHIRES.

We have for sale at reasonable rates an extra fine lot of Berkshire Pigs of all ages. Write us *telling what you want*, before you buy, and get our prices and terms. Very low rates by Express. CHAS. ELLIOTT & SON,
Bladensburg, Knox Co., Ohio.

Poland-China and Berkshire HOGS.



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

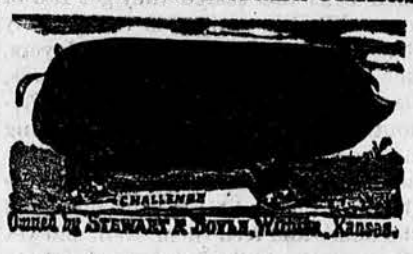
RANDOLPH & RANDOLPH,
EMPORIA, LYON CO., KANSAS.

THOROUGHBRED POLAND-CHINAS

As produced and bred by A. C. MOORE & SONS, *Canton, Ill* The best hog in the world. We have made a specialty of this breed for 38 years. We are the largest breeders of *thoroughbred Poland-Chinas* in the world. Shipped over 700 pigs in 1883 and could not supply the demand We are raising 1,000 pigs for this season's trade. We have 160 sows and 10 males we are breeding from. Our breeders are all recorded in *American P.-C. Record.* Pigs all eligible to record. Photo card of 43 breeders free. *Swine Journal* 25 cts. in 2 cent stamps.

Come and see our stock; if not as represented we will pay your expenses. Special rates by express.

Acme Herd of Poland Chinas



At the head of our select herd of 25 matured sows, stand two noted boars, Kentucky King 2661 and Challenge 4939, both prize-winners, and for individual merit unsurpassed in the State or elsewhere. Stock of all ages generally on hand for sale Pedigrees "gilt-edge," prices reasonable and satisfaction guaranteed. Address STEWART & BOYLE, Wichita, Kas.

S. V. WALTON & SON,

Box 207, Wellington, Kansas,

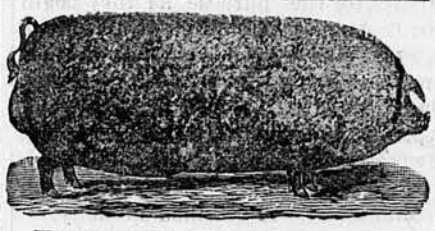
Breeders of IMPROVED POLAND-CHINA HOGS of the highest type. All well pedigreed. Correspondence solicited.

MEADOW BROOK HERD

OF PO AND CHINA SWINE.

Breeding Stock recorded in American and Ohio Records Tom Duffield 1675 A. P.-C. R., at head of herd. Always space with latest improvements of the favorite breed. Personal inspection solicited. Correspondence promptly answered.

JELLEY & FILLEY, Proprietors,
KINGMAN, KANSAS.



RANKIN BALDRIDGE,

Parsons, Kansas,

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

Correspondence invited.

Pioneer Herd of Holstein Cattle
—AND—
DUROC JERSEY SWINE.

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

Correspondence solicited. When writing mention this paper.

Chester White, Berkshire and Poland China PIGS, fine Setter Dogs, Scotch Collies, Fox Hounds and Beagles, bred and for sale by W. GIBBONS & CO., West Chester, Chester Co., Pa.

Send stamp for Circular and Price List.

The Poultry Yard.

Early Eggs and Chickens.

The first object of every poultry keeper who wishes to succeed in his business is to have his produce ready for market when the commodity is scarce, since of course he can secure a much higher price then than at any other time. Wherever there is a large and permanent population customers can always be found for really fresh eggs and plump, well-fed chickens at the best price.

A very frequent complaint among poultry keepers is that they can get any number of eggs at the time when they are plentiful, and therefore cheap, but when eggs are scarce they get few or none. What is wanted is to keep only those birds known as prolific layers, such as Leghorns, Minorcas, Houdans, Black Hamburgs, Langshans, or Plymouth Rocks. The matter of housing and feeding should also have the greatest attention. There are many people who have the right kinds of birds and who house and feed them well, and yet who cannot obtain eggs very early in the year, and of course cannot have early chickens, the entire cause being that their birds are too late. Birds above two years old do not commence laying until the end of February or the beginning of March, no matter how good layers they may be, and if only these be used then neither early eggs nor chickens can be expected.

To obtain early eggs, only young birds, that is, pullets of the first or second year, must be used. Birds of the various breeds named above, if hatched in March and April, will begin to lay at latest in September, October or November, and will continue to do so right through the winter. At first the eggs will be small, but will gradually improve in this respect, and pullets of the previous year will, if well housed, begin to lay about December, and their eggs will be large and well formed. Under careful management it is not very difficult to obtain a constant supply of eggs.

It is of no use expecting that May or June-hatched birds will commence to lay much before the spring. They may do so if the autumn and early winter are very favorable. January and February-hatched birds are too early to be used as layers, and do not, as a rule, answer for this purpose, as they begin about August, fall into a moult a little later on, and are very uncertain in their produce during the winter. For eggs, therefore, birds hatched in March and April, and not more than two years old, are preferable. In a well arranged yard, half the stock of layers will be bred each year and half will be killed annually.

Those who wish to have early chickens must follow the same rule. The hens should be mated together early in November for the earliest hatches, and later in the month all those not required so soon. By using pullets of the first year for the former and those twelve months older for the latter, with young and vigorous cockerels, fertile eggs may be expected within a few days of birds being mated, and thus a succession of chickens produced to be ready at the time when they are scarce and dear. Of course the number of pullets to each cockerel must be regulated, and should not exceed half a dozen at the outside, and that number only for the most vigorous breeds. The birds will require to be housed comfortably and fed well, and in winter time the eggs should be gathered as soon after they are laid as is convenient, for they are apt to get frosted in the nest during severe weather.

Undoubtedly there are some who will object to this plan of using pullets for breeding purposes. Chickens, they say, bred from miniature birds never do very well, and this objection is perfectly correct so far as ordinary fowls are concerned, as doing this weakens and reduces the size of any race of fowls.

For birds that it is intended to rear to maturity, we do not like breeding from pullets of the first year, and therefore would always breed the laying fowls from birds of the second year, and also those to lay the eggs from which the early chicks are expected. This simply means that if last spring we bred some laying pullets, and also some specially suitable for table fowls, from two year old hens, we would use the former to produce eggs for sale and the latter to produce eggs from which we would hatch the chickens for early killing, as the latter are not intended to be reared, the breeding from immatured birds can do little or no harm, and this is the only way by which very early chickens can be obtained.

It is not natural for fowls to breed until March or April, when pullets are about twelve months old, so that if we break through the rules of nature we must be prepared to spend care and trouble in order to obtain what we require.—*Cor. American Cultivator.*

INCUBATOR.

JACOB YOST, the Inventor and Manufacturer of the

Kansas Economy Incubator,

offers to manufacture and sell them at the following low prices, with full instructions:

No. 1, 100-Egg capacity, $12; No. 2, 150 $15; No. 3, 250, $20.

Or on receipt of 50 cents, he will furnish a book containing directions how to make and use this incubator, also how to make a good brooder to mother the chicks and what and how to feed them to make them ready for market in 8 or 10 weeks; also how to manage our hens to keep them laying all winter, as well as how to prevent disease; besides a sure cure for roup and cholera.

This incubator is a success. I have hatched 75 per cent of the eggs without testing, and raised 90 per cent of the chicks with my Brooder.

Address JACOB YOST, P O box 818. North Topeka, Kas.

WM. THOMPSON. ADAM. THOMPSON.

WM. THOMPSON & SON,

Proprietors of

Rosedale Stock Farm

Importers and Breeders of

Shire-bred, Percheron-Norman Horses

—AND—

SHORT-HORN

—CATTLE.—

IMPORTED & THOROUGHBRED STOCK

FOR SALE.

Stallions a Specialty.

MAYSVILLE, DeKALB CO., MO.

LOCATION.—Rosedale Stock Farm is situated 9 miles north of Osborn, on the Hannibal & St. Joe R. R., and any one wishing to purchase can be furnished conveyance free at Messrs. Chipps & Berlin's livery stable in Osborn.

☞ Another importation of Stallions will arrive in October.

RIVER VIEW

Stock Farm.

50 HEAD OF

IMPORTED NORMAN

STALLIONS

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

(Mention this paper.)

JAMES A. PERRY,

Importer and Breeder of Norman Horses,

River View Stock Farm, Wilmington, Ill.

Fifty miles south of Chicago, on the Chicago & Alto railroad.

ISAIAH DILLON AND SONS. LEVI DILLON AND SONS.

IMPORTERS AND BREEDERS OF

NORMAN HORSES

(Formerly of firm of E. Dillon & Co.)

NEW IMPORTATION

Arrived in fine condition June 15 1884. Have now a large collection of choice animals.

STABLES AND HEADQUARTERS LOCATED AT NORMAL,

Opposite the Illinois Central and Chicago and Alton Depots. Street cars run from the Lake Erie & Western and Indianapolis, Bloomington and Western Depots to Bloomington, direct to our stables in Normal. Address,

DILLON BROS., NORMAL, ILL.

River Side Stock Farm.

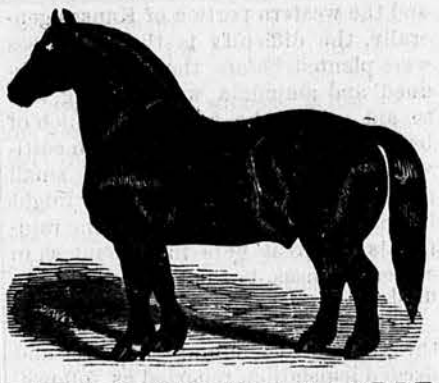
DEGEN BROTHERS, Ottawa, Ill.,

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

Stewart's STOCK REMEDY.

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

PERCHERON NORMAN, CLYDESDALE and ENGLISH DRAFT HORSES.



E. BENNETT & SON

Importers and Breeders,

Topeka, : Kansas.

All stock registered. Catalogues free

PRINCESS.—Third fleece, 26¾ lbs.; fourth fleece 26¾.

R. T. McCULLEY & BRO.,

LEE'S SUMMIT, JACKSON CO., MO.,

Breeders of PURE SPANISH MERINO SHEEP—Vermont Register. 400 Rams unequaled 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.

FRANK CRANE,

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

COMMISSION AGENT

—For the Sale of—

HEREFORD,
POLLED ANGUS,
GALLOWAYS,
SHORT-HORN,

And Thoroughbred and Grade Cattle of all breeds.

Carload Lots a Specialty.

Stables, Riverview Park. Address

F. P. CRANE,

Stock Yards, Kansas City, Mo.

150,000 PRESENTS GIVEN AWAY !!! OUR ANNUAL AWARD.

THIS OFFER HOLDS GOOD TILL MARCH 4th.

The most magnificent offer ever made by a reliable publisher. THIS IS A CHANCE OF A LIFETIME FOR YOU. The proprietor of THE ILLUSTRATED COMPANION has determined to outdo all former efforts to outdo every other publisher by giving one of the following grand presents to every one who subscribes between NOW AND MARCH 4th. FOR TWENTY-FIVE CENTS we will enter your name on our books and mail to you regularly The ILLUSTRATED COMPANION for three months and immediately forward you a Numbered Receipt for the same which will entitle you to one of the following magnificent presents.

PARTIAL LIST OF PRESENTS.

1 Grand Capital Present of $4,000 cash. 1 Cash Present of $3,000. 1 Cash Present $2,000. 8 Cash Presents of $1000 each. 5 $500 Government Bonds. 50 One Hundred Dollar Greenbacks. 10 Cash Presents of $50 each. 8 Elegant Upright Pianos. 5 Elegant Cabinet Organs. 25 Sewing Machines. 20 Gents' Solid Gold Watches. 30 Ladies' Solid Gold Watches. 20 Beautiful Diamond Rings. 50 Gents' Solid Silver Watches. 25 Ladies' Chatelaine Watches. 50 Boys' Silver Watches. 100 Waterbury Watches. 20 Gents' Solid Gold Chains. 20 Ladies' Gold Neck Chains. 20 Solid Gold Bracelets. 10 Elegant Bicycles. 5 Silver Tea Sets. 5 Sets Parlor Furniture. 500 Pair Roller Skates. 500 Two-Dollar Greenbacks. 500 One-Dollar Greenbacks. 500 Magic Lanterns. 500 Boys' Pocket Knives. 500 Ladies' Pocket Knives. 500 Solid Gold Rings. 1000 Autograph Albums, and the balance in very useful and valuable presents ranging in value from 15 cents to $1.00. The award will be made in a perfectly fair and impartial manner. YOU ARE SURE TO GET SOMETHING and HAVE A CHANCE to get one of the most valuable presents. The regular subscription price of the COMPANION is 25 cents for three month, 50 cents for six months, $1.00 for twelve months, without present or premium, but in order to secure the 150,000 subscriptions at once we make the following Unparalleled Offer, which will be carried out to the letter.

SHALL THE $4,000 BE YOURS!

FOR 25 CENTS we will send you The Illustrated Companion for three months and one numbered receipt, good for one present. For 50 cents we will send the paper six months and TWO numbered receipts good for two presents. For $1 will send paper One Year and Four numbered receipts good for Four presents.

A FREE SUBSCRIPTION TO YOU! If you will Cut this Advertisement out and show it to your friends, acquaintances and neighbors, and get five to subscribe for three months, and send us $1.25, we will send your subscription free and one numbered receipt; get ten to subscribe and we will send you two numbered receipts and the COLLECTION for six months; get twenty to subscribe for three months and we will send you the COMPANION one year, and Four numbered receipts, good for Four Presents. A few hours' work will give you a subscription free and a chance to win one of the most valuable Presents.

THIS SOLID GOLD WATCH IS YOURS.

If you are among the first 900 persons who answer this advertisement you will get free one of these Ladies' Solid Gold Watches. There are 900 of them and they are first-class in every respect and the cases are beautifully ornamented. They will be given out at once to the first 900 subscribers. By replying immediately you may be one of the lucky ones and get this beautiful Watch for your Mother, yourself or your girl, FOR A CHRISTMAS PRESENT.

ONLY 25 CENTS! Think of the chance it gives you to get a watch, and to share in the award of MARCH 4th. If you take a year's subscription your FOUR RECEIPTS might all be among the FIRST 900. Send Postal Notes when you can get them. Stamps and Silver will be taken for small sums. Address,

THE ILLUSTRATED COMPANION, 250 Fourth St., Louisville, Kentucky.

Remember, the above Presents are given absolutely free. Cut this out and show it to your friends and neighbors.

IT WILL NOT APPEAR AGAIN. AGENTS WANTED EVERYWHERE.

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 appraisement, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice." And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper *free of cost*, to every county clerk in the state to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from $5 00 to $50 00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

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

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

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

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

If an animal liable to be taken, shall come upon the premises of any person, and be 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 estray, must immediately advertise the same by posting three written notices in as many places in the township, giving a correct description of such stray.

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

The Justice of the Peace shall within twenty days from the time such stray was taken up, (ten days after posting) make out and return to the County Clerk a certified copy of the description and value of such stray.

If such stray shall be valued at more than ten dollars, it shall be advertised in the KANSAS FARMER in three successive numbers.

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

If the owner of a stray fails to prove ownership within twelve months after the time of taking, a complete title shall vest in the taker up.

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

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

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

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

Strays for week ending Dec. 10, '84

Lyon County—R. Lakin, clerk.

MARE—Taken up by James Jones, in Ivy tp. Nov 24, 1884 one 2 year old iron gray mare, solid-built, 14 hands high, no marks or brands; valued at $50.

FILLEY—Taken up by John A Smith 4 miles west and 1 mile south of Hartford in Elmendaro tp, Nov 6 1884, one yearling brown or black filley, no marks or brands visible; value not given.

MARE—Taken up by John J Beyer, in Emporia tp, Nov 19, 1884, one 3 year-old sorrel mare, star in forehead, white on left hind foot; valued at $25

COLT—By same one 2 year-old dark bay horse colt, white spot on right hind foot; valued at $25.

HEIFER—Taken up by C S Perkins, in Americus tp. Nov 15, 1884 one 2-year-old red heifer with a red and white spotted calf, no marks or brands; valued at $22.

STEER—By same, one red and white spotted yearling steer, half crop in left ear and over-crop in right ear; valued at $20

HEIFER—By same, one red heifer, white on each hind leg, white under left horn, white spot on right hip, white spot back of left loin, no marks or brands; valued at $18.

STEER—By same, one small red yearling steer, with brockle face swallow-fork and under-bit in right ear and over-bit in left, white under belly extending to fore legs; valued at $15.

HEIFER—Taken up by James Jones in Ivy tp, Nov 24, 1884, one 2-year-old red heifer, some white on shoulders, small white spot in face, white legs, hole in right ear, and slit from same to tip of ear, small strip off under side of left ear, branded H K (combined) on both shoulders; valued at $20.

HEIFER—Taken up by Sidney Putnam, in Ivy tp. Nov 25 1884, one 2 year-old red heifer, branded H K on both sides of rump, some white on face and flank.

COW—Taken up by S J Fish, in Jackson tp Nov 12, 1884 one 7-year-old red roan cow, end of left horn broken off, nearly blind, small steer calf at side; valued at $19.

HEIFER—By same, one 2-year old heifer, mostly white, small white calf at side; valued at $24.

STEER—By same, one yearling steer, white with red ears; valued at $20.

HEIFER—By same, one yearling heifer, red, some white in face and flanks; valued at $15.

Bourbon county—E. J. Chapin, clerk.

COW—Taken up by Jos C Hall, of Freedom tp, Nov 19 1884, one small red and white cow, 4 or 5 years old, small piece cut off right ear; valued at $25.

HEIFER—Taken up by John Lockwood, of Marmaton tp. Nov 1, 1884, one red and white 2-year-old heifer, tail white, the ends of both ears cropped or frozen off; valued at $16

STEER—Taken up by David Larue, of Marmaton tp, one deep red yearling steer, bush of tail white, staggy appearance; valued at $18.

HEIFER—Taken up by W E Beavers, of Marion tp, one roan yearling heifer, crop off the left ear; slit in the right; valued at $ 4.

HEIFER—By same, one red yearling heifer, white along the flank and breast, crop off the left ear, slit in right ear; valued at $14.

STEER—Taken up by John Lardner, Franklin tp, one 3 year-old red steer, branded with a letter C on the right hip, the right ear cropped, bush off the tail, star in forehead, white on belly and legs; valued at $25.

Wabaunsee County—H. G. Licht, Clerk.

COW—Taken up by Edward Stephen, of Mission Creek tp, November 29, 1884, one roan cow, 7 years old, under-bit in right ear; valued at $35.

STEER—By same, one red and white 2-year-old steer, no marks; valued at $25.

STEER—Taken up by B F Green, of Mission Creek tp Nov 12 1884, one roan 2-year-old steer, no marks or brands; valued at $25

HEIFER—Taken up by W F Cotton, of Wabaunsee tp, (Wabaunsee P. O.) Nov 28, 1884, one red 1-year-old heifer, no marks or brands.

Riley County—F. A. Schermerhorn, clerk.

STEER—Taken up by N G Selberg, of Jackson tp, one red and white spotted 1-year-old steer, no marks or brands

MARE—Taken up by C S Blythe, of Grant tp, one bay mare, 4 years old, branded A. K. on left shoulder, light mane and tail, some white on right hind foot 3 or 4 inches above the hoof.

Marion county.—W. H. Hamilton, clerk.

PONY—Taken up by Adam Hill, of Lehigh tp, Nov 12, 1884, one bay horse pony, 13 hands high, left hind foot white white strip in face, branded with the letter F on left shoulder indescribable brand on left jaw and left flank; valued at $40.

Labette county—F. W. Felt, clerk.

STEER—Taken up by John Triplett, of Elm Grove tp, Nov 19, 1884, one yellow steer, 2 years old, branded E on right side; valued at $15.

Harvey county—J. C. Johnston, clerk.

HEIFER—Taken up by Herman Stahl, (P. O. Newton,) Nov 20, 1884, one red 1-year-old heifer, no marks; valued at $20.

HEIFER—By same, one red 1-year-old heifer, no marks; valued at $20.

HEIFER—By same, one red 1 year-old heifer, no marks; valued at $16.

HORSE—Taken up by Samuel Gates, (P. O. Newton,) Nov 5, 1884, one black horse, 8 years old, star in forehead, white strip on nose, blind in right eye, shoes on hind feet, is about 16½ hands high; valued at $75.

Nemaha county—R. S Robbins, clerk.

HEIFER—Taken up by Wm A Guin, of Mitchell tp, Nov 20, 1884, one black heifer, 1 year old past, some white in face under-bit in right ear, no other marks or brands; valued at $16.

HEIFER—By same one light red heifer, 1 year old past some white in face and on belly and on both hind feet, lower half of tail white, under-bit in right ear, no other marks or brands; valued at $16.

Chautauqua county — A. C. Hilligoss, clerk.

STEER—Taken up by Geo W Rhodes, of Summit tp, Nov 1, 1884, one red steer, 2 years old white forehead with red spots in the white, some white under his belly and on each flank and the end of tail, a white spot on his rump, no other marks or brands; valued at $2[illegible].

COW—Taken up by Samuel Adams, of Summit tp Nov 17, 1884, one large red cow with white face, 7 years old branded on the right hip with a figure 7 and also same on left, or may have been intended for a figure 4 no other marks or brands; valued at $30.

COW AND CALF—Taken up by G A Williams of Canaville tp, November 7 1884 one pale red-roan cow, about 3 years old some white on left side and belly, tag in left ear stamped "T. H Maberry, Chesapeake, Mo No. 14," and one red-roan male calf 7 or 8 months old; valued at $45

HEIFER—Taken up by D Thompson of Sedan tp, Nov 15 1884, one red heifer, 2 years old, crop off right ear and underbit in left ear, line back; valued at $15

STEER—Taken up by C H Sander on, of Sedan tp Nov 16, 1884 one blue yearling steer, white on belly, branded H on left hip; valued at $13.

Osage county—C A. Cottrell, clerk.

HEIFER—Taken up by C J Wilbur, of Burlingame tp, one red yearling heifer, left ear cropped, white belly; valued at $12.

HEIFER—By same, one red yearling heifer, white belly; valued at $12.

MARE—Taken up by Samuel Marshall, of Osage City, Nov 17, one mare, 3 years old color not given, white hind foot, white spot on back part of thigh.

MULE—By same, one dark brown or black mare mule, no marks or brands.

Shawnee county—Chas. F. Spencer, clerk.

COW—Taken up by P J Spreng, in Mission tp (P. O. Topeka,) one red cow, 7 years old, right ear cropped; valued at $ 2

COLT—Taken up by Byron Beard, of Dover tp, one black pony colt, 1 year old, left hind foot white, white spot in forehead; valued at $20.

Strays for week ending Dec. 17, '84.

Wabaunsee county—H. G. Licht, clerk.

MARE—Taken up by John Cass, in Pottawatomie county, (P. O St Marys,) one bay mare, no marks or brands; valued at $40.

MARE—By same, one black mare, white spot in face; valued at $40

COLT—By same, one bay yearling horse colt, white spot in face; valued at $20.

COW—Taken up by William McMurray, in Maple Hill tp, September —, 1884, one brindle cow, point of right ear broken off; valued at $20.

STEER—By same, same time and place, one red steer calf; valued at $10.

HEIFER—Taken up by J Betzer, of Mission Creek tp, Nov 19, 1884 one 1-year old red and white heifer; valued at $15

HEIFER—By same, one 1-year old red heifer; valued at $10

HEIFER—Taken up by Jackson and Walley of Farmer tp, Nov 1, 1884, one 2-year-old spotted heifer, no marks or brands; valued at $15.

Shawnee county—Chas F. Spencer, clerk.

PONY—Taken up by Wm Johnson, of Mission tp, Nov 29, 1884, one dark bay horse pony, supposed to be 12 years old; valued at $[illegible]0.

HEIFER—Taken up by Hugh Hugeon, of Dover tp, Nov 28 1884, one yearling heifer, spotted red and white, no brands, ears marked with under-bit out of one and fork in the other; valued at $15.

MARE—Taken up by Jos Fiery, of Dover tp, Nov 29, 1884 one bay mare, supposed to be 3 years old, no marks or brands, small star in forehead; valued at $100

CALF—Taken up by Wm Owen, of Soldier tp, (P. O North Topeka), Nov 25, 1884, one black steer calf, from 8 to 12 months old, bush end of tail white, no marks or brands; valued at $14.

STEER—Taken up by F A Lafave, of Soldier tp, (P O North Topeka), one roan 2 year-old steer, branded diamond left hip; valued at $20.

4 CALVES—Taken up by L B Garlinghouse, of Topeka tp, (P O Topeka), Dec 11 1884, 4 red and white spotted spring calves, one a heifer; valued at $38.

COW—Taken up by C F Sexton, of Topeka tp, (P. O. Topeka), Nov 20, 1884 one cow, red spots on shoulders and neck, crop in right ear, square cut in left ear; valued at $35.

PONY—Taken up by C M Stephens, of Topeka tp, (P. O. Topeka), Dec 9, 1884, one dark bay or brown mare pony, 5 or 6 years old, with saddle marks; valued at $25

Woodson county—I. M. Jewett, clerk.

FILLEY Taken up by Jacob Nunemaker, in Everett tp, Nov 12 1884, one bay 2 year-old mare, no marks or brands; valued at $30

MULE COLT—Taken up by John Fowler, in Liberty tp, Nov 24, 1884, one sorrel horse mule colt; valued at $20.

HEIFER—Taken up by C Miller, in Toronto tp, Nov 25, 1884, one red 2-year-old heifer some kind of brand on right hip tips of both horns broken off, no other marks or brands; valued at $20.

HEIFER—Taken up by D S Park, in Liberty tp, Nov 21 1884, one red heifer, 3 years old, a little white on forehead and on belly, branded H on right hip; valued at $18

Bourbon county—E. J. Chapin, clerk.

STEER—Taken up by James H Mills, of Marmaton tp. Nov 27, 1884, one dark red yearling steer, white forehead and white belly, branded J on right hip; valued at $20.

MARE—Taken up by Gilbert Vaan, of Timber Hill tp, Nov 20, 1884, one gray mare, medium size, lame in right hind foot, about 12 years old; valued at $25.

HEIFER—Taken up by Adam Bolinger, of Marmaton tp, Dec 1, 1884, one deep red yearling heifer, white about the feet, left ear notched and cut off, under-bit in right ear; valued at $16.

Franklin county—L. Altman, clerk.

COLT—Taken up by John M Gibson, of Hayes tp, one bay mare colt, supposed to be 1 year old, white strip in forehead; valued at $10.

HEIFER—Taken up by C A Otto, of Ottawa tp, one red yearling heifer branded O on left hip, no other marks or brands, medium size; valued at $25.

Brown county—G. I. Prewitt, clerk.

HEIFER—Taken up by A B Allerton, in Hamlin tp, Nov 12, 1884, one red heifer, 1½ years old, medium size, one lop horn.

Anderson county—A. D. McFadden, clerk.

HEIFER—Taken up by Wm Gibson, of Monroe tp, Dec 1 1884, one dark red 3-year-old heifer, short tail, short horns, dim brand on left hip; valued at $20.

Nemaha county—R. S. Robbins, clerk.

HEIFER—Taken up by James Ragan in Clear Creek tp, Nov 1, 1884, one red and white yearling heifer, under bit out of right ear, scar or brand on right side; valued at $16.

HEIFER—Taken up by A J Curtis, in Marion tp, Nov 30, 1884 one roan-colored heifer about 2 years old, branded T on left hip, point of right horn broken off; valued at $20.

Harvey County—John C. Johnston, clerk.

MARE—Taken up by B Brush, P. O. Walton Nov 17, 1884 one dark bay mare, black mane and tail, age unknown, branded on left side, had halter on; valued at 25.

MARE—By same, one sorrel mare, age unknown, white face right fore and left hind foot white, branded on right flank, had halter and chain on; valued at $25

Riley county—F. A. Schermerhorn, Clerk.

HEIFER—Taken up by A Munz P. O. Ogden, Dec 3, 1884, one light roan 1-year-old heifer with red neck, branded something like J

SOW—Taken up by Theo Weichselbaum, P. O. Ogden, Nov 22, 1884, one large black and white sow, ring in nose, white bushy tail, left ear cropped

Wyandotte county—Wm. F. Connelley, clerk.

COW—Taken up by W R Ingram, of Delaware tp, Nov 25, 1884, one red cow, about 10 years old, has white spots, short stubby spike horns, brush of tail off; valued at $18.

Ford county—Sam'l Gallagher, clerk.

2 OXEN—Taken up by Joseph Molitor, of Wheatland tp, Nov 1, 1884 two Texas oxen,—one dun, crop in left ear, the other dun and white, with slit in left ear, supposed to be 10 or 12 years old; valued at $40.

Lyon county—Roland Lakin, clerk.

FILLEY—Taken up by J C Ames, in Americus tp, Nov 19, 1884, one light bay yearling filley, black ankle joints, dark mane and tail, under bit in right ear, no other marks or brands; valued at $20.

FILLEY—Taken up by L E Humphrey, in Center tp, Nov 19 1884, one 2 year-old brown filley, white spot in forehead and stripe extending to nose; valued at $25.

HEIFER—Taken up by Andrew Cherberg, in Waterloo tp Nov 4, 1884, one red and white spotted yearling heifer left ear punched and other cut; valued at $15

STEER—Taken up by J W Fowler, in Emporia tp, Nov 18, 1884, one red and white spotted yearling steer, under bit and tag in left ear; valued at $20.

HEIFER—Taken up by Manson Casell, in Center tp Nov 15, 1884, one white 2-year-old heifer, a little red on point of ears, no brands; valued at $15.

STEER—Taken up by S O Priest, in Center tp, Nov 17, 1884, one red 3-year old steer, some white spots, branded S on right hip and O on left hip, crop off right ear under bit in left ear, bob tail, small size; valued at $25.

HEIFER—Taken up by H R Milner, in Center tp, Nov 14 1884 one red yearling heifer, no marks or brands; valued at $15.

STEER—Taken up by Joseph Rosillion, in Center tp. Nov 25, 1884 one red yearling steer, star in forehead, tip of tail white, both ears split, no other marks or brands; valued at $15

STEER—Taken up by T J Emerick in Center tp, one white yearling steer; valued at $20

STEER—Taken up by John P Perrier, in Center tp Nov 17, 1884, one red and white 2 year-old steer, bald face, branded 12 on left hip, no other marks or brands; valued at $25.

STEER Taken up by Charles Pritchard, in Center tp, one yearling red steer, some white spots, white spot in forehead, under-bit in each ear, no other marks or brands; valued at $20.

Strays for week ending Dec. 24, '84

Lyon county—Roland Lakin, clerk.

STEER—Taken up by L A Saffer, in Fremont tp, Nov 19, 1884, one dark red 2-year-old steer, chunky-built, short neck rather long drooping horns, no marks or brands; valued at $28.

HEIFER—By same, one red and white spotted yearling heifer, medium size, chunky-built, no marks or brands visible; valued at $16

HEIFER—Taken up by J W Dickason, in Jackson tp, Nov 29, 1884, one dark red and white 2 year-old heifer, crop and under half crop in right ear and crop off left ear; valued at $18.

STEER—Taken up by C B Hill, in Jackson tp. Nov 20, 1884, one light red yearling steer, no marks or brands; valued at $20.

HEIFER—Taken up by Henry Jacob, in Jackson tp. Nov 29 1884 one red yearling heifer, white spots on hips, some white between horns, white on belly; valued at $15.

HEIFER—Taken up by J E Orr, in Reading tp, Nov 28, 1884, one red and white spotted 2-year old heifer, indistinct brand on left hip; valued at $25

STEER—Taken up by R Gibson, in Reading tp Nov 24, 1884, one 2-year-old steer, mostly red, some white spots, white spot in face, both ears clipped, indistinct brand on left hip; value not given.

COLT—Taken up by J J Flinn, in Waterloo tp Nov 3, 1884, one dark iron gray horse colt, dim white spot in forehead, no marks or brands visible; valued at $10.

MARE—Taken up by F M Weaver, in Waterloo tp, Dec 13, 1884, one 2 or 3-year-old mare, 13 or 14 hands high some white on hind feet and in forehead, no marks or brands visible; valued at $50.

Chase county—J. J. Massey, clerk.

HORSE—Taken up by I M Smith, of Falls tp, Nov 17, 1884 one bay horse (gelding), supposed to be from 3 to 4 years old, blazed face, black mane and tail, white hind feet half way up to hock joint, blotched brand between hip and stifle joint, a few white hairs on top of neck, no other marks or brands noticeable; valued at $35

HEIFER—Taken up by F V Alford, of Bazaar tp, Nov 28, 1884, one yearling heifer, pale red, no marks or brands visible; valued at $20.

HEIFER—Taken up by K J Fink, of Diamond Creek tp, one 2-year-old heifer, red, branded on left side, brand not distinguishable, white in the forehead; valued at $15.

Woodson county—I. M. Jewett clerk.

STEER—Taken up by D F Landis Center tp, Nov 20, 1884, one red and white 2-year-old steer, crop off right ear and split in left; valued at $20.

STEER—Taken up by D Campbell, Liberty tp, Nov 28, 1884 one red 2-year-old steer, white tail and a little white on belly, branded on left hip with letter S, also a letter S on left horn, small size; valued at $25

HEIFER—Taken up in Liberty tp by C Griffeth, Nov 29, 1884, one light red yearling heifer with small white spot on head piece of left ear off, branded on left hip T T; valued at $15.

STEER—Taken up by Thos McGill, Perry tp, Nov 17, 1884, one 2 year-old red and white steer marked with a bit out of under part of left ear; valued at $20.

Harper county—Ernest S. Rice, clerk.

HORSE—Taken up by Logan Roseborough, in Storhville tp, Dec 18 1884, one bay horse, about 16½ hands high, brand supposed to be I C and some white spots or tick bites; valued at $40.

PONY—Taken up by O C Hooker, in Ruella tp, Dec 2, 1884, one sorrel horse pony, large ankle on left fore leg, soavin on right hind leg, branded H. S. on left thigh; valued at $12.

Bourbon county—E. J. Chapin, clerk.

STEER—Taken up by Wm A Maxwell, of Timber Hill tp, one red and white spotted steer, 1 year old past; valued at $15.

STEER—Taken up by G W Hughey, of Pawnee tp, one brindle steer about 2 years old; valued at $20.

STEER—Taken up by Thos Johnson, of Franklin tp, one small 2-year old steer, a few white specks, branded with a letter C on left hip; valued at $20.

Elk county—J. S. Johnson, clerk.

HEIFER—Taken up by J K P Smallwood, in Liberty tp. Dec 6, 1884, one 2-year-old heifer, red sides, white back and belly, branded J on left hip; valued at $15.

Kingman county—Chas. Rickman, clerk.

COW—Taken up by Jacob Cox, in Chicaskia tp, Dec 5, 1884, one white cow, branded with bar with curve line at each end; valued at $25

Wabaunsee county—H. G. Lecht, clerk.

COW—Taken up by Gustav Droege, in Farmer tp, Dec 1, 1884 one red cow, 7 years old, right ear cut half off left ear partly frozen off, bushy part of tail cut off; valued at $25.

Jefferson county—J. R. Best, clerk.

STEER—Taken up by James Thompson, of Valley Falls, in Delaware tp, Dec 4, 1884, one red and white 2-year-old steer, no marks or brands; valued at $30.

Atchison County Chas. H. Krebs, clerk.

COW—Taken up by M D Treat, of Shannon tp, (Atchison P. O.), Nov 10, 1884 one red cow, white strip in face, 7 years old, accompanied by calf about 2 weeks old; valued at $15.

MARE—Taken up by Jacob Wagner, of Kapioma tp, (Larkin P. O.), Nov 17, 1884 one bay mare, blind in right eye, ring-bone in right hind foot, 14 hands high, 7 years old; valued at $15

Franklin county—L. Altman, clerk.

HEIFER—Taken up by S S McCosh, of Richmond tp, one light roan heifer, 1 year old, red neck and ears, no marks or brands; valued at $15.

Riley county—F. A. Schermerhorn, clerk.

HEIFER—Taken up by G W McClenethan, of Manhattan, one red heifer, 3 years old, white face, white line on back.

CALF—Taken up by E W Westgate, of Manhattan, one white heifer calf, ring in right ear.

STEER—Taken up by Joseph Haines, of Zeandale, one white and pale red steer, 2½ years old, white spot in face, white under body, right ear cropped, slit in left ear.

Montgomery county—H. W. Conrad, clerk.

MULE—Taken up by R A Howard, of Cana tp, one black mare mule, 10 years old, a few white spots on rump; valued at $80.

COLT—By same, one bay horse colt, 6 months old; valued at $1.

2 MARES—Taken up by Jno P Nollsch, of Cana tp, two bay mares 8 years old, white in forehead, the brightest bay branded C S on left shoulder; valued at $25 each.

Nemaha county—R. S. Robbins, clerk.

HEIFER—Taken up by L D Tatman, in Capioma tp, Dec 2, 1884, one yearling heifer, white in forehead, body red, white spots on hips and hind legs; valued at $14.

Decatur county—R A. Reasoner, clerk.

PONY—Taken up by Frank Tacha, of Garfield tp, (Jackson P. O.), Dec 1, 1884 one gray mare pony, 8 years old marked with lack spots on knees and hips, branded with indescribable brands on left shoulder and hip; valued at $25.

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In the Dairy.

Creameries in Kansas.

One of our subscribers residing in Michigan writes to the FARMER inquiring about creameries. He wants to know how creamery butter is made, whether ice is used. what buildings are necessary, their cost, probable expense of starting a creamery, etc.

As to the processes of making creamery butter it may be said in brief that a creamery is simply an enlarged butter making establishment. The methods adopted may be, and usually are, precisely the same as those of a good butter maker on the farm, except where modifications are made necessary by the differing circumstances. Creameries are co-operative dairying. Instead of individual farmers making their own butter at home, they combine and take or send their milk or cream to one place and have it all made into butter in the same operation by experienced dairymen according to one and that the best known method. Sometimes farmers voluntarily organize a creamery association of their own. They become stockholders and pay into the common fund what is necessary to put up the buildings and appurtenances. The business is managed by directors or by one manager, as the stockholders determine. The farmers take their milk or cream, whichever is agreed upon, to the creamery, and are credited with the amount. When sales of butter are made, every stockholder is entitled to his proper share of the proceeds. Settlements are made and dividends struck monthly or quarterly, as may have been decided beforehand.

Another kind of creamery is where one man or company puts up the necessary buildings and buys milk or cream from the farmers. Generally cream only is bought. Wagons go out daily among the farmers and gather in the cream, paying for it according to a guage marked in the cans, every gauge standing for a pound of butter.

Where milk is received at a creamery, cheese is made, usually, as well as butter, in which case it is often called a factory.

"The creamery or the factory does the work of a hundred pairs of hands and turns out a ton of butter or cheese at the cost of the labor of one-tenth as many. That is the manufacture of dairy goods. under this system, is reduced 90 per cent. Along with this economy of labor there is a saving of time to an equal extent, for ninety pairs of hands are set free for other useful employment, or if the hands are idle, there are ninety heads at liberty to think and originate valuable new ideas. Moreover, it occupies one special pair of hands and head constantly, and this constant practice soon makes an expert, the more quickly and perfectly as the person may be the more intelligent or apt to learn by experience dexterity gained in this constant practice. So that there is the needed cheapness of product, more effective work by the use of the best machinery, and the best quality of product that is possible with the material used."

Ice is used.

The cost of a creamery will vary according to taste and ambition. A creamery of capacity for 800 to 1200 pounds of butter daily can be put up in Kansas for about two thousand dollars. For a smaller output the expense might be lessened, and the capacity might be considerably enlarged without entailing much additional expense.

It is waste of feed to attempt to fatten animals in cold weather without giving them good, clean, comfortable quarters.

Reduce the Cost.

The philosophy of money making is cheap production. Reduce the cost of milk and the dairyman saves all that comes from the reduction. Professor Arnold says this can be done in a variety of ways, and he is right.

"One means of doing so lies in the improvement of his milking stock. This is a certain but slow way, and must be the work of years. A more rapid way, and one that can be at once made available, consists in reducing the cost of keeping his cows. This he may do in different ways: first, by securing greater warmth and more comfort for his herd in winter. The heaviest item of expense which he incurs consists in wintering his cows, and the more they are exposed to the cold, the heavier that item becomes. Animals eat more in winter than in summer, simply because more heat is absorbed from their bodies by the colder air, just as a hot iron will cool faster on a cold day than on a warm one. As the animal heat must be kept up to a uniform standard, the extra loss of warmth must be restored by taking in more fuel in the form of food, and this increases the cost of keeping and the cost of producing the season's milk. Keep the cows warm, and they will eat no more in winter than in summer; and they will require less and less extra food for winter, just in proportion as they are made warm and comfortable, and by just so much they will turn out milk at a reduced expense.

"There is profit in keeping cows warm in winter. It costs much less to tone down the cold of our severe climate by providing warm buildings for the herd once in a lifetime, than to furnish extra food year after year to restore heat needlessly lost by exposure to cold air. I do not know of a dairyman who could not do something in this direction toward reducing the cost of his milk, and I believe it is possible for most dairymen to reduce the cost of winter keep one-third. I have seen this done by several men who thought they were treating their stock pretty well before they began making a special effort in this direction.

"There is but one other source of needless expense in the production of milk, which approximates in magnitude the waste of fodder from exposure to cold; and that is, the lack of a full and steady supply of good milk-producing food through the whole of the milking season, less than ten per cent. of the very intelligent dairy public of New York having forethought enough to provide against even a short midsummer drouth. Between a lack of food in summer and insufficient protection in winter, the cost of milk is made something like twice as much as it need be. Let the cows be so well fed in summer that there shall be no shrinkage in their milk, except from the natural decrease due to the time of coming in; and reduce their keep to a minimum by comfort in winter, and there is money in dairying. It is a better, as well as a more effectual way of enhancing profits, than by endeavoring to raise the price of dairy products, as this diminishes consumption by increasing the burden of consumers; and a very much better way than by waging a war of doubtful justice with cheap substitutes for dairy products, which could not exist if the bottom cost of genuine products were touched. It is a good time now to think of this matter before it is too late to prepare for the coming winter."

It is calculated that there are 4,000 seeds in a sunflower, 32,000 in a poppy, and 360,000 in a tobacco plant.

A farmer who takes the trouble to find out what his soil, climate and location is best fitted to produce, and selects from these such things as his taste, capacity and facilities will enable him to cultivate to the best advantage, and keeps on that line through thick and thin, has as sure hold on success as is vouchsafed to any calling.

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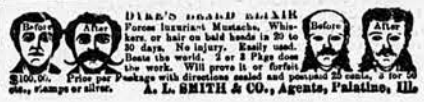

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Is a highly concentrated extract of Sarsaparilla and other blood-purifying roots, combined with Iodide of Potassium and Iron, and is the safest, most reliable, and most economical blood-purifier that can be used. It invariably expels all blood poisons from the system, enriches and renews the blood, and restores its vitalizing power. It is the best known remedy for Scrofula and all Scrofulous Complaints, Erysipelas, Eczema, Ringworm, Blotches, Sores, Boils, Tumors, and Eruptions of the Skin, as also for all disorders caused by a thin and impoverished, or corrupted, condition of the blood, such as Rheumatism, Neuralgia, Rheumatic Gout, General Debility, and Scrofulous Catarrh.

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The Veterinarian.

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

INTERFERING.—A correspondent of the *Blacksmith and Wheelwright* upon shoeing for interfering has this to say: Ankle-cutting behind is caused by improper balancing of the foot, and to cure it the foot should be leveled and straightened. If the horse cuts with the toe, apply a shoe having a long calk at the heel of the inside branch, and a calk attached to the inside curve of the toe, and heel will serve as a brace to keep the foot from tilting inward. If he cuts with either heel or quarters, cut the shoe off at the inside toe or shoe light. The same styles of shoes will serve in almost all cases of ankle-hitting. But it sometimes happens that the interfering trouble is not relieved by the expedients first described, and then special kinds of shoes are necessary. In cases where the horse hits with the quarter or heel of the shoe, use a three-quarter shoe.

SCRATCHES.—Scratches is a disease of the blood which causes an eruption about the heels; the stocking of the legs is an accompaniment of the disease caused by the settling of the disordered products, a thin serum chiefly in the tissues of the legs by gravitation. The swelling of the legs is really dropsy, which will, however, readily yield to proper treatment. A purgative, as a pound of Epsom salts or a pint of linseed oil or four drams of aloes, as may be convenient, should be given, followed by long-continued doses of one ounce of hyposulphite of soda, with a dram of powdered Peruvian bark, daily. The legs should be washed with warm water and carbolic soap, and then dressed with zinc ointment or a mixture of four ounces of lard, one ounce of Venice turpentine, one ounce of common turpentine and one ounce of verdigris, all well mixed together. This should be smeared on a cloth and bandaged over the diseased part in the evening and renewed in the morning.

SULPHUR FOR SHEEP.—Last winter my husband bought a small flock of very poor, scabby, tickey sheep, and it was with difficulty we kept them alive until after shearing, as they were in very bad condition after they were sheared, and their fleece was very small, as some of them were almost entirely bare, caused by scab and ticks. My husband placed them in a shed near the house. One day I went out and the thought came to me that, unknown to anyone, I would try sulphur. I sent and bought five pounds, then took a pound to each sheep and rubbed them all over the body with it, so that they were completely yellow with it. There being no wool, it was easily rubbed into the skin. I then gave them some to eat in their grain, as we were feeding them a very little shorts and meal. When my husband looked at them he said, "Well, Annie, the sheep will die now, sure;" but instead of that they began to gain right off, and not one took cold or had any kind of disease, although it was the middle of April, and to-day they are the best and handsomest sheep in our flock. Their wool grew rapidly and not a trace of scab remained after two weeks' time, and their wool was white as snow, and to-day they have very long handsome wool. I have since tried it on the whole flock, and we have over 100, besides giving them sulphur and salt once a week; their skin is as clear and pink as a baby's and not a tick on them, although they have run in a pasture all summer. Now, that is my experience with sulphur, and it is our household remedy for sore throat, too, and we shall continue to use it on the bodies of our sheep, as well as giving it to them to eat as a preventive of scab and ticks.

FEEDING DAMAGED FODDER.—It is a well-known fact that the feeding of damaged provender is positively injurious to the health of our domestic animals, especially smutty cornstalks, mouldy corn and damaged oats. This diseased fodder is liable to cause serious derangement of the digestive organs and as a result indigestion and its fatal consequences. There is no doubt that the great fatality among the cattle is due to feeding the diseased fodder. The remedy is simple, stop feeding it.

BAD TASTE, unpleasant breath and impaired hearing, when resulting from Catarrh, are overcome by the use of Ely's Cream Balm. It is not a liquid or snuff and is easily applied.

I AM A NON BELIEVER in Patent Medicines, but having experienced marked relief from Nasal Catarrh and hoarseness by the use of Ely's Cream Balm I can recommend it to those suffering from this loathsome complaint and to those afflicted with hoarseness or stoppage of the throat or annoying to singers and clergymen.—LOUIS E. PHILLIPS, 1428 N Y Ave., N. W., Washington, D. C. (Price 50 cents.)

A GENTLEMAN from Orwell, Pa., called my attention to Ely's Cream Balm as a remedy for Catarrh, Hay Fever, etc. He was so earnest in asserting it to be a positive cure (himself having been cured by it) that I purchased a stock. The Balm has already effected cures.—P. F. HYATT, M. D., Bordentown, N. J.

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EXPERIENCE.

"Calvert, Texas, May 3, 1882.

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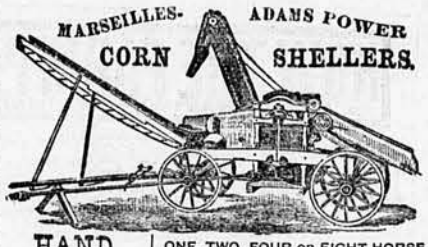

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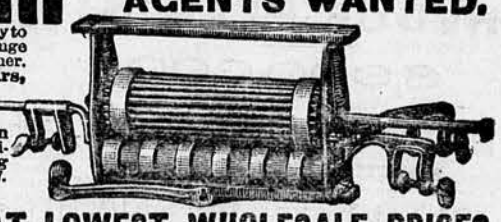

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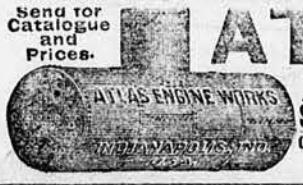

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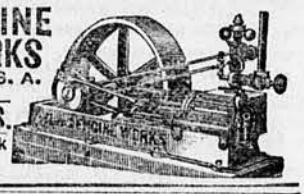

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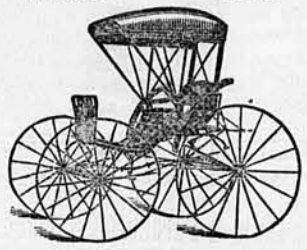

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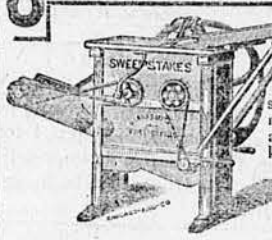

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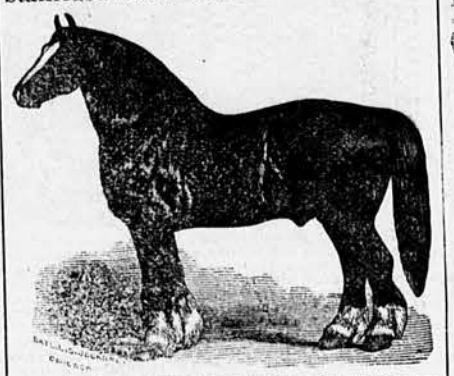

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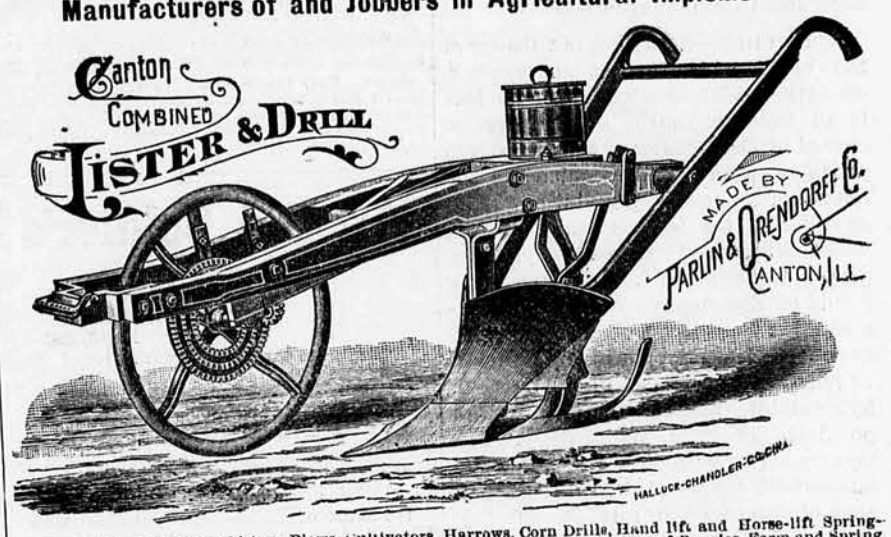

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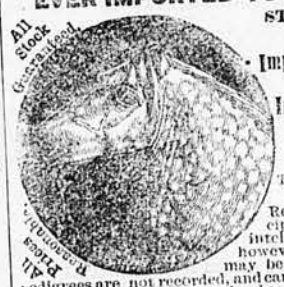

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