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Threshing, Storing and Marketing Grain.

An essay in the *National Stockman*, Pittsburg, Pa.

The threshing of grain represents the last of a series of labors extending from the sowing to placing in marketable condition. In undertaking this culmination it is of prime importance that it should be thorough, clean, and costing the least possible amount; for if a portion of the grain is left in the straw there is a dead loss to be sustained, if the work is not clean there is a deterioration in quality, and if badly managed, the cost will reduce the profits below the paying point. The first step is the selection of threshers. Choose those who understand their business, and who, when the machine is working badly, can set it aright in the least possible time, for when ten or twelve hands are dependent upon the running of the machine it is a loss of no small amount to be delayed ten or fifteen minutes at several different intervals during the day. It is also well when choosing, to examine into the construction of the machines, for in many threshers and blowers run too fast for the cylinder, and in a hurry to get a large amount done, considerable grain will be blown over, besides the violent shaking will throw dirt and cut straw through the riddles, making unclean work. After selecting the machine the farmer should see that all is made ready for its reception. The scaffolding, should be put up, the wood be in position, the groceries and eatables be on hand, and all odd jobs liable to need attention put out of the way for the day. The hands must next receive attention. As was said above, it is necessary that the cost should be kept within the minimum, and at the same time there should be plenty of hands to do the work required, for lacking one hand will often throw back the work sufficient to pay for two; while on the other hand too many will, by talking, laughing, and having a good time in general, hinder nearly as much. The quality should also be considered. Poor hands are dear at any price, for by lagging and shirking, they not only fail in their part, but hinder good hands who desire to do their work. The usual plans of employing help for threshers are open to criticism. Two systems are generally practiced, that of hiring outright, and the plan of helping among neighbors. With the first, if good hands could always be procured, it would be the cheapest in the end, but with most farmers this is impossible; for those laborers living near towns generally have trades that pay better than the arduous labor of threshing, or are too shiftless to be depended upon. In the rural districts people generally have their own crops to handle, and follow the second system. With this the farmer must make a circuit for ten or twelve days, helping here and there, leaving his own work at the most important season of the year, and losing in the long run more than the wages of the work done. If good threshers, capable of managing a body of men, would come to the farmer, do the entire job at a cost of say 7 to 10 cents per bushel, there would be money in the farmer's pocket in the end. Besides, a set of hands each doing their own part soon accomplish much more in the same time than those changed at every threshing.

After the hands have assembled for the day's work, it is important that they should be stationed so as to work to the best advantage, for if allowed to scramble for their places as they see fit, the weakest will, gener-

ally, be crowded into the hardest and most important places, thereby hindering the prompt and steady work necessary in profitable threshing. In most cases it will be found best to place at least three good hands at the head of the machine, and the remainder of this class so interspersed with those behind as to assist the weaker and keep the lagging ones to their duty. Just how many hands are needed must depend upon circumstances. For the average steam thresher in ordinary barns or stacks, eleven is sufficient, this including band-cutter, measurer and sack holder. If the patent stackers are used, this force may be reduced to eight or nine, according to quality.

While the separation of the grain from the straw is of first moment, the handling and care of the latter merits careful consideration. Most farmers undervalue this portion of the work, not considering its value as a feed and manure at the standard it is really worth, and in consequence do not handle it so as to make it palatable for stock or value as a fertilizer. If the boys and cullings (not saying that the boys are always poorest) are placed at this work, a spoiled stack is generally the consequence; for if allowed to select their own positions, the weaker will be crowded nearest the tail-man, while the better grade, avoiding as much of the dust and handling as possible, gets nearest the one who stacks. By this method the middle of the stack is seldom kept filled, and settles faster than the outside in consequence. The patent stackers now in use prevent this when rightly handled, for, being adjustable to any position, the stacker can have the straw deposited within a few feet of where he desires it. Besides the chaff is carried with the straw, rendering the stack of uniform density throughout. I am aware that there is a prejudice existing against them in some localities, but after having tried both systems, not only considering the cost but keeping of the straw, I can carefully recommend the new method.

Threshing, taken as a whole, is an irksome, disagreeable work, and any means that will take away its irksomeness and reduce its cost, is to be recommended. Some who have used them recommend the small chaff pilers run by two-horse powers, and requiring but two or three men to operate them. They have their advantages and disadvantages, the latter in some instances predominating. By these means a farmer can do his own threshing, and by postponing the work from time to time, fresh straw could be kept ready for use. On the other hand it is not advisable to have the work strung along during a whole season, nor will the extra cost of the machines be balanced by the saving of hands, the wear and tear being considered.

WHEN TO THRESH

Must depend upon the wishes of the farmer and the circumstances which exist around him. If he desires to sell within a few weeks after harvest, it will be the most profitable to thresh from the field, providing the weather indicates favorable continuance. By this method a saving of two or three hands will be affected, besides the extra labor of moving away. If, however, it is the intention to hold for any length of time, the mowing away or stacking process is best, as the wheat when threshed will be dry and ready for the bins if storing is desired.

Whether to store or sell is in most years

very troublesome question for the farmer to decide. Which will be the most profitable, must depend upon the conditions—first, the foreign demand; second, the surplus of the previous year remaining unsold; and third, the yield of the crop under consideration. If reports show that the first will be good, and the supply on hand not excessive, it will generally pay to hold, providing the prices offered in the early market are not sufficient to give a fair profit over the cost of raising, etc. Experience, however, has taught us that these conditions are always subject to changes, even when the farmer considers all indications pointing to a raise sufficient to justify holding. Speculation, war rumors, unreliable statistics, all require careful consideration.

Just how much of a rise there should be to justify holding for the winter or spring markets is not fully ascertained, as opinions differ widely. When the loss in weight, insurance, etc., are considered, twenty cents per bushel will not be much above the needed amount to pay for the holding. Oats, however, are an exception to this. Scarcely during the past twenty years has there not been a rise sufficient to cover the expense, risk and extra hauling. Clover seed is similar to oats in this respect.

To store all grains profitably, there must be good bins. These are best constructed of hard wood, with small openings near the top covered with wire netting, so as to exclude vermin and give ventilation.

The marketing of the grain is the last of the labors extending from the planting to the final result. When to market must, as above said, depend upon the existing conditions. Generally the early market pays best, for after the main part of crop begins to move to the seaboard, prices are reduced as low as possible. Besides the extra handling, etc., requires an increase to cover the cost. How to market must be next considered by the farmer. The nearer he can place his grain to the final point of consumption the higher price he will receive. The usual way of selling to the local dealer, and he to the commission man, and so on, is open to criticism. The numerous hands through which it must pass before it reaches the consumer, reduces prices to a considerable degree. Nor is this likely to be remedied until the farmer can present an opposition strong enough to bring legislative relief. When marketing the quality should always be kept to the highest standard. While under the present system of grading the inducements for having clean and pure grain are small, yet there is a feeling among millers to discriminate between the good and the medium; and taken year after year it will pay the farmer to produce the former even if the reward at present is small, for a reputation will be established which will work to the profit and pleasure of the seller.

The threshing, storing and marketing of grain bears directly upon the profits of a successful crop, for if badly conducted, the whole of a well managed harvest may be turned into disappointment. To recapitulate: There must be in threshing clean work, good help rightly managed and procured at the least expense. In the storing, if done, there must be indications of a rise sufficient to cover all expenses and a good place for storing. And last, in the marketing, the best location should be sought, and the process itself conducted with the least expense. The quality should be kept at the highest standard, and the time selected for the consummation the best in the judgment of the seller, he knowing the conditions which surround him.

Double-Deck Sheep Cars.

Our readers remember that in Mr. Turner's letter to the U. P. railway officer in relation to double-deck cars for sheep, he referred to a letter that had been addressed by one Decker to the State Board of Railroad Commissioners of Kansas, on the same subject. The letter appended hereto is in reply to the communication of Mr. Decker:

OFFICE BOARD OF RAILROAD COMMISSIONERS,
TOPEKA, KAN.

B. C. Decker, Kennett, Kas.:

DEAR SIR:—Referring to your letter of July 13th, addressed to the Secretary of this Board, in which you ask why is it that you are not permitted to double-deck cars for shipping sheep from Grainfield over the Kansas Pacific railroad to Kansas City, we have to inform you that the matter has been taken up by the Board. From inquiries made by us it appears that this matter has been discussed several times in meetings of the general freight agents of the roads operating east and west of the Missouri river, and that the objections to double-decking cars for sheep come chiefly from those representing lines east of the Missouri.

In a conference between the members of our Board and the General Freight Agent of the Union Pacific railway, a few days ago, the matter was discussed and the conclusion arrived at that no serious objection existed to the practice of double-decking cars for sheep shipments over the Kansas Pacific roads, and arrangements will be made hereafter to permit shipments to be made in that form.

BOARD OF RAILROAD COMMISSIONERS.

The KANSAS FARMER has been consulting with interested persons on this subject, and it appears that about all which is needed to get the double-deck cars, or, at least permission to put in and use the deck, is a movement on the part of shippers themselves. There does not appear to be any serious objection on the part of railroad men. We have no authority to speak for any of them, but we feel assured from what has passed that if the U. P. starts out with double-deckers, the Santa Fe will follow, and then all the roads will fall in line and help the good work along.

Inasmuch as roads east of the Missouri are not using double-deckers, it would be unnecessarily expensive for Kansas roads to fit up cars specially for sheep; but there is no objection to shippers making portable decks that they can put in at place of shipment and remove at Kansas City after the sheep are unloaded. The quantity of lumber required amounts to only about three hundred feet. A carpenter can make the necessary frame-work, in a short time, leaving every piece in shape for use, so that they can be set up and taken apart with little trouble. If return freight on the deck would cost too much, the lumber could be sold at Kansas City for something.

But there is one thing more that needs attention. There is no good reason why the hauling of a carload of sheep should cost more than the hauling of a carload of cattle. The sheep in two tiers are not as heavy as the cattle. Why then should their transportation cost more? At present rates, a load of sheep, on single deck, rates but little less than do cattle. From Larned to Kansas City, the difference is only five dollars in favor of the sheep. There can be no serious objection to that, because the car must be hauled, and the difference in cost of hauling is very little. And when another deck is put in and the number of sheep in the car doubled, the weight is below the minimum allowed per car by railroad authorities, and the charge for hauling a full car, when the shipper puts in the extra deck at his own expense, ought not to be any, at most very little, more than is now charged for a single-deck load.

The KANSAS FARMER hopes that the Railroad Commissioners will pursue this subject in the common interest of the people until the subject takes form in some definite and specific action.

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.
September 18—H. M. Garlachs, Holstein-Friesians, Kansas City, Mo.
October 28—Hon. T. W. Harvey, Burlington, Neb.
November 3 and 4—Inter-State Short horn Breeders, Kansas City Fat Stock Show.
S. E. Ward & Son Short-horns, first Friday of Kansas City Fat Stock Show.

Origin of Horses.

An exchange truly remarks that much interest has been felt in discoveries relating to the natural history of the horse, of the remote ancestry of which noble animal much is now known. Some time ago it was learned that America was the original home of the horse, which had, in the earliest form of which distinct remains have been found, four toes and a splint bone, the rudiment of the fifth toe. Equine animals with three toes on each front leg and those with two toes have left unquestionable evidence of their existence. In a recent issue of the *Edinburgh Scotsman* an article says that six or seven wild species belonging to the family of horses are known, but these all belong to that section of the family of which the ass is the type, and which are distinguished from the true horses by the absence of warts upon the hind legs, by contracted hoofs, and by the long hairs of the tail being confined to the extremity of that organ. Recently, however, the Russian traveler Przevalsky, while journeying in the Dunganian desert lying between the Altai and Tianshan mountains of Thibet, discovered a new species of wild horse, which seems to have more claim than any of the already known wild kinds to be regarded as the primitive stock of the domestic horse. Like the latter, it has warts upon the hind legs as well as on the fore legs; it has also a broad hoof, while the long hairs of the tail begin about midway, being in this latter aspect, therefore, intermediate between the horse and the ass. It differs from the true horse, however, in having a short, erect mane, and in the absence of the forelock, while it has not a stripe down the back found in many horses. Przevalsky's horse, according to an account contained in *Nature* keeps to the wildest parts of the desert, where it is met with in troops of five to fifteen individuals led by an old stallion—the other members of the troop being apparently mares. They are hard to approach, being shy in disposition and possessing highly developed organs of sight, hearing and smell. Przevalsky only met with two herds; "in vain he and his companions fired at these animals. With outstretched head and uplifted tail the stallion disappeared like lightning, with the rest of the herd after him." A single specimen subsequently procured is now in the St. Petersburg Museum, and is the only one in Europe. It has since been pointed out by Mr. W. Watts that the figures of the horse found incised on antlers in the cave of La Madelaine bear a close resemblance to Przevalsky's horse. There is, he says, "the same massive head, the same long mane, absence of forelock, pointed ears, short body and powerful legs, while there seems even an indication that the long hairs of the tail spring first from the middle of that organ."

Rich as prehistoric America appears to have been in horses, they had, as already stated, become utterly extinct long before the advent of the Spaniard. Their introduction by the settlers led in a comparatively short time to the restocking of the entire continent. Straying from their masters, or as sometimes happened, abandoned by them when a

settlement was broken up, the horses took kindly to the rich prairies and pampas, where they multiplied exceedingly. In 1537 they were first landed at Buenos Ayres, and little more than forty years afterwards wild individuals were to be found at the Straits of Magellan. They scoured the plains in vast herds.

A thousand horse—and none to ride—With flowing tail and flying mane, as Byron described them in "Mazeppa." The Indians, both of North and South America, managed to capture and claim for their own use horses out of those formidable troops, and many of these savage tribes, to whom the horse was an entirely new animal, became the most daring and accomplished horsemen in the world. The horse was also unknown in Australia until introduced by European settlers. It then found congenial conditions, and individuals escaped from man's control soon reverted to the wild state. These in so sparsely peopled a continent have multiplied until, like many other "home" animals in the colonies, they have become a nuisance. Brumbies, as these Australian wild horses are called, do considerable mischief to the settlers by enticing away their domesticated brethren and so deteriorating the breed. How numerous they have grown in certain districts shown by the fact that in 1875 no fewer than 7,000 were shot at a single station in New South Wales.

It is held by many that the domesticated horse, with all his various characteristics of shape, size and disposition, has descended from a single wild form inhabiting "the roof of the world." Its spread into regions so remote from its habitat must of itself have had considerable influence in producing varietal changes. It has been observed that everywhere in mountainous regions and in islands the horse has dwindled into the pony. Iceland and Shetland, Corsica and Sardinia, the mountainous regions of Northern Europe, and the Cordilleras of America, all possess their native ponies. The horse was only introduced into the Falkland Islands in 1764, yet it has already become so greatly deteriorated in size and strength that, for hunting the wild cattle of the islands, horses have to be imported from La Plata. This dwarfing of the horse in mountainous and insular situations is greatly attributed to want of nutritious or sufficiently varied food. Influential as the conditions of life may thus have been in modifying the horse, it is scarcely possible to doubt, as Darwin remarks "that the long-continued selection of qualities serviceable to man has been the chief agent in the formation of the several breeds of horses."

Breeding Horses.

From a series of interesting articles on this subject by Mr. W. W. Stevens in the *Indiana Farmer*, the following is quoted:

BEST BREEDS.

Some farmers may take issue with us on the subject under consideration, but we have no hesitancy in suggesting that the best breeds for the average farmer to cross his scrub, mongrel or grade mares upon are the heavy draft. They bring a horse that is a sort of "Jack at all trades" on the farm, and if a surplus is produced they find a ready market at good prices, and it is not likely that this demand will be supplied for several years to come. They will sell at any age, from a sucking colt up, and can be turned into ready cash any day. In all our large cities there is a growing demand for stylish draft horses. They are needed for freight wagons, express wagons, omnibuses and heavy carriages.

The average Normans weigh from 1800 to 2,200 pounds, and some still more. They have medium sized feet, round bone, very broad, heavy body, good head and neck, and heavy quarters; they are generally good walkers,

with a natural tendency to trot off at good speed; they mature early and probably make the best cross upon the common mares of the country. Their offspring sell more readily in the city market and command the very best price.

The Clydesdale are in color mostly bay or brown, with white on legs and stripe on face. They are not so stylish as the Norman, being adapted more especially for heavy draft—any kind of work that takes a dead pull. They have a short neck, good head and back, finely formed hind quarters, deep rib, round as a hoop, strong flat bone, heavy legs, and weigh from 1,800 to 2,400 pounds. A cross made by breeding half or three-quarter bred Clyde mares to Norman horses we have found results very favorably. Some of the very best horses in the country have thus the combined blood of these two grand breeds. It makes very little difference which way the cross is made.

In breeding common mares it really matters little which of these two excellent breeds is selected. Whichever is preferred, it should be one that is pure bred, either imported or having a verified pedigree. Individual excellence should not be overlooked. Where a good heavy draft horse is within the reach of the breeder, his services should be procured by all means. The farmer had better pay \$20 or \$25 for a colt from a good thoroughbred than to breed to the country mongrel free of charge. So far as we are individually concerned, the fee would have to go the other way in order to induce us to even think about breeding to a scrub. We have no axe to grind in this matter, be it understood, keep no stallion and have no interest in one. We speak from observation and experience and for the good of farmers who are or intend to become horse breeders.

CARE OF MARE AND FOAL.

The proper care of mare and foal is an important item in breeding good horses, but too often they are neglected. From the time of breeding to within a few days of the expected period of foaling, the mare may be kept at moderate labor on the farm, not only without injury, but with decided advantage. Regular exercise is absolutely necessary, and when the mare isn't worked she should have the run of an out-lot every day that the weather isn't too bad. She should not be compelled to draw heavy loads after the period of gestation has advanced considerably, as it is liable to injure the foal, making it crooked and probably deformed. She should not run with vicious horses, as a kick might cause serious damage.

Having foaled successfully, the mare and colt should not be exposed to inclement weather. Oats and bran, with some oil cake should be fed regularly in liberal quantities, especially if the pastures are a little short, or the grass tender and watery, as is most likely to be the case in early spring. This is the most important period in the life of the coming horse, and nothing is gained by starving the mother and stunting the foal. If from false economy its growth is arrested, its stunted form and lack of endurance will demonstrate the error committed by the short-sighted breeder. If the young animal is well formed and healthy, it will require no especial attention beyond that which we give the mare. At the end of a month it will begin to eat a little, and such food should be given the mare as the colt could partake of. If turned on good pasture no feed will be necessary through the summer, as good grass and plenty of milk will push the colt along as fast as can be done with safety. There is a crude notion prevailing that hardships make young stock hardy, that a little starving will strengthen the constitution and powers of endurance. A colt that is weaned at the age of five or six months should be well cared for and not allowed to become poor the first winter. It is true that it will often improve so rapidly in spring that its wretched condition during the winter will seem really to have been an advantage to it, but this is a grave mistake. If the same conditions were imposed during the whole period of growth, the effect would be very preceptible. Although the summer may in some degree remove the effect of winter, no animal so treated ever becomes what it might have been in size, symmetry of form and usefulness by generous treatment. Breeders should bear in mind the fact that if the colt which has experienced a check in growth the first winter turns out well, it would have been still better without it.

Sorghum Cane Seed for Stock.

Mr. E. W. Deming, of the La Fayette, Indiana, Sugar Company, last winter published some suggestions on this subject in the *Farmer's Review*, and we copy the letter now because it may have some interest to our western readers. Mr. Deming said:

The seed tuft, as soon as cut from the stalk and before being wet by rain, should be forked up in piles two feet across the base, and as high as the base will support, and allowed to stand until ready to thresh or haul into a dry place preparatory to thrashing. Be sure it is dry before thrashing or it will surely heat and spoil. The cylinders of all threshers are speeded too high, the tuft is too soon past the cylinder, and if the motion is reduced the screens will not clear themselves. If the thrasher breaks the seed badly, remove more of the concave teeth, if the seed is not well cleaned, do not feed so fast. Never store the seed more than three feet deep, and if damp one foot in depth is sufficient, and daily shoveling will be required to prevent caking by mould and injuring the germ by heating.

A chemical analysis shows that cane seed is almost identical with corn, and considering its abundant yield, has too much value as a by-product to be wasted. Chemists tell us the glume or envelope inclosing the seed contains 25 per cent. of tannic acid, and the bran enclosing the seed 5 per cent. of acid. This is evidently a provision of nature to prevent the entire destruction of this plant.

In the tuft, or even when the seed is almost entirely removed from the glume enclosing the seed, it is not a proper food for cattle. In mastication but a small proportion of the seeds are broken and assimilated by the system, the balance, like so much foreign matter, passes on without change. The bran of the seed is slightly bitter and puckering to the taste, like an unripe persimmon. This is why horses and mules eat so little in the tuft and wholly reject it when well threshed. Hogs eat the seed with a relish and actually prefer it to corn, while its fattening qualities are fully equal to corn. With poultry the astringent nature of the bran acts as a stimulant promoting health and a tendency to produce eggs, while the seed rapidly fattens them.

In addition to the astringent nature of cane seed bran, I believe it acts injuriously on the kidneys. Especially is this noticeable on old horses and mules, its injurious effects on one of our mules being very marked. While cane seed is an excellent feed for poultry, a good substitute for corn with hogs and a questionable feed for cattle and work animals, I believe by grinding with or without threshing, and afterward steamed to break the starch cells and soften the bran and removing somewhat its astringent properties, as a competent chemist assures me will be done, it can be made in every respect equal to corn, treated in like manner and for fattening purposes superior because of its large content of oil. In a recent issue of the *Rural World*, Mr. Schwartz speaks of hogs being not only fattened, but raised on cane stalks and its seed, and at the New Orleans Exposition pork and lard from hogs grown and fattened on cane seed alone were exhibited by the department of agriculture. An acre of cane yields from 20 to 40 bushels of seed, worth 40 to 50 cents per bushel. The expense of gathering and threshing should not exceed 10 cents per bushel. Still I believe that three-fifths of this valuable feed is permitted to go to waste. Is it any wonder the industry is depressed when the seed, in which there is more money to-day than in the syrup obtained from the same land, is never harvested. The success of the beet sugar industry of Europe depends on the utilization of the beet pulp as a food for stock, and from present indications the day is not far distant when the profits of the cane industry will be solely in the by-products; especially will this be the case with all large works that make the growing of Northern cane a specialty.

West Point, Ind., Jan. 20, 1885.

Nearly every spring on most farms, a portion of the farm horses that have laid idle during the winter need to be rebroken. For the first few days only light work should be given them, and great care should be taken not to produce calls on the shoulders, which, once started, are very hard to heal without stopping work altogether.

The Veterinarian.

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

DROPSICAL SWELLING OF HOCKS.—I have a colt, a year old in May, that has something on its hind legs between the hock joint and the point of the hock—soft lumps about the size of an egg, and also on the inside of the joints, running downward. The colt is not lame. Those lumps are on both legs and both sides of the leg. Is it a sprain? Please inform me what to do. [Young growing colts often exhibit dropsical swellings of the hock joints, which, as they grow older, disappear, or diminish to a great extent. Do not interfere with the hocks so long as no lameness is apparent. Feed the colt nutritious food; winter in comfortable quarters, and let him run till four years old before breaking him.]

LARYNGITIS.—I have a Short-horn cow that has a cough, and is getting worse. She has some fever, and before coughing I notice she will hold her tongue out and draw two or three short breaths. Has been ailing some weeks; will soon drop a calf. What can I do for her? [The trouble must be some affection of the throat, probably "laryngitis." We would advise fomenting the throat well for some hours, with woolen rags, wrung out in hot water; a liniment may then be rubbed in daily, composed of strong liquor ammonia, turpentine and linseed oil, of each equal parts. Keep her on laxative food, and give a hot bran mash morning and evening, in which may be put a drachm or two of saltpeter.]

HERNIA.—I have a colt, one year old, and had it castrated along the 1st of May, and the next morning took the clamps off, and after a day or so there came from one side something—it hung down about six inches. It seemed like the cord, but we put another clamp on and cut it off, and in forty-eight hours took the clamp off, and in a few days there was some more worked down, twice as large as a hen egg, and it festered all the time and seemed raw and hard to the touch. The lump is still hanging there. Our horse doctor is afraid to do anything to it. The colt is on grass and seems to do well enough, except seeming stiff in the hind part. Is it safe to clamp and cut off again, or what can be done for the colt? [The cause of trouble is hernia following castration, a condition which sometimes occurs, owing to the struggles of the colt during the operation, or by the effort of using, when a portion of bowel or omentum—the latter a highly vascular expansion covering the stomach—protrudes through the inguinal canal along with the cord. In the case mentioned the protrusion is evidently a portion of omentum and not of bowel, but the veterinarian in attendance must thoroughly satisfy himself on this point before attempting the following operation: The colt is to be cast, laid upon his back, and the hinder extremities raised by means of a bundle of straw placed under the croup. The protrusion is now to be seized and examined, and if found to be omentum, it is to be dissected from its attachments, if it has any, and protruded still more, so that all its ulcerated portion may be inclosed in and removed by the chain of the ecraseur. The hernia should be severed as close to the abdominal ring as possible, so that the omentum may slip through the rings into the abdominal cavity, and it may be assisted by gentle manipulation. A large extent of the skin and scrotum should then be included in plain clamp—without caustic—which should be allowed to stay on till it sloughs off. The colt should be kept indoors in a quiet, roomy box-stall for a few days after the operation.]

It is all very well to break the colt and exercise him gently when two years old, but it will be a great mistake to put him at hard work until two years later. Fast road service is more injurious than farm work. While the muscles and bones are yet tender injuries are easily incurred which no after care will remove.

For cuts from barbed wire fence, sore shoulders, kicks and open sores on animals, use Stewart's Healing Powder, 15 and 50 cts. a box.

The statistical account of the production of wool throughout the civilized world shows that in 1830 it was 320,000,000 pounds, in 1871 it was nearly 2,000,000,000 pounds, while in 1883, in the United States alone, the production of wool was 320,000,000 pounds, or as much as was produced in the whole world in 1830.

Live Stock Notes.

Fifteen million horses are now owned in America, and more than 100,000 a year must be bred to keep up the supply. The large portion of these are used for agricultural and heavy draft purposes, and such horses bring from \$175 to \$250 each. It would be impossible to breed them if it were not for the importation of Percheron horses. Five hundred stallions are now annually imported from France to the United States.

The smallest horse in the world was recently born at Detroit, Mich. Its sire and dam belong to Bartholomew's circus stud and emanate from Brazil and British India respectively. The dam of the little wonder, which is a filly and is named Detroit, weighs 300 pounds and stands nine hands one inch. The youngster himself weighs but twenty-two and one-half pounds, stands twenty-six and one-half inches and is only thirty inches in length from nose to tail.

If Robinson Crusoe were to drop in on a visit to his island now he would be astonished at the business done. There are on the island 30,000 head of cattle and as many sheep, the inhabitants largely supplying the Valparaiso market. The sheep are said to be very profitable, and if Crusoe hadn't fooled around so much, moralizing and looking for tracks in the sand, he would probably have made a big thing out of his goat farm. But he thought it his business to parade and dream and pose as a sort of Lamar.

Colorado Live Stock Record: The hair shows the breeding of an animal very plainly, and more attention should be paid to its quality. A well-bred animal will always show its blood in its fine, glossy hair, and if any animal shows a departure from this rule it is either out of health, or something is wrong with its breeding. A coarse, rough-haired animal is generally coarse grained, sluggish and inactive, and many times also ill-natured and vicious, and especially is this true of the horse. A fine, bright, sleek, clean-haired horse always has nerve, action and endurance, generally coupled with a nervous but gentle disposition.

Are You Going South?

If so, it is of great importance to you to be fully informed as to the cheapest, most direct and most pleasant route. You will wish to purchase your ticket via the route that will subject you to no delays and by which through trains are run. Before you start you should provide yourself with a map and time table of the Kansas City, Fort Scott & Gulf Railroad (Memphis Short Route South). The only direct route from and via Kansas City to all points in Eastern and Southern Kansas, Southwest Missouri and Texas. Practically the only route from the West to all Southern cities. Entire trains with Pullman Palace Sleeping Cars and free Reclining Chair Cars, Kansas City to Memphis; through Sleeping Car Kansas City to New Orleans. This is the direct route, and many miles the shortest line to Little Rock, Hot Springs, Eureka Springs, Fort Smith, Van Buren, Fayetteville and all points in Arkansas. Send for a large map. Send for a copy of the "Missouri and Kansas Farmer," an eight-page paper, containing full and reliable information in relation to the great States of Missouri and Kansas. Issued monthly and mailed free.

Address, J. E. LOCKWOOD, G. P. & T. A., Kansas City.

A hill of raspberry plants, after being trimmed in the spring, should have only three or four canes, about three and a half feet high and nearly one inch in diameter at the base, each cane having a few side spurs about ten inches long.

On good land, with the same culture as corn, artichokes will produce from 300 to 500 bushels per acre. It is asserted that they yield more hog food than any other crop, and that forty hogs may be kept on an acre of artichokes without any other food.

It is of no use attempting to keep fowls unless they are well attended to. Many farmers who complain that their poultry is not paying them, should consider whether they have given their fowls the same attention generally bestowed upon horses and cattle, or swine.

Nervous Debilitated Men

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

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.

HORSES.

FOR SALE.—On good terms, two imported Clydesdale stallions, with books of 1885 included. Both sure breeders. Can see their colts. For particulars address Robert Ritchey, Peabody, Kas.

CATTLE.

ASH GROVE STOCK FARM.—J. F. Glick, Highland, Doniphan county, Kansas, breeds first-class THOROUGHBRED SHORT-HORN CATTLE AND POLAND-CHINA SWINE. Youngstock for sale. Inspection and correspondence invited.

WALNUT PARK FARM.—F. Playter, Walnut, Kas., breeds the largest herd of Short-horn Cattle in southern Kansas. Stock for sale. Cor. 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.

OAK WOOD HERD, C. S. Eichholtz, Wichita, Kas. Live Stock Auctioneer and breeder of Thoroughbred Short-horn Cattle, Poland-Chinas and Brains Trkys.

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

CEDAR-CROFT HERD SHORT-HORNS.—E. C. Evans & Son, Prop'r., Sedalia, Mo. Youngsters of the most popular families for sale. Also Bronze Turkeys and Plymouth Rock Chickens. Write or call at office of Dr. E. C. Evans, in city.

T. M. MARCY & SON, Wakarusa, Shawnee county, Kas. We now have 116 head of recorded Short-horns. If you wish a young bull or Short-horn cows do yourself the justice to come and see or write us.

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

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

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

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

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

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

CATTLE AND SWINE.

COTTONWOOD FARM HERDS, J. J. Malls, 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.

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

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.

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

I HAVE 10 young pure-bred Short-horn Bulls, 10 Cows and Heifers, a few choice Poland-China Boars and Sows—the latter bred for sale. Send for new catalogue. H. B. Scott, Sedalia, Mo.

H. S. FILLMORE, Green Lawn Fruit and Stock Place, Lawrence, Kas., breeds of Jersey Cattle, Poland-China and Berkshire Swine. Stock for sale.

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

SWINE.

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

POLAND-CHINA SWINE AND MERINO SHEEP.

The swine are of the Give or Take, Perfection, and other fashionable strains. Stock for sale in pairs not related. Invite correspondence or inspection of stock.

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

OUR ILLUSTRATED JOURNAL.—A full and complete history of the Poland-China Hog, sent free on application. Stock of all ages and conditions for sale. Address J. & C. STEARN, Newark, Ohio.

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

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.

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

V. B. HOWEY, Box 103, Topeka, Kas., breeder and shipper of Thoroughbred Poland-China Swine. Recorded in Ohio Poland-China Record. My breeders are second to none. Write for what you want.

SWINE.

W. M. PLUMMER, Osage City, Kansas, breeder of Recorded Poland-China Swine. Also Light Brahma Chickens. Stock for sale at reasonable rates.

F. W. ARNOLD & CO., Osborne, Kas., breeders of Poland-China Swine. Stock recorded in O. P.-C. R. Combination 4989 (first premium at State fair of 1884) at head of herd. Stock for sale. Satisfaction guaranteed.

POLAND-CHINA SWINE.—Of the most noted strains. My breeders are from herds that can show more prize-winners than any other in the United States. Liberal reduction to persons ordering in next thirty days. Photograph of a few breeders free. Address me before buying elsewhere. Special rates by express. [Mention this paper.] H. H. WALLS, Bedford, Indiana.

SHEEP.

E. T. FROWE, Pavillion, Kas., breeder of Thoroughbred Merino Sheep. Rams for sale. Also a few Shropshire Rams.

POULTRY.

400 W.F.B. SPANISH and P. Rock chicks for sale, from my prize-winners. General agent for "Poultry Monthly." Agents wanted. Prepared shell, \$3.00 per 100 lbs. Geo. H. Hughes, North Topeka, Kas.

FAIRVIEW POULTRY YARDS.—Has for sale 200 Chickens each of P. Rocks, Houdans, L. Brahmas, Wyandottes, B. Leghorns and Langshans. Lock box 754. Mrs. Geo. Taggart, Parsons, Kas.

ONE DOLLAR per thirteen for eggs from choice Plymouth Rock fowls or Pekin ducks. Plymouth Rock cockerels \$2 each. Mark S. Salisbury, Box 931, Kansas City, Mo.

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, Kas.

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

EGGS FOR SALE.—From Light Brahmas, Buff Orpingtons and Plymouth Rocks. 13 for \$1.75; 26 for \$3. Also Pekin Duck eggs, 11 for \$1.75; 22 for \$3. Also Emu Geese eggs, 4 for \$2; and Bronze Turkey eggs, 12 for \$3. W. J. McColm, Waveland, Shawnee Co., Kas.

PLYMOUTH ROCK CHICKENS. Eggs for hatching, from the finest breeding pens in the United States. Fowls have taken first premium wherever shown. Eggs safely packed for shipment. Setting of 13, \$2.50. Fowls for sale in the fall. Address E. W. Stevens, Sedalia, Missouri.

MISCELLANEOUS

PROSPECT FARM.—H. W. McAfee, Topeka, Kas. For sale cheap six registered Short-horn bulls, 1 to 2 years old. Also, Clydesdale horses.

OSWEGO TILE FACTORY.—H. C. Draper, Prop'r., Oswego, Kas. Best shipping facilities over Missouri Pacific and Frisco railroads. Write for prices.

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

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

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

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

Goodwin Park Stock Farm,
BELOIT, : : : KANSAS.

ABERDEEN-ANGUS CATTLE!

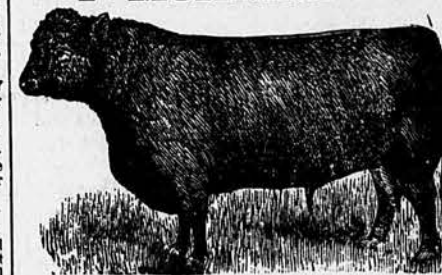
A few tip top YOUNG BULLS, at low figures and on easy terms. We offer a few CHOICE FEMALES from our show herd, for sale for the first time. Two well-bred SHORT HORN COWS at a bargain. Two standard-bred

HAMBLETONIAN STALLIONS,

at bed-rock figures. There are few better bred Trotters in Kansas. GRADE ANGUS and GALLOWAY cows at farmers' prices. Send for Catalogue.

J. S. & W. GOODWIN, JR.

F. McHARDY



Breeder and Importer of

GALLOWAY CATTLE,

Emporia, : : : Kansas.

My herd numbers over one hundred head, consisting of the best and purest strains of blood. It is composed of animals bred by the most noted breeders of Scotland—the Duke of Buccleuch, the Earl of Galloway, Thos. Bigger & Sons, Cunningham, Graham, and others. I have thirty head of young bulls, fit for service, sired by the noted bull MacLeod of Drumlanrig; also thirty high grade females of different ages that I will sell reasonably. Time given to suit purchaser, if desired.

Correspondence.

About Stud Books.

Kansas Farmer:

I am somewhat at a loss to understand the motive of "Justice's" explanation (as he calls it) of the difference between ordinary stud book—Clydesdale and those entered in the select Clydesdale stud book. Anyhow, either he does not understand the subject, or he has some object in running down the select Clydesdale.

Let me inform your readers once for all, that the select Clydesdale has admittedly an infusion of shine blood, and is recorded on prizes won in competition in the British horse shows (fairs) where the judges award the prizes by merit and not by pedigree, so that they are a superior class as a rule. The select Clydesdale men contend that as a great number of their mares have been imported and bred from in Scotland in years gone by—that nearly all if not quite all Clydesdales have more or less Shire blood in them, (this fact is vouched for by the Shire breeders and cannot be disputed,) consequently the two breeds are practically identical, it being hard to say where the Shire ends and the Clyde begins, except in the extreme types on either side. On the other hand, the fact too stands out and can not be disproved, that in time past a great number of the best Clydesdale stallions have been taken to England and used there. It is only within the last few years that this breeding by stud book has been started. Any judge of a draught horse knew at a glance if a cart horse were pure-bred, (that is, having no infusion of a light breed) by his points, etc., and pedigrees were not kept or valued except in so isolated instances as practically to amount to nothing as yet.

The Stud Book, Clyde, Shire, Select Clyde, were started so that foreign buyers might know they were buying a pure bred draught horse; that is, as I have before said, a horse having nothing but draught blood in his veins. Beyond that it is impossible for any draught stud book to go at present, excepting the Suffolk Punch Record, for Shires and Clydes have constantly in years gone by had an infusion of each other's blood; the Clydes through the Shire mares, the Shires through the Clyde stallions. The Clyde men say they intend to keep separate for time to come, the Shire do in effect, though neither care to admit that they have borrowed of their neighbor, while both accuse the other of undeniable facts afore-said in the past. The select Clyde men say "we record on prizes won," well knowing that the making of the best produces the best both for prize winning and propagating stock. I know of horses thus bred in England that are invariably prize winners wherever shown, and would be much more costly stallions to buy than an ordinary animal (as the vast proportion of the American imports are) that was merely entered in the Shire or Clyde stud book. If the managers of the New Orleans Fair refused to allow select Clydes to compete, they showed amount of gross ignorance and prejudice that one would think difficult to find among a community calling itself intelligent. When the great English shows make no such absurd limitations, for one excellent reason, the managers there have some acquaintance with the subject, which it is to be feared they have not in many instances in this country.

I may add that the Marquis Londonderry of Leham and Durham, one of the great Clyde breeders, patronizes the Select Clyde Stud Book, and that the late Lawrence Drew, the greatest Scotch horse breeder of his time, invariably mated Shire mares and Clyde stallions, his motto being "let the best win."

Allow me to state in conclusion that this letter is merely an explanation, and not one-sided statement, as I consider "Justice's" letter, and that I offer no opinion as to which class of British horses is the better, for they will all breed true to type with scarce an exception. Let every man contemplating a purchase of an imported horse, take the one he thinks most suitable for his purpose, for he may rest assured that any stallion entered in either Clyde, Shire, or Select Clyde, is equally pure draught, and will show his mark according to his individual worth, and not according to his mere

pedigree only. The collapse in the price of the "Duchess" should be a sufficient warning to the mere breeder from Stud Book. AN OLD COUNTRY BREEDER AND SUCCESSFUL EXHIBITOR.

Holstein-Friesians for Kansas.

Kansas Farmer:

W. J. Ester & Sons, of Andover, Butler county, Kansas, purchased of me two car loads of Holstein-Friesian cattle. These gentlemen made a splendid selection. I find by looking over the Holstein herd books that they now own the best bred animals of this famous breed that were ever taken west of the Missouri river. For example, they purchased the bull, Niagara, (853) H. H. B., to head their herd. He was sired by the noted bull, Captain, (546), son of the famous cow Echo, (121), the deepest milker on record. This bull Captain is beyond all doubt the best bred and most valuable bull of this breed in America, and probably in the world, the combined milk record of his dam (Echo,) and sire's dam (Aegle's) is greater by several thousand pounds than a like record of any other bull in the world. The dam of Niagara is Clover, number (11018) H. H. B. She is a fine show cow, and a deep milker. She is half sister to the noted Mercedes 3d, that sold for \$4,200. As an individual, Niagara is handsomely marked white and black spotted, and as well formed for beef as the best type of Short Horns.

The bulls that these gentlemen purchased to sell to northern farmers and dairymen, are also of noted strains. The bull Oscar Wilde (1620), now owned by this firm, is a sire of the noted cow, Anna, (80), H. H. B. She has a milk record of 97½ pounds in one day; 16023 pounds in one month. By actual test 3½ months after calving, on two different occasions, 23½ pounds of milk made one pound of butter. They also own the bull Lee Lotten. He was sired by Oscar Wilde. The dam of Lee Lotten is Fides, (126), H. H. B. She has a milk record of 86 pounds in one day. The young bull has but few equals on this continent in point of breeding, for milk and butter, as his pedigree shows. In the line of females they purchased descendants of such noted cows as Astrea (88), Leah (61), also of Aaggie and Netherland strains.

I wish to add here for the credit of this firm, that while I have sold during the past few years a great many Holstein cattle, and good ones, at the same time these gentlemen have made the best and most extensive selection of any of my patrons. With such a superior foundation herd, these gentlemen will always be in shape to take the front rank among the breeders of Holstein Friesian cattle. AMOS EDMONDS, Disco, Ill.

Two Crops of Silk Worms in a Year.

Kansas Farmer:

Those interested in the production of silk will be glad to know that two crops of silk can be raised during the season. It has been generally thought that only the annuals could be raised with profit. If we are to be a silk growing nation, we must devote the entire summer to the work. Many object to the industry because it is so short lived. By experiments this season I find it is possible to raise silk worms during a very high temperature. A crop of bivoltins raised during the heated term just past (for experiment only) matured in three weeks; in twenty-one days from the time of hatching the first cocoons were made. Usually the time of feeding is from 30 to 35 days. This is a great gain and saving of labor. After the cocoonery is prepared for the first crop, a family can go right on with the work. It is a good plan to hatch as early as the 20th of April. The young worms will live on wild lettuce, dandelion, or new rose leaves, and thus have quite a growth by the time the osage or mulberry leaves appear. Part of the supply of eggs can be kept in the cellar and hatched ten days or two weeks later; in this way a succession of crops can be had the entire summer. But only the bivoltins will produce eggs that will hatch twice; that is, the first crop of cocoons will produce moths, which in two weeks after depositing their eggs, will hatch and produce a second crop of worms. The annual silk worm will not by any means produce but one crop. The eggs will not hatch until the next spring. A

succession of crops is only had by retarding the hatching process by keeping them in a cold cellar or on ice. The latter is not advised, and has never been used by the writer, though eggs have been kept till the first of June and sent out as late as the 20th of May. But this is hazardous. They should always be transported during the winter months. The reason for this caution all silk growers should fully understand. It is clearly explained as well as all the important facts regarding the industry in the new book just published—"Silk: its History and Manufacture, with Instructions for Silk Raising." No one should attempt silk culture without it. For information, address the author, MARY M. DAVIDSON.

Junction City, Kan.

Cowley County.

Kansas Farmer:

The weather continues very dry and hot in this section, and corn and late fruits are suffering somewhat for want of rain. A light rain about one week ago, helped the corn out some, but the ears are already shortened up considerably. The ground is dry and parched, roads very dusty, and grass drying up.

The millet crop was omitted in the report of crops a short time since, and deserves notice here, as it was very heavy and abundant, being superior in quality and size of heads, height, etc., to any former crop within my notice. A large hay crop has been secured, and the quality is unusually good.

Threshing is going on throughout the county, but wheat as yet is coming in slowly, the price being low. Some plowing is being done, but the dry ground makes the work slow. REPORTER.

Winfield, Kas., Aug. 20, 1885.

Gossip About Stock.

Don't forget the fact that the Kansas City Fat Stock Show still holds the dates published. Let every one interested in the great live stock industry contribute to its success.

Local cases of hog cholera are reported in Douglas, Brown, Ottawa, Harper, Sedgwick and Lyon counties. In very many cases the disease has been traced to stockers shipped in from other States.

Kinsley Mercury: J. A. Bostwick weighed six thoroughbred Shropshire-Down May lambs Wednesday that tipped the beam at 500 pounds. They are probably as good as can be found in this State.

Salina Herald: Frank Shaw sold his celebrated horse, Lord Blantyre, last week, to Powers & Nelson, of Ellsworth, for \$3,500. Lord Blantyre was one of the best horses in Saline county, and his sale and removal to Ellsworth is to be regretted.

It is said that "when Maud S. trotted a mile in 2:00¼, she moved forty feet ten and five-sixteenths inches every second. Her ordinary stride is seventeen feet, but, assuming it to be twenty feet, each hind foot would touch the ground at least twice every second."

An exchange very sensibly remarks that when a man is selling his stock at public auction—selling stock bought on speculation, perhaps—he ought not, if the attendance is good and of the right sort, to complain if the public should fail to endorse his speculation by giving him an advanced price.

W. W. Waltmire, the Secretary of the Kansas Chester White Swine Breeders' Association called at this office and gave notice that a meeting of the State Association would be held on September 10, during the Western National Fair at Bismarck. Particulars will be given at the Secretary's office.

Michael Brothers, Bloomington, Ill., purchased sixty-one cattle at Hutchinson, Kas. Since that time nearly thirty head have died with the alleged Texas fever. The cattle became infected, evidently, while being shipped, as there has never been any Texas fever in Reno county, the place from which the cattle were shipped.

Wichita Eagle: Mr. George Rock tells the following story about hog cholera and a remedy he found out: "We got a lot of hogs and they all took sick and died. Some time after a man came to our shop and gave us the following directions for a cure and preventive: 'Take a kettle of corn and water, put in a pailful of unslaked lime and let it

s and about twenty-four hours, then feed the corn to the hogs and scatter the lime about the enclosure where the hogs are.' We tried this," said Mr. Rock, "and never lost a hog since."

Junction City Republican: O. B. Heath weighed his Cruickshank heifer Gladys last Monday, and she pulled the scales at 1,100 even. She was two years old June 5, and is a beauty. She is a straight Cruickshank, her father and mother both being imported animals. Burnham Bros. have spoken for her first calf if it is a heifer. The consideration is to be \$400.

M. D. Covell, Wellington, Kas., places his card in this week's paper. Mr. Covell has been a breeder and importer of Percheron-Norman horses for fifteen years in Ohio. Two years ago he moved to Sumner county with his establishment and now has on hand acclimated horses, which he believes to be as good as this or any country affords. The FARMER wishes the establishment success.

Duncan's Monthly: It is said that "the Dwyer Brothers, of Brooklyn, New York, paid out over \$35,000 in cash for yearling thoroughbreds purchased at the recent sales in Kentucky. Five years ago these men were running a butcher shop in Brooklyn, and when they purchased their first race-horse their moral and financial ruin was predicted by their friends, many of whom tried to dissuade them from the venture, but all their talk was of no avail. The Dwyers have been successful turfmen, their present fortune being estimated at \$250,000."

Kansas Farmers' Mutual Insurance Co.

We were shown to-day a very neat "sticker" gotten out by the Kansas Farmers' Insurance Company. It represents a full-blown sunflower, and surrounding it the legend, "Insure in the Kansas Farmers' Insurance Company," etc. This design has been adopted by the company as their trademark, and is emblematic of their rapid growth as a company. To those who are familiar with the characteristics of the sunflower (and who in Kansas is not?) its appropriateness is striking. The growth of this company in the short time it has been organized, and with the innumerable obstacles it has had to contend with, is not less marvelous than that of the stately sunflower. In three years it has attained a substantial and enduring foothold in our State scarcely second to that of most of the old companies that were started before the managers of this company were born. It has written over two and one-half millions of insurance, has paid every just loss they have sustained, and with assets of over \$120,000, take rank with companies doing business in this state, and are second to none.

Being a local institution, we should feel a just pride in their success, and help to foster and build up an institution that cannot fail to be of incalculable benefit to our county and State.—Abilene Daily Gazette.

Topeka Stock Yards Sales.

The representative sales of live stock at the Topeka stock yards for the week ending Saturday, August 22, are as follows: The sales were light for all kinds of stock except fat cattle. Calves sold at 5 cents per lb.; sheep that averaged less than 100 lbs. sold at \$2.75; ninety-two hogs, averaging 280 lbs., sold at \$4; stockers averaged \$26.25; four ponies averaged nearly \$60 each; sixty-seven fat cows, ranging from 900 to 1,000 lbs., sold at from \$2.70 to \$3.25.

Broomcorn!

Any farmer having a crop of broomcorn will be kept fully posted in market prices by addressing Hagey & Wilhelm, Broomcorn Commission Merchants, St. Louis, Mo. This firm has made broomcorn a specialty for years, and shippers are guaranteed quick sales and prompt returns.

Don't forget the fact that the State Fair of Kansas is to be held at Peabody next week. Every one that can should attend and encourage the enterprise of the attempt of a vigorous local society to hold a State Fair this year. Reduced rates on the A., T. & S. F., and numerous attractions for everybody.

We call special attention of our readers to the advertisement of Geo. T. Gilmore in this number—"Jersey Calves to Exchange for Milch Cows."

The Farmers' Union.

Below we publish the constitution and by-laws of the Farmers' Union of Ellsworth county, Kas., referred to in a letter printed last week:

PREAMBLE.

WHEREAS, It is the conviction of the farmers of Ellsworth county, that they are not realizing in due measure the profit that should accrue to them as the result of their industry and toil.

WHEREAS, It is their conviction that singly and alone they cannot successfully oppose the influences and factions which combine to lessen materially their profit and their property.

WHEREAS, It is their sentiment that much mutual profit may be derived from an association, whereby they may have opportunity for the interchange of experience, and the discussion of matters relating to the practical affairs pertaining to their vocation.

Therefore be it Resolved, 1st, That the farmers of Ellsworth county, do hereby form an Alliance, whereby their influence as a body may be felt and whereby their mutual benefits may be subserved.

2d. That in forming this Alliance, it shall be so constructed that other like organizations, in other counties, (should opportunity serve) may spring from and be affiliated with it.

3d. We enter upon this Alliance with the determination that it shall be made a success.

4th. That for these purposes we do adopt the following constitution and by-laws.

CONSTITUTION.

ARTICLE 1. This Alliance shall be known as the Ellsworth County Farmers Union.

ART. 2. The officers of this Association shall consist of President, Vice President, and Treasurer, who shall perform the duties usually required of such officers, and shall be elected by ballot at the first regular meeting, in January and July of each year, and shall hold their offices until their successors are elected.

ART. 3. There shall be an executive committee of seven members, of which the president shall be chairman. The committee shall be elected at the same time as other officers.

ART. 4. Any person engaged in farming or stock raising may become a member of this association by signing the constitution and by-laws, and paying to the treasurer the fees required.

ART. 5. The regular meetings of this association shall be on the fourth Saturday of each month.

ART. 6. Special meetings can be called by the president and secretary, or by a written request of five members.

ART. 7. This association may at any time be incorporated for the purpose of owning and selling property, and also making and negotiating loans.

ART. 8. Each member shall be entitled to but one vote on any business coming before the association.

ART. 9. This association shall have power to create subordinate associations in any part of this county, to be governed by the constitution and by-laws, as herein adopted, and can co-operate with like associations in other counties in this State.

ART. 10. This constitution may be altered or amended at any regular meeting, by proposed amendment having been presented in writing at some previous meeting, and must receive two-thirds of all the votes present.

ART. 11. A quorum shall consist of fifteen members.

BY-LAWS.

ARTICLE 1. The hour of meeting shall be 1 o'clock p. m.

ART. 2. Each proposed amendment to the constitution must be published in the county papers, at least two consecutive weeks before being acted upon.

ART. 3. Any person by paying fifty cents and signing the constitution and by-laws, can become a member of this association during the first six months of its organization.

ART. 4. The sessions of this association shall be held with closed doors; open sessions may be held by a vote of the members present. Before the session is called to order the president shall appoint a door-keeper.

ART. 5. Any member of this union may propose a candidate, if accompanied by the required fee; or any farmer may make application to the secretary, if accompanied with the fee, at any time. All applications must be acted upon at any regular or special meeting, and if elected by a majority vote of the members present, he shall be declared by the presiding officer duly elected.

ORDER OF BUSINESS.

1. The president having taken the chair at the hour of meeting and called the meeting to order, the roll of members shall be called. If a quorum be present, the secretary shall then read the proceedings of the previous regular and also special meetings.

2. Approval of the secretary's report.

3. Members proposed, elected and admitted.

4. Report of standing committee.

5. Report of special committee.

6. Report of office committee.

7. Reading of communications.

8. Introduction of subjects and discussion of the same, including questions and motions.

10. Adjournment.

RULES OF BUSINESS.

1. Every member rising to debate or present any resolution, motion, notice or report, shall address the presiding officer, and shall

not proceed until recognized by the chair. No member shall speak twice on the same subject unless permission is granted by the chair.

2. When a member shall be called to order he shall sit down until the point of order is settled.

3. All motions shall be reduced to writing if desired by the president.

4. No person shall occupy the floor more than five minutes at one time unless permission is granted to do so.

What I Know or Don't Know About Tame Grasses.

James Myers, of Reno county, writes as follows to the *New Rural*:

I will first mention my experience with tame grasses in the northeastern part of the State. In 1849 I landed in Doniphan county, this State, then a territory. For many years we could not make a success of raising tame grasses. This conclusion was arrived at without giving it a fair trial. We concluded to make an effort in that direction. In the year 1867 or 8, we sowed ten acres of timothy and clover, which proved successful. This encouraged others to try the experiment with like success, until now every farm is more or less covered with timothy and blue grass.

In 1881 we came to Reno county, Lincoln township, where we now live. Among the first and best things we did, was to sow about thirty acres of timothy and clover. The people laughed at us and said it was money and labor lost, that it had been tried often and failed every time, but we went on the try, try again principle. How well we succeeded let some of the land agents in Hutchinson tell, who, when they had a customer from the East that was doubtful about raising tame grass, would bring them out to our place and let them see for themselves, which was about all that was necessary on the grass question.

We have sown more or less grass seed every year since we have been here, and have met with almost universal success. We have now about seventy acres of timothy meadow and forty acres of clover, two of alfalfa and four acres of orchard grass. A part of the timothy we have mown three times, and it is still good. In a word, we have succeeded with timothy and clover far beyond our expectations.

We will now give our method of sowing timothy, clover and blue grass. We have nearly always sown timothy with wheat in the fall. Sow with grass seeder attached to grain drill. We sow from five to six quarts per acre. The ground should be well prepared by harrowing. The seed should be clean and fresh, that is this year's growth. Old timothy seed as well as old blue grass seed, is very uncertain to grow. Now, if you sow your seed as above mentioned, you will be about as sure to get a stand of grass as you will of wheat, and perhaps better. Another way we have sown timothy, is to plow the ground, pulverize it well, and sow as above mentioned, but put no wheat with it. It should be sown, when sown alone, in August. You can then cut a good crop the first year.

We will now say a word for clover, as that is a favorite. We think the common red clover the best. It makes fine pasture, grows fast, starts early in the spring, makes a good crop of hay, and a crop of seed in the fall; while we can take two crops off in one year, it don't impoverish the ground, but makes it richer every year. It don't winter kill in this country. If you get a stand once you have it years and better every year. Sow lots of clover.

In regard to blue grass, we think it is pretty generally conceded to be well adapted to this county. We have it growing in our yard, and find it starting all over timothy meadow. We have no doubt it will soon spread all over this county.

We have not had much experience with orchard grass, but from observation, we are satisfied it is well adapted to this county. We have seen our neighbors sow it among trees and sand burrs. One grand thing about it is that it starts very early in the spring and remains green very late in the fall, hence is of great value for early and late pasture. We would recommend sowing it freely.

We have had some experience with alfalfa, or California clover, but can't recommend it in this county.

If these imperfectly written lines should be the means of encouraging the sowing of tame grasses we will be well pleased.

Everybody's Air-Brake.

"Yes, sah," said Uncle Zach, "I've watched it forty years an' its as I sez: De fust of May an' Christmas day of de same year allers comes on de same week day."

Further conversation proved Uncle Zach a most incredulous person. Chancing to mention Dr. Carver's feat of breaking glass balls with a rifle, he said:

"I heerd 'bout dat shootin' and knowed right off it wasn't squar'; dat was a Yankee trick, boss, sho's you born."

"What was the trick?"

"Dar wuz loadstone put into de glass balls, an' likewise onto de bullets; so when de bullet fly outen de gun, it an' de ball jes drawed togedder, which, in course, brokes de glass—dats de trick!"

Later, Uncle Zach observed a rope running along the side of the car.

"Boss, what's dat line fur?"

"To apply the air-brake in case of accident." Then we had further to explain how the force of the brake was obtained, to which Uncle Zach responded:

"Look a here boss, you sholy don't 'spect me to b'leeve dat foolishness? Why, de biggest hurricane whatever blowed couldn't stop dis train, runnin' forty mile a hour. An' you think I gwine to b'leeve a little pipe full of wind under de kyars can do it? No, sah-ree!"

There are a great many Uncle Zachs who judge everything simply by appearances. The air-brake does not seem to be a very powerful thing, but power and efficiency are not necessarily equivalent to bigness and pretense.

Philip Beers, Esq., who resides at the United States Hotel, New York city, and is engaged in raising subscriptions for the New York *World* Bartholdi pedestal fund, was once upbraided by a distinguished relative who was a physician, for commending in such enthusiastic terms, a remedy that cured him of bright's disease eight years ago. He said: "Sir, has the medical profession with all its power and experience of thousands of years, anything that can cure this terrible disorder?" No, no, that is true, there is no mistake about it but that Warner's safe cure is really a wonderfully effective preparation. That remedy is an "air-brake" that every man can apply and this fact explains why it has saved so many hundreds of thousands of lives.—Copyrighted. Used by permission of *American Rural Home*.

Book Notices.

THE MODEL COOK.—This is the title of a neatly-printed and bound book of 120 pages, devoted to the art of cooking. It is a compilation of useful recipes prepared for every department of cookery, and concludes with a "Bill of fare for each day in the week." Published by Orange Judd Company, 751 Broadway, New York.

The *Dorcas* for September has been received, and we find it steadily improves. The editor (a woman of great ability) and the publishers strive to please their patrons and spare no expense to fill its pages with good and thorough instructions in knitting, crocheting and embroidery. All the designs that are not original come from abroad, thus making it a magazine worth having in every household, as the same directions are not found elsewhere, and will all be found explicit and correct. In each number we find new novelties in every line of fancy work, and have decided that *Dorcas* is the best magazine of its kind in existence. Its subscription price is only \$1 per year and 10 cents for single copy. We advise all to send for the latter, without fail. Address, *Dorcas*, 872 Broadway, New York.

"Grant's Memorial: What Shall It Be?" is discussed in the September number of the *North American Review*, by Launt Thompson, Karl Gerhardt, O. L. Warner and Wilson McDonald, sculptors; W. H. Beard, painter; Calvert Vaux and Henry Van Brunt, architects, and Clarence Cook, art critics. This symposium is sure to attract wide attention at this time, when the desire is so general to erect a monument to Grant that shall be worthy of the man, the nation, and American art. The same number of the *Review* contains a consideration of the question, "Shall Our National Banking System be Abolished?" by George S. Boutwell, F. J. Scott, S. Dana Horton, and Edward H. G. Clark. "Ouida" contributes an essay on "The Tendencies of English

Fiction," and Elizabeth Stuart Phelps writes on "The Great Psychical Opportunity." But the most readable article in the number is ex-Sergeant at-Arms French's "Reminiscences of Famous Americans," which is a series of delightful anecdotes about the famous war Senators. Mr. French is writing a book of these reminiscences. If it equals this forestallment in the *Review*, it will be one of the famous works of modern literature.

There are few Northern men in better position to give "Impressions of the South" which the general public will welcome, than Mr. Charles Dudley Warner, who will record the results of a recent journey of observation in the South in the September *Harper's*. He is known not only as an essayist, but as one of the editors and proprietors of the *Hartford Courant*, Senator Hawley's paper. Mr. Warner feels sure that "Louisiana, for instance, was never, in its whole history, so consciously loyal to the United States as it is to-day." "For the past ten years there has been growing in this country a stronger feeling of nationality—a distinct American historic consciousness—and nowhere else has it developed so rapidly as of late at the South. I am convinced that this is a genuine development of attachment to the Union and of pride in the nation, and not in any respect a political movement for unworthy purposes. I am sorry that it is necessary, for the sake of any lingering prejudices at the North, to say this. But it is time that sober, thoughtful, patriotic people at the North should quit representing the desire for office at the South as a device to get into the government saddle and ride again with a 'rebel' impulse. * * * The South has entirely put the past behind it, and is devoting itself to the work of rebuilding on new foundations."

Inquiries Answered.

PAPER MILL.—There is no paper mill now running in Kansas. At least that is our understanding. Paper was made in Lawrence some years ago, and we think in Leavenworth, also.

TESTING MILK.—In reply to a query on this point, we copy from the *Planter and Stockman*, of St. Louis: "Procure a long vessel—a cologne bottle, or a long phial. Take a narrow strip of paper, just the length from the neck to the bottom of the phial, and mark it with 100 lines at equal distances, or, if more convenient, into fifty lines, and count each line as two, and paste it upon the phial so as to divide it into 100 equal parts. Fill it to the highest mark with milk fresh from the cow, and allow it to stand in a perpendicular position twenty-four hours. The number of spaces occupied by the cream will give an exact percentage in the milk without any guess-work. Every creamery ought to have a hydrometer. They are cheap and valuable. In making tests with this instrument recollect: 1. That good new milk has a specific gravity of 1.030. 2. That skimmed milk is a little more dense, being about 1.034. That milk which has a specific gravity of 1.025, or less, is either mixed with water or is naturally very poor. 3. That when milk is deprived of about 10 per cent. of cream, and the original volume is made up by 10 per cent. of water, the specific gravity of such skimmed and water-milk is about the same as that of good new milk; this circumstance, however, does not constitute any serious objection to the hydrometer or lactometer, as milk skimmed to that extent cannot be mixed with water without becoming so blue and transparent that no instrument would be required to detect the adulteration. 4. That when unskimmed milk is mixed with only 20 per cent. of water, the admixture is indicated at once by the specific gravity of about 1.025. The old woman's test is the knitting needle inserted into the body of the milk perpendicularly. If the milk adheres well to the needle, it is good milk. If it does not, it is thin or watered milk."

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The Home Circle.

The Pioneer's Wife.

She stood in the doorway one sultry morn,
Her brain was sick and her heart forlorn;
The house was little and plain and bare,
And the buzzing flies were everywhere;
Through the shutterless windows stared the sun
On the breakfast dishes, unwashed, undone;
The whitewashed walls were rude and rough,
A box, with a curtain of homely stuff
For a cupboard, apart in a corner stood,
And the breakfast board was uncovered wood.

Hot in the shine of a summer's day
The treeless plain stretched miles away;
Making the joyless scene more drear,
Two little graves formed hillocks near,
But for the cactus' friendly bloom,
A shadeless and a flowerless tomb;
No music of water enlivened the morn,
Only the ditch that watered the corn,
Whose tide moved on with a lazy roll
That had no power to stir the soul.

Brushing away the falling tear,
"God help the wife of the pioneer!"
Burst from her lips—when lo! a breeze
Rustled the shining emerald leaves
In the cornfield near. The poet's soul
In the woman made an angel's scroll
Of the happy sound, and thereon, plain,
She read her life's young song again;
The ancient house and the apple trees,
The dewy clover and humming bees;
The rushing brook and the peaceful shade,
Where fitting birds their dwellings made,
The hills, the rocks, the mosses too,
The moonlight where the pine trees grew,
The lover's nook by the trusting tree,
The echo spot, where sounds of glee
Spoke to the hills of flying hours
That mortals spend in youth's bright bow-
ers.

When no funeral train has passed the gate
And no heart has learned to bear and wait.

A peaceful smile o'er her feature's stole
While the picture cheered her burdened soul
And her thoughts flew on to the meeting
place.

Brightened with more than earthly grace.
She knelt in the doorway; this little prayer
Stirred the waves of the heavy air:
"To soothe the pain of the soul's earth strife,
Thank God for the hints of the better life!"

And the breeze through all that sultry morn
Rustled the leaves in the fields of corn.

LETTERS TO COUNTRY WOMEN.

Number 1.

MAKING ONE'S SELF COMFORTABLE—DRESS, STOCKINGS AND SHOES.

Women who live in the country are often heard to contrast their lot rather disparagingly with that of city housewives. They complain that their work, especially during the warm season, is much harder, their hours of labor longer and their social and religious privileges far less. They say that here in the West, the majority of them have but few household conveniences and that their work involves such hardship and exposure as to make them permanently faded, decrepit and old.

That there is justice in these complaints I can testify from both experience and observation; but at the same time I do not acknowledge a necessity for the conditions that give rise to them. I believe it lies in the power of farm women to make their lives easier, happier and healthier. You worry and fret, but you make no effort to ameliorate your situation or to so adapt yourselves to it so as to lessen the friction. For instance, although nearly all of you milk cows, work in the garden, feed calves and raise poultry in addition to the regular labors of the household, I do not believe there are fifty women in the whole State of Kansas who have sense and independence enough to wear a dress suited to their work. You go dragging about in long skirts which the wind whips and winds around your limbs, hindering your every step. You climb up and down the cellar stairs laboriously carrying your superfluous calico in one hand, making two journeys where one would suffice were you properly clothed for your business. Very soon after beginning my career as a farmer's wife I discovered the necessity of economizing my very scanty stock of strength. I found that there was no way in which I could do this so well as by wearing the short dress and loose trousers. It was so great a help that I may safely say I could accomplish twice as much work in my short dress as when wearing the customary long skirts.

Yet when I expatiated upon its advantages to my neighbors they would sigh over their lame backs and say—"O, yes, it must be very nice and it looks real cute on a little woman

like you, but I should be a fright in bloomers." If they could have realized what frights they already were in their limp, bedraggled, frayed-out gowns, they would have known that they had nothing to lose but possibly something to gain by the exchange. None but a hopelessly ungainly woman need look awkward in a properly-made short dress. For a summer suit nothing is more satisfactory than one of the neat domestic gingham that are now so cheaply sold. It can be cut by a plain polonaise pattern with considerable fullness, either plaited or gathered into the back just below the waist line. The skirt should descend four or five inches below the knee and be completed with a wide hem or a ruffle two inches deep as taste may dictate. Or, an abbreviated Mother Hubbard may be worn belted at the waist. The trousers should be made to reach the heels and gathered at the bottom to a loose band which is to be buttoned and drawn up on the ankle to the height of the boot top. Newport ties and well-fitting dark stockings set off a neat foot and ankle to great advantage with the trousers drawn up to the same height as if boots were worn.

The underclothing suitable to be worn with this dress is, first, a cotton gauze vest in place of the useless chemise. Women are now quite generally discarding the latter—it was always a stupid, clumsy garment, and with the knit underwear and corset covers now worn it is simply useless.

Over the vest should be worn an easy-fitting corset with shoulder-straps and stocking-suspenders attached. A colored skirt a little shorter than the dress skirt completes the outfit, and you have a costume in which the weight and thickness is evenly distributed over the person, and which gives perfect ease and freedom to every muscle and is at the same time tidy and modest.

In addition to two or three bloomer suits, every woman and girl who lives on a farm ought to have a gossamer rubber cloak and a pair of rubber boots. I wonder how many have them. Not one in ten I venture to say, and yet they ought to be regarded as indispensable as a protection to both health and clothing. Scores of times I have been soaked to the skin and taken an awful cold running out in a Kansas deluge to gather in the chickens. Used to gather vegetables and fruit in the cool of the morning and come in wet to the knees with dew, and go limping around with sciatica in consequence. It never occurred to me that I could wear rubber goods just as well as a man. But ever since I discovered their value a waterproof cloak and pair of boots have had a place in my wardrobe. In buying these goods great care should be taken to select the best, for the market is filled with worthless imitations which will hardly outlast a single wearing.

A source of discomfort to women who are much on their feet is badly-made stockings. Never buy from motives of economy cheap hose with seams in the feet. They produce constant pain and often, in course of time, corns and bunions. Regular made hose which fit smoothly upon the feet cost a trifle more but will last two or three times as long, to say nothing of the superior comfort of wearing them. And yet very many well-to-do country women will buy the clumsy, slazy sort for themselves and girls for the reason, as they say, that "we wear out so many we can't afford better ones." But don't do it. If your country merchant does not keep good hose at a reasonable price, send to some large city for them. Excellent unbleached Balbriggans may now be bought for 25 cents a pair. And pay some attention to the fit of your shoes. A close-fitting shoe that conforms to the shape of the foot will always prove most comfortable to wear. A stiff, loose shoe that chafes the foot in walking, is quite as bad as one that pinches. Many country women will buy a pair of shoes without trying on; if they fit, well and good; if not, there is a season of wry faces and groaning till they are worn out and the same random performance is repeated. A town lady never does that. She may pinch and punish her feet, but it is done to gratify her pride and not from carelessness. We rural folks are too careless both of our comfort and our looks. We have a foolish notion that it looks vain and effeminate to take pains to preserve ourselves in health and beauty. Many of us actually make a merit of misusing ourselves. No sin against the body ever goes unpunished. Nature is a

most vigorous and exacting creditor. Sometimes, it is true, she allows us to run up a long account before she renders her bill, but when she gets ready to present it, payment must be forthcoming. And it is made in aches and groans and sighs of which the hard old dame will not remit one. So it would seem best not to get in her debt more than we can help.

GRISelda.

Sympathy, and How to Express It.

We search the lives of great men and women, admire the works they have left behind them, and wish we could do something for the world and its people. Now I think that God has a work planned for every human soul he creates; we often grasp blindly after it; in fact, some never find a mission—their strength is spent in absorbing, they never dispense, consequently they are failures. Just as the sun dispenses light, so can the soul give of its goodness and knowledge. Once get into the lives about you and you will find that "What is good for the hive is also good for the bee." It is a good idea to get out of and away from ourselves. We hear much now-a-days about "self-culture." It says "Make the most of your powers;" it does not add "for others' sake as well as your own." Don't you know there is an "active and passive sympathy?" One sits still and wrings the hands and cries "What can I do? I am so sorry; I can see nothing to do, but I am truly sorry." The other, instead of tears and cries, takes hold and does for suffering humanity. What if the night is bitter cold and the wind howls, we sit by our comfortable fire, and say "God help the poor; it must be terrible to be without fire such a night as this." Does that expression make anyone warmer? We sit in our cool room when the thermometer is up among the nineties, and the least little breeze sifts through the screens and moves the curtain and fans our cheek, and we think how comfortable it is here with a book and fan; then comes the thought of those thousands of women and children cooped up in large cities, dying for fresh air and blue sky and green grass, little children who never saw a flower growing, or picked one. Poor little blue skeletons! May Heaven bless those noble men and women who yearly send so many into country homes, giving them a little idea of what life can be.

It is not the great things—life is made up almost exclusively of little things. If you want to know people you must get near them; "go down to their level and bring them up to yours." When Christ walked upon earth and taught and healed, He did not stand a long way off—He laid his hands on them. Some are so situated that they cannot do much; temperament, education, ill-health, may conspire against ambitious schemes. "The ladder leading from earth to Heaven is not made of wooden rungs, or of cold senseless material." We are all dependent creatures, each busy heart feels its wants and reaches out for help. We cannot all have large fields of labor, nor all be great workers, but all around us is some one to smile at; a gift of a book or flower, an offered chair, the turning of a window blind, a pleasant word, the little opportunities to do good will fill our time at home or abroad. "And when it is all over, and our feet will run no more, and our hands are helpless, and we have scarcely strength to murmur a last prayer, then we shall see that instead of needing a larger field, we have left untilled many corners of our single acre, and that none of it is fit for the Master's eye were it not for the softening shadow of the cross."

"It isn't the world-praised wonders that are best in our Father's sight. Nor the wreaths of fading laurels that garish Fame's dizzy height. But the pitying love and kindness, the work of the warm caress. The beautiful hope and patience and self-forgetfulness. The trifle in secret given the prayer in the quiet night. And the little unnoticed nothings, are good in our Father's sight."

—Household.

Nursery Government.

Frightening children is a sin of life-long consequences. It is not now indulged in to the extent that once prevailed, but it is still altogether too common, and will be reprehensible so long as one instance remains. The executive branch of nursery government must usually bear the responsibility for this great wrong. Mothers, the attendants of children, and others who undertake to regulate their conduct, ignorant of the true method of government, save labor and do the matter up quickly by terrifying the timid youngsters into obedience. In the vagaries of maternal government, endless prohibitions are announced, and, in the case of many mothers, their enforcement is only a question either of bodily punishment or of playing upon the fear of the child; and while love commands the avoidance of the infliction of physical pain, even brief, it does not realize the long mental pain that comes from terror.

The little child runs out of the house to play upon the grass, perhaps, and the mother, who has forbidden this a score of times or more, thinks of that interesting, useful and harmless creature that has awakened the child's curiosity and craving for knowledge, the toad, and horrifies the child with an account of the dangers of being near the animal. The effect of this inexcusable deception is far reaching, though it does not accomplish even what the mother intended. The object is to keep the child at the mother's heels, but the little one is just as likely to stray as before. The child, however, will be kept from going where toads are for many

years, the very places where children should play and lay the foundations of that robust health, without which life cannot be happy. Moreover, the child, who is a loving investigator of nature, is repelled from one of its creations that is commonly found very interesting in early age; and still again, the child is given a fear—a horror, perhaps—at the sight of the toad that lasts for years, and even when sense comes with age an antipathy is likely to remain. We are not pleading that toads be given to children for playthings, but there is no reason why children should not be told all about them, truthfully, and be allowed to watch them. The case, however, is mentioned by way of illustration, as typical of many others, and was brought to mind by the conduct of a certain mother who has so frightened her little girl about toads that the poor little thing runs and screams in an agony of terror at sight of the harmless, hopping animal.

The monstrous, horrible lies that are told children to make them obedient by working upon their fears are numbered by scores. Such children are easily identified, for they are almost paralyzed when they see the strangely crawling snake; a rat or a mouse, of interesting habits, may set them into convulsions; that charming feature of the country, the woodland, where many a happy hour may be spent, is the home of bears that live on innocent little children; that interesting object, the worm, about which Darwin wrote a whole volume, causes a shudder of repulsion; and various other creations of nature that children love to be told about become sources of the keenest pain. We once knew a mother who tried to govern her children by telling them that "the old man will be after you;" in consequence of this, in fear and trembling, they shunned all old men—those fellow beings of ours who are particularly fond of children. Young people grow out of some of these fears in time, but many of them haunt them through life. The most lasting of these are caused by peopling darkness with ghosts, hobgoblins and dangerous men, thereby filling with terror the darkness of night, whether outdoor or in the unlighted room of a house.

When the enormity of all this deceit is realized, it seems horrible that little innocent children should be made to suffer so keenly for many years, and this, too, at the hands of loving mothers and friends. There is a mine of interesting knowledge in nature for the young folks, who have a thorough love for it, if unexpressed, but deceive them, lie to them, fill them with agonies of fear, and the works of God become failures, if not afflictions. Association with nature, which should be highly pleasurable, becomes repulsive, and the perpetrators of these great wrongs, must fall in the honor and esteem of the victims when they arrive at the age at which they shall pass judgment, realize the deceit, and discern the origin of the still lingering fears.—Good Housekeeping.

In Sumatra there is a very singular race called the Kubus, who are too shy to mix with the other races of the island, and dwell in the recesses of the forests. They are looked on as inferiors by the Malays, and thought to be little better than beasts. Such is their shyness that they will never willingly face a stranger. Their trade with the Malays is consequently carried on in a strange manner. The trader announces his arrival by beating a gong, and then retires from the place of rendezvous. The Kubus approach, put their forest treasures on the ground, beat a gong and retreat. The trader returns and lays his commodities down in quantities sufficient, as he thinks, for the purchase of the goods on sale. Then he retires, and the Kubus reappear and consider the bargain. And so, after more withdrawals and approaches and gong-beatings, the respective parties come to an understanding, and carry off independently their bargains. The Kubus in their wild state do not bury their dead. They live on snakes, grubs, fruits, and the flesh of any deer or pigs they can slay. They are skillful spear-men, and throw stones with marvellous accuracy. They know of no state after death. In some physical respects they assimilate closely to the anthropoid apes.

Fun Facts and Fiction.

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The Young Folks.

Does Any One Care for Father?

Does any one care aught for father?
Does any one think of the one
Upon whose tired, bent shoulders,
The cares of the family come?
The father who strives for your comfort,
And toils on from day unto day,
Although his steps ever grow slower,
And his dark locks are turning to gray.

Does any one think of the due bills
He's called upon daily to pay,
Milliner bills, college bills, book bills,
There are some kinds of bills every day;
Like a patient horse in a tread-mill,
He works on from morn until night;
Does any one think he is tired,
Does any one make his home bright?

Is it right, just because he looks troubled,
To say he's cross as a bear?
Kind words, little actions and kindness,
Might banish his burden of care.
'Tis for you he is ever so anxious,
He will toil for you while he may live;
In return he only asks kindness,
And such joy is easy to give.

Locomotives in Hospitals.

By far the most interesting building of the Pennsylvania Railway repair shops on the meadows between Hackensack and Jersey City, is the round house, where stalls are provided for forty-one locomotives, aside from the three entrances, which can be utilized at a pinch. Engines in all manner of undress costumes are resting in these stalls receiving a respite from their arduous work. One of them, a freight, is just in from the line to have her sand box repaired, and will return to her labors in an hour's time. Another, known as the "P" class, which constitutes the heaviest engines run on the road, is stripped bare of all its exterior arrangements, and even to its five foot-eight drivers, and its 18½ by 24 cylinders; its identity is only known by a common chalk mark on its naked boiler, 1059. This is one of the engines that hauls the bulky southern and western mail trains, and was constructed especially for that purpose. Its weight, equipped for service, is fifty tons, or four tons heavier than the "K" engine 317, which stands undressed near it. The latter, with its long legs—its drivers are six feet six inches in diameter—appears to be more weighty, but the former makes up the difference in length of its boiler and the size of its cylinders. Hard by are several other passenger engines known as the "A" class, whose numbers run from 1030 to 1045, and whose weights average 45½ tons. These are the most popular engines on the road, and can steam, work and run better with eight or ten cars than any other class. Many of the locomotives are now in the shops receiving a slopping fire box instead of the old-fashioned flat surface. The new style of box rests upon the frame of the engine, allows eight inches more of heating space, and lessens the chances of spreading the wheels by close proximity to the fire box. Thus far only twelve engines have been furnished with the new arrangement, but so soon as the half dozen locomotives that are now being put into shape for the Long Branch route are out of the way, the innovation in heating will be extended to others.

Among the engines that will leave the shops this week, is the historical 658, which established its record in July, 1881, on the day Dr. Frank H. Hamilton was summoned to Garfield's bedside. At half an hour's notice it whirled the special train from Jersey City to Philadelphia in one hour and thirty-eight minutes, including one stop and several slow-downs. And again in the following September, when Garfield was taken to Elberon, 658 was detailed to haul the special train; and two weeks later, 658 began the mournful ride which, starting at Elberon, ended at Cleveland, Ohio. Last year 658 was put in charge of Engineer McLean on the Long Branch limited express, and ran 124 miles every day for twelve weeks in a few minutes over three hours, including eight stops. In September she went to the shops for a thorough overhauling, and has been there ever since. Next week 658 will resume its old trips, under its old engineer. This engine is one of the lightest on the road. It weighs only thirty-nine tons.

"How often is an engine in need of repairs?" was asked of one of the head mechanics.

"That is dependent as much upon the engineer as upon the engine itself. For instance, some engineers handle an engine very carefully and easily, while others pound them to pieces in quick order. The fast express engines suffer the most. The wear and tear upon them is beyond the comprehension of the ordinary passenger. For instance, an engine is sent to the shop for slight repairs, say her tire has worn down. Very often that will lead to the readjustment of her motion work, and a thorough renovation of all her parts follows. We ought to get 50,000 or 60,000 miles out of an engine before she requires complete overhauling. There have been exceptions, where a locomotive has run 70,000 miles without the need of a single repair beyond the kind that the engineer himself can attend to; on the other hand, some have been returned here with a record of only 40,000 miles."

"How do you account for the discrepancy?"

"It runs in the metal altogether. One

piece of steel will not yield to dynamite. Another will succumb to a pressure of fifty pounds to the square inch. Science, experience and brains have not as yet been able to overcome the metal while it is in this fickle and capricious condition, or to explain why it is so."

A short distance off was a locomotive graveyard, where a row of dismantled engines gloomily stood awaiting the railway charon to consign them to oblivion. They were regular old-timers, and were doubtless looked up to by our fathers with feelings of awe and veneration for hauling them over to Philadelphia in the "unprecedented time of four hours, stopping at all the principal stations." The sight of this melancholy procession suggested another question.

"What is the average life of a locomotive?"

The guide laughed. "Railway experts differ radically upon that point. The life of an engine ought to be taken from the work it does—its mileage. We base here all our expenses upon mileage. But there are other contingencies, such as the durability of the metal and the man who drives. If two engines of the same class are taken, duplicates in every respect, and one is put on a slow train on a small branch road, with nothing to do but draw three or four coaches, and the other is assigned to a fast express on the main line with ten or twelve cars, both performing the same daily mileage, which one will live the longer?"

Since the company has straightened out curves between Philadelphia and Jersey City, the speed of trains has been increased. Scarcely a day passes that some train does not run between the two cities, ninety miles, in 100 minutes, and very little attention is paid to it. In fact, the great mass of travelers are in contented ignorance of the high speed. The quickest time on record going West, was made on the night of May 6, when Mme. Fursch-Mad's special train which consisted of engine 953, in charge of driver F. B. Jones, one coach and a parlor car, the latter for ballast, ran from Jersey City to Philadelphia in one hour and thirty-two minutes, exclusive of a five minute stop at Trenton. This almost equals the fastest recorded time coming East, made by Engineer Osmund with locomotive 724, which made the trip in ninety-three minutes, including two full stops and three slow-downs.

Trying to Lasso a Sea Serpent.

Mr. Smith doesn't often see a snake, but when he does it's a daisy. This snake was nearly 100 feet long, which, when you come to think of it, is a very good size for a plain, ordinary snake. Mr. Smith is not over six feet long himself, but whenever he sees a snake 100 feet long he does not shrink. When he saw this one he determined to make it all his own. There was no brand or sign on this snake to prove that it belonged to any one else, nor was there any reason for supposing that it was Government property. Besides, it was outdoors without any muzzle on, and Mr. Smith probably thought he would be doing a public service by catching it and taking it to the pound.

Like that famous personage celebrated in song by Lord Macaulay—Horatius Cocles—Mr. Smith was ready to face the foe alone, providing that two other gentlemen would volunteer to assist him. They were found without any difficulty whatever, but, unlike Spurius, Lartius and Herminius, their names are still shrouded in impenetrable gloom. In the course of a varied and eventful career, I have had occasion to observe very frequently that men are modest about being advertised in connection with any performance in which snakes play a leading part. Mr. Smith's silent partners furnished capital to the enterprise in the shape of a rope. It is not known, but it seems evident that their intention was to string up the snake after the manner of victorious fishermen. It is also evident that this snake was similar in disposition and ability to the big trout which the communicative fisherman always hooks but never brings home.

Having secured the two men and the rope Mr. Smith took a walk around the serpent which had beguiled him. He has described the monster, and it is plain that was no common dime museum snake, but a genuine old aristocrat right from the swell part of the sea. He had a neck three feet in diameter which extended half his length. Thus you see that Mr. Smith was gifted with keen powers of observation, for very few men can tell without the use of a tape measure where a snake's neck ends. But Mr. Smith saw this serpent with his whole soul, and two other gentlemen and three pairs of eyes ought to be able to get a parallax on a snake's neck that would render errors above a fraction of an inch impossible. This snake's head was like a lizard's, and it had a single row of cone-shaped teeth which pointed backward. The body was eight or ten feet in diameter, and was provided with four flukes twenty feet long. These flukes were pounding the water with blows that sounded a good deal like the echoes of guns at Sandy Hook. The snake's eyes were as big as saucers and stood out about six inches from his head. The last circumstance I take to be the one that proves beyond all question that this was the genuine old sea serpent we all know so well. No one ever knew a sea serpent to have eyes as big as a dinner plate, or a baseball, or a gong, or a croquet ball. They are always just as big as saucers, only that and nothing more. This snake, too, had the only genuine bony plates on his back and scales on his shirt bosom.

Intrepidly Mr. Smith, accompanied by Spurius Lartius and Herminius advanced with their deadly weapon, the rope. With

all the accuracy and grace of Texan cowboys they flung a lasso over the head of the sea serpent. Then they took the other end of the rope and proceeded suddenly up the beach. The next thing they knew there was a sharp report, like the last, expiring gasp of the Fourth of July, and the dauntless three had plunged forward upon their sunburned noses into the pitiless sea sand. When they had regained their feet and had mined the sand out of their eyes, they turned and found that only a space of boiling foam marked the spot where the sea serpent had been. The rope had broken. Sadly and tearfully these three bent their steps homeward. The sea serpent had left them, and they would not be comforted. But as for Smith, he labored not wholly in vain, for he had some of the scales which the serpent shed in his struggle to escape, and he has the rope. The sea serpent is gone, but he is not forgotten.

Towed by a Finback Whale.

At Nantucket, a flag with perpendicular bars of red and white floats over the roof of a large building in the town. The building is the Custom House, so called, through tradition, for no vessel ever enters this port from foreign lands now, and there can be no customs to collect. It is conducted by a number of superannuated old sea captains, who smoke all day and weave tremendous sea yarns for the benefit of any city man who may chance along. One weather-beaten old salt told a prize story lately, and now the others are racking their brains for something to surpass him. He said:

"I left Nantucket on May 15, 1841, as second mate of the snug bark Anna Snowden, Captain Keziah Coffin, bound for the Pacific Ocean. I'm not going to tell you of our trip around the Horn, although that was rather lively, and we did lose two men overboard, but will get right down to the bottom facts of what I started in to tell. We had already killed two big whales, and were poking around about 400 miles north of the Sandwich Islands, when we sighted a big fellow a-blowing not a mile away. The first mate and myself put off in two boats, but I had the likeliest crew, and struck the whale first—struck him hard, too, because he was spouting blood in five minutes. Just then we saw another whale, and the first mate put out after that one. The bark tried to beat up in our direction, but a squall came on and we lost sight of her. The waves were so big that we should have been capsize if we had not kept to the leeward of the whale, which we had killed before the squall struck us. Its big carcass formed a sort of breakwater. Besides that the oil oozed from its wounds seemed to quiet the waves. We were afraid some big waves would throw the whale on top of us, but by keeping the oars going, we managed to stay at a safe distance.

"When the storm passed over not a sign of the bark was to be seen. There we were, anchored to a whale out in the middle of the Pacific Ocean, with not more than two days' rations of bread and water for the seven men in that little boat. We waited all that in hopes of seeing the ship, and at night we burned some blubber on the back of the whale, but no help came. When morning came and no sail could be seen, we knew that there was no hope of finding our vessel again, and there was nothing to do but to pull away in the direction of the Sandwich Islands, trusting to reach them before a violent storm should overwhelm us. We cut our harpoons out of the whale, because we didn't know when we might need them. There is one of them in the corner there now. Guiding the boat with a compass which I always carried with me, we pulled away for the Sandwich Islands. We made forty miles that day, and the men were terribly tired. We slept by watches, off and on, and by pulling now and then, perhaps gained ten miles during the night. The next day the men were worn out, and the sun was so hot that they could not work their oars. Our chances of reaching land seemed very poor. Toward noon I was standing on the bow of the boat looking around in hopes of seeing a sail, when I saw a fin-back whale come to the surface not more than 200 yards away. It was no use to us now, but the whaleman's instinct was too strong within me to be resisted.

"Give way," I cried. There she blows." "I picked up a harpoon, and as the prow of the boat almost louched the whale I drove the point deep into its side. It failed to reach a vital point, and away the big fellow went. The line ran out so fast at first that it made the rail smoke, and I raised the hatchet ready to cut it, for I feared the whale would draw us under. But the strain slackened after a little, until there was only a moderate pull, and giving the end a twist around a rowlock, I let the whale tow us along.

"This is better nor rowing," said one. "Yes, and he's going in the right direction," said another.

"They were quite right." The whale was taking us in the direction we wished to go at the rate of fully twenty miles an hour. We bowled along merrily all that afternoon, and about 6 o'clock we heard a hail, and saw, not far away, the mate's boat.

"Hold on!" they cried. "We can't. Throw us a line," I replied. "We caught their line as we swept by, and then the whale had two boats in tow. The men in the other boat were worse off than we had been, as they had pulled longer. They had given up hope when we came alongside. You may not believe it, but that whale kept straight ahead all that day and the next day, and in the afternoon we sight-

ed land. I thought the critter would run right up on shore, but he came about when not more than a mile away, and would have taken us out to sea again, only I cut the line.

"That harpoon in the corner which I spoke of before, is the very one he carried away with him. You can see my name on it if you don't believe me. The ship Annie Rogers, of New Bedford, killed the whale two years after, and, finding the harpoon in its back, sent it to me. I was sorry that whale was dead, because it had been a good friend to us. I never used the harpoon again, but kept it on land as a relic.

Ages of Animals.

Camels live from forty to fifty years; horses average from twenty-five to thirty; oxen about twenty; sheep eight to nine, and dogs from twelve to fourteen. Concerning the ages attained by non-domestic animals, only a few isolated facts are known. The East Indians believe that the life periods of elephants is about three hundred years, instances being recorded of these animals having lived one hundred and thirty years in confinement after capture at an unknown age. Whales are estimated to reach the age of four hundred years. Some reptiles are very long lived, an instance being furnished by a tortoise, which was confined in 1638, and existed until 1753, when it perished by an accident. Birds sometimes attain a great age, the eagle and the swan having been known to reach one hundred. Carps have been known to reach two hundred, common river trout fifty years, and the pile ninety years; while Gessner, a Swiss naturalist, relates that a pike caught in 1497, bore a ring recording the capture of the same fish two hundred and sixty-seven years before.

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Rain fell in this part of the State in considerably quantity last Saturday.

A new plum is advertised—the Marara. We know nothing of its value.

Jefferson county farmers hold their Twenty-first Annual Fair at Oskaloosa, September 23 to 25.

Grapes are ripening somewhat irregularly this year, some berries of a bunch being fully ripe and others quite green.

Business failures are decreasing in this country, which all will admit is a good sign. Business indications are improving all around.

We have heard of hogs dying in this, Shawnee county, recently. Farmers call the disease hog cholera. But it is confined to a few farms only.

The Twentieth biennial session of the American Pomological Society will convene at Grand Rapids, Michigan, beginning at 10 o'clock, a. m., September 9th, and continuing for two days.

The Elk County Agricultural Association holds its fair at Howard, September 16 to 19. The Secretary writes the FARMER that a good time is expected because all reasonable preparations are made.

The State Veterinarian has received information from Reno and other counties that the hogs are affected with a disease which has the appearance of pneumonia. A large number of hogs, it is said, have died with the disease.

Sociability Among Farmers.

In a few of our exchanges recently have appeared paragraphs telling of farmers' picnics and other social gatherings of the country people. It is very pleasant reading. There is not nearly enough of that kind of thing done. A farmer and his family work hard enough to be entitled to a little recreation occasionally. No class of people need the benefits that follow social intercourse more than farmers and their wives and children. They are the foundation upon which the social and business world is built, and the more happy and prosperous they are, the better goes the whole world. A week or two ago, "Claribel," one of our lady correspondents, referring to another correspondent that gives a good deal of attention to temperance matters, remarked that there is so little intemperance among country people, so little of its evils felt there, that she hardly ever thinks of the subject unless some one calls her attention to it. How expressive that thought is, and what a flood of light it throws upon the virtues of rural life. And these social gatherings serve to heighten the enjoyment of rural delight.

The farmer's calling necessarily separates him some distance from his neighbors. He is not like his city cousin whose house is separated from his next door neighbors by a few feet of space; but often farmers' houses, even where all the land is occupied and used, are a mile apart. This, of necessity, keeps the people apart a great portion of the time. And then the farmer's work is mostly in his fields, and there is not a continuous throng on the public highway, so that he sees but few people to talk to. His company is his team. So in the house among the women and children. Weeks pass and the house folks see nobody outside of their own family. Human nature craves company and is improved by it when the company is good, and it is almost impossible to find any other kind among the country people.

At farmers picnics there is a genuineness of enjoyment not often realized in cities; a natural freedom not hampered by enforced rules of conventionalism, that city people know very little about. There is health of body and soul at such gatherings. Faces show the glow of health; heaven blesses people there every day with inexhaustible supplies of the purest air, and she paints health pictures on the people's faces. Living in the midst of pure surroundings, the characters of men and women show where they live. Children learn in the open sunlight. Their playgrounds are the fields. God is everywhere near them. When such people meet Nature smiles to see the richness of her handiwork.

The social vein should be cultivated. Let farmers everywhere see to it that they and their wives and children have the good of occasional commingling with their neighbors. They will be better for it and so will everybody else. All the faculties are sharpened by social greetings. The heart grows warmer, the conscience more lively, the soul larger, and the whole life broadens out into better manhood.

The Knights of Labor have a quarrel with the Wabash railway company, not growing out of insufficient wages or anything of that kind; but as we understand it the trouble is about a matter of etiquette. The K. L. want to be recognized officially, and the railroad folks demur. The executive committee of the Knights, last week, ordered a strike at Moberly, Mo., and at several other points. The men were surprised, because they had no cause of complaint,

and did not care to run the risk of losing their places simply to please a committee that considered itself slighted. They obeyed, however, but are now again at work just as before. That is a very dangerous power to place in the hands of a few men, no matter how good they are or honest.

Interesting to Sugar Makers.

A new process for extracting juice from sorghum and sugar cane is being thoroughly tried this summer and fall. It is known as the "Diffusion Process," and is a cutting up of the canes in very short pieces, and water forced through them so as to take up the saccharine matter. This paper described the process last year. From small operations it has been found that the quantity of juice extracted by this process, is much greater than that by ordinary cane mills. Machinery will be used at Ottawa in this State, and at New Orleans. The Cincinnati Price Current, referring to the subject, says that the diffusion process for extracting the sugar from both Southern and sorghum cane is to be thoroughly tested this season. The necessary machinery is now being put in place on a sugar plantation in Louisiana for working the ribbon cane, and at Ottawa, Kansas, for working the sorghum cane. Under the old process the canes are run between powerful rollers, which crush it and express the juice, but never all of it, and with the best mills not more than from 60 to 70 per cent., the remainder being lost in the bagasse. Under the diffusion process the cane is thoroughly sliced and placed in a series of tight cylinders connected by pipes, through which hot water is forced, which dissolves and washes out the sugar. Theoretically, the diffusion process saves all the sugar; practically there is but little loss. It is employed wholly in the manufacture of beet sugar. If it is demonstrated that it can be economically adapted to the extraction of the sugar from cane and sorghum, saving the great waste which has heretofore been experienced, it may put the sugar industry of this country on its feet in spite of the present low prices and those likely to prevail in the future. No business with any competition could succeed with the enormous waste suffered under the old process of sugar making. What could be thought of a process of starch making in which nearly half the starch of the corn was lost?

It is stated that at a meeting of socialists in Chicago where a banner was displayed with the device—"Our Children are Crying for Bread," some three hundred kegs of beer were drunk. The beer part explains the crying for bread business. A great many men have money for beer but none for the children.

Talk about sod corn. Wilson Keys, of Rice county, says he has sod corn that will yield fifty bushels to the acre. He planted the seed himself with a hand planter when the ground was broke, putting the seed in every third furrow, and then trampled the sod down firmly. The ground was in good condition. The young shoots appeared the fifth day, and in six weeks grew six feet high.

On Tuesday, August 18, says a Detroit, Mich., dispatch, the infant child of Charles Sullivan, died and was prepared for burial. Fifteen hours after death, while the family and friends were gathered about the casket, the baby began to cry, frightening nearly every one from the house. The father retained his senses and took the child from the coffin, and it has since been in better health than for some time.

Observation on Tree Growth.

The Gardener says that an interesting observation on tree rings is recorded by Professor Bachelant. During a visit to the ruins of Palenque, Mexico, in 1859, M. Charnay caused all the trees that hid the facade of one of the pyramids of the palace to be cut down. On a second visit in 1880, he cut the trees that had grown since 1859, and he remarked that all of them had a number of circles greatly more numerous than their age would warrant, supposing one circle only to be added annually. The oldest could only have been twenty-two years of age, but on a section of one of them he counted 250 circles. The tree was about two feet in diameter. A shrub not more than eighteen months old had eighteen concentric circles. M. Charnay found the case repeated in every species and in trees of all sizes. He concluded that in hot and moist climates, where Nature is never at rest, trees may produce, not one circle in a year, but one in a month. The age of a monument has often been calculated from that of trees that have grown on their ruins. For Palenque 1,700 years had been calculated, 1,700 rings having been counted on a tree. These observations, however, require the number to be cut down to 150 or 200 years. Prof. Bachelant asks if M. Charnay took account of certain colored rings which some tropical trees present in cross section, and which are to be distinguished from the annual circle.

The Loco Weed.

The Wa Keeney (Trego county) World says: "We have taken pains to make extensive enquiries concerning the present condition of the loco plant in this section of Kansas. The testimony covers a large region of country, extending from here to South of the Arkansas river, and West through Gove county. There is a general agreement in the statement that the loco grub has severed the loco stalks from the roots, and that the stalks have either blown or are ready to do so when urged by a favorable breeze. In at least this large belt of country, stock is considered exempt from injury from eating loco this fall. Stock will therefore enter the winter in much finer condition than it was in the outset of last winter.

As to what the fate of the loco is to be for the year 1886, there is, at present, no unanimity of theory. Some think that the grub which has cut the stalks this season is what poisoned the live stock last year. Others think that the loco stalks are poisonous, and that the seeds have ripened, so as to send forth a new crop the coming year."

The terrible rains Saturday morning completely demoralized the Topeka Press Club excursion, and as a result the boys were indebted to the Union Pacific Railway nearly \$200, which amount the railway company very graciously canceled. The passenger department deserves the profuse gratitude given them by the club.

The Twelfth Annual Inter-State Picnic-Exhibition (Grangers) under the auspices of the Patrons of Husbandry of Pennsylvania, Maryland, West Virginia, New Jersey and Delaware will open at Williams' Grove, Cumberland county, Pa., on Monday, August 31, 1885, and continue until Monday, September 7th.

The Abilene Chronicle pays us a compliment which is appreciated. It says: "The FARMER is becoming one of the strongest agricultural papers in the West. It is a credit to the State, and worth much more than its costs to any farmer and stock raiser."

By way of showing the progress made by women in educational matters it may be said that many of them hold high positions in many American colleges.

Some cattle at Springfield, Ills., were taken sick of Texas fever and they died. The cattle had been shipped there from Hutchinson, this State. They were all native stock raised in Reno county and were never exposed to the fever.

The Superintendent of the gardens and grounds of the Department of Agriculture at Washington City, is of the opinion that there is nothing so effectual for the destruction of insects as London purple, which though equally as poisonous as Paris green is much cheaper.

A company was organized that purchased the building and materials left of the World's Fair at New Orleans, and it is intended to re-open the exposition with added attractions in November next. George Y. Johnson, of this State was appointed commissioner for Kansas by the Governor, a few days ago.

The crop and business outlook in the Southern States is reported to be very good. Indeed the feeling all over the country is improving. There was so much old wheat on hand that the short crop was not felt except among those particular farmers who needed the money that a good crop would have brought them.

Three brothers living near Martin's Valley, Pa., died by accidents last week within a few hours. John was killed by falling into a cattle guard while running to turn a switch; Jason was drowned in a pit in the slate quarries; Wyman was suffocated in a grain bin in a mill. They were single men, middle aged, and all lived with their mother, who is now left alone. The three bodies were buried in one grave. The name was Truby.

Last week, one day, the workmen of the Boston gas company's works, on Commercial street, Dorchester, exhumed the skeletons of nine adults and five children while making an excavation on Commercial street. The bodies appear to have been thrown in a trench together, as they were all found in a heap. It is thought they are the remains of Indians, as clam shells were found with the bodies, as if a feast had taken place at the time of burial.

Volume six of the Central Poland China Record is now ready for delivery. In general appearance and size it is similar to the last issue volume five. It contains the same number of pages of pedigrees, and in addition the entire index for the full issue of the six volumes. This new departure will be of great benefit to breeders. The price remains unchanged from that of the last volume, being \$3.00 per volume, 25 cents additional if sent by mail. Address W. H. Morris, Sec'y., Indianapolis.

Mr. J. V. Bean, secretary of the Elk County Agricultural Association, writes us under date of August 15: "I mail to you a copy of the premium list for the fair of the Elk County Agricultural Association, to be held at Howard Sept. 16 to 19th inst. I would say to your patrons we are sparing no pains to give exhibitors good accommodations. We have as good a half mile track as can be found in the State. The A., T. & S. F. R. R. will return stock free which has been shipped over their line for exhibition at Howard. Visitors will be carried over the Howard branch at one-and-a-third fares for the round trip."

How to Kill Grasshoppers.

Anything on this subject is interesting even though there should never be occasion to use it. Some time ago Prof. D. W. Coquillett, of the Department of Agriculture at Washington, was sent to California to investigate the locust plague. He visited various points in the San Joaquin Valley, and made his headquarters at Atwater, Merced county, where the pests were thickest, and the opportunities for prosecuting his researches all that could be desired. The Professor has now written the following valuable letter to the Sacramento (Cal.) Bee. For convenience, he adopts the popular designation of "grasshoppers" in speaking of the locusts:

"Among the numerous remedies for the destruction of grasshoppers which I have tried, or seen tried, only one gives promise of accomplishing anything like satisfactory results. It consists of a mash composed of bran, arsenic, sugar and water, the proportions being one part of sugar, one and one-half parts of arsenic and four parts of bran, to which is added a sufficient quantity of water to make a wet mash. A common washtubful of this mash is sufficient for about five acres of grapevines. Fill the washtub about three-fourths full of bran, add six pounds of arsenic, and mix it thoroughly with the bran; put about four pounds of coarse brown sugar in a pail, fill the pail with water, and stir until the greater part of sugar is dissolved. Then pour this water into the bran and arsenic, and again fill the pail with water, and proceed as before until all the sugar in the pail has been dissolved and added to the bran. Now, stir the latter thoroughly, and add as much water as is necessary to thoroughly saturate the mixture, and it is ready for use.

"Throw about a tablespoonful of this mixture under each vine infested with grasshoppers; and in a short time the latter will leave the vine and collect upon the bran and soon commence feeding upon it. Those which are upon the ground six or eight feet from the bran will soon find their way to it, apparently guided by their sense of smell, as those to the leeward of the bran have been observed to come to it from a greater distance than those which were on the side of the bran from which the wind was blowing. After eating as much of the bran as they desire, the grasshoppers usually crawl off, and many hide themselves beneath weeds, clods of earth, etc., and in a few hours will be found to be dead.

"This mixture costs from 35 to 40 cents per acre of vineyard, including labor of mixing and applying it. In orchards the cost will be considerably less than this. One man can apply it to eight or ten acres of vineyard in a day.

I have seen this remedy tried on an extensive scale at the vineyard and orchard of Messrs. Kohler, West and Minturn, at Minturn Station, Fresno county. In that part of the vineyard which was the most thickly infested, grasshoppers were found beneath almost every vine, while beneath the adjacent weeds were hundreds of others, the greater part dead. It was also very effectual when placed beneath small fruit trees, the grasshoppers leaving the trees to feed upon this mixture.

"The addition of sugar to this mixture is merely to cause the arsenic to adhere to the particles of bran, and not for the purpose of increasing its attractiveness, since it was found that grasshoppers were not attracted to pure sugar. Middlings, or shorts, have been used in the place of bran, but are not so desirable, since in drying they as-

sume a solid mass which the grasshoppers cannot eat, whereas bran in drying never assumes a solid form."

Late Patents to Kansas People.

List of patents granted to citizens of Kansas for the week ending Tuesday, August 18, 1885, compiled from the official records of the United States Patent office, expressly for the KANSAS FARMER, by Herring & Redmond, solicitors of patents, No. 637 F street N. W., Washington, D. C., of whom information may be had:

No. 324,526—David Bowen, assignor of one-fourth to T. B. Peacock, Topeka, switch-stand.

No. 324,671—J. O. Drake, Fort Scott, frying-pan.

No. 324,373—G. J. Gibbons, Haven, automatic grain-weigher.

No. 324,768—F. R. Hunt, Leavenworth, tubular screw.

No. 324,387—J. D. Jones, Topeka, splint-cutting machine.

No. 324,725—A. B. Perine, Topeka, thill-coupling.

No. 324,418—G. W. Saxton, Sterling, remedy for hog cholera.

No. 324,734—J. R. Sitler, Axtell, grain-drier.

As to the cost of reading matter, the *National Stockman* states a truth in this: "We make the claim, without fear of contradiction from people of average intelligence, that no money is expended from which the investors receive a better average return than from that which goes to purchase newspapers of standing and character; and we would emphasize this claim in respect to the periodical literature published in the interest of the farm. There are in this country a great variety of papers ostensibly devoted to agriculture, and the poorest is probably worth all its costs, while the average paper of the entire number is dirt cheap at the price which it commands. This assertion is made without particularizing, or adducing reasons in its support. The very fact that so many papers of this class live and flourish is in itself evidence of the recognition of their usefulness and of the fact of their general cheapness to the reading public."

A friend at Peru, Indiana, sent a copy of the *Peru Republican* to this office some days ago, containing these two marked items: "At about 4 o'clock Saturday a funnel shaped cloud approached Vincennes and finally resolved itself into an immense water spout, which swept down the Wabash, whirling the water up into the clouds. In its course up the river it upset boats and other things that came in its way. It was about two hundred feet in circumference." "The damage done by grasshoppers in Wabash county is assuming alarming proportions. They have appeared in myriad swarms, and are damaging oats, wheat, and corn to a great extent. There are strips in the fields where the grain has been swept clean. Farmers are cutting oats before the proper time. Orchards are also being striped of foliage by the pests." Grasshoppers and water spouts in Indiana are worth talking about.

The Osage City *Free Press* thinks three cents is enough to pay for feeding cattle, and that no man can afford to pay more. It says: "There are thousands and tens of thousands of cattle that must have Kansas corn this winter. Last winter the farmers lost their feed and labor both. Cattle were too high—they were not delivered according to contract—the people were in too big a hurry to buy. There will be plenty of feed—more tons of millet—more stacks of prairie hay than last year. If you can't buy cattle right, keep your feed. Don't be in a hurry to sell it. It is good property to hold. If you sell it early, sell it for the December market.

And if you buy cattle to feed, refuse to accept anything that don't come up to the standard of your contract. There will be no trouble—men who have feed can get cattle at a fair price."

The annual meeting of the Kansas State Temperance Union has been postponed from October 13 and 14 to October 27 and 28, because of the conclave of the A. O. U. W., to be held in Topeka at the time formerly announced for the Temperance Union.

Hog cholera is reported in several places in Illinois.

THE MARKETS.

By Telegraph, August 24, 1885.

STOCK MARKETS.

New York.

BEEVES—Receipts 279 car loads. Dull and closed weak. Extremes, 4.85a6.25 for native steers, 4.00a4.60 for Texas, 4.25a4.85 for grass-fed Colorado; four car-loads of corn-fed Colorado steers sold at 5.45a5.55.

SHEEP—Receipts 15,670. The market is extremely dull and weak. Poor to choice sheep sold at 2.00a2.50, with very few sales at 4.5; common to prime lambs 3.25a5.00; 25 car loads remain unsold.

HOGS—Receipts 8,770. Fair to good fat hogs sold alive at 3.80a4.00 per 100 lbs., and feeding was fairly active.

St. Louis.

CATTLE—Receipts 2,400, shipments 500. Supply principally of rangers which are slow and weak; natives steady. Shipping steers 4.60a5.50, butchers 4.00a4.00, mixed lots 2.50a3.25, Texas steers 2.75a5.50, Indian steers 2.75a4.00.

HOGS—Receipts 3,500, shipments 1,900. Market slow. Packing 4.00a4.50, Yorkers 4.00a4.75, butchers 4.70a4.80.

SHEEP—Receipts 700, shipments 2,200. Market steady for best grades. Good to choice muttons 3.25a3.75, fair to medium 2.75a3.25, common 2.00a2.50, fat lambs 4.00a4.10, fair to good 3.00a3.75.

Chicago.

The Drovers' Journal reports: CATTLE—Receipts 10,500, shipments 2,100. Natives firm; shipping, cow, bulls and mixed 1.75a4.10; through Texas 10c lower at 8.50a3.90. Western rangers 10a15c lower, natives and half-breeds 4.00a4.75, wintered Texas 4.30a4.50.

HOGS—Receipts 15,100, shipments 6,000. Market active and 5a10c higher. Rough and mixed 4.10a4.35, packing and shipping 4.35a4.75, light weights 4.20a4.75.

SHEEP—Receipts 1,600, shipments —. Market steady. Natives 2.00a2.75, Texans 1.75a3.00.

The Drovers' Journal special Liverpool cable reports prices 1/2c higher. Best American cattle are selling at 13c per lb. dressed.

Kansas City.

CATTLE—Receipts since Saturday 2,497. Export steers 5.35, shipping steers 4.75, feeders 4.00, stockers 3.60.

HOGS—Receipts since Saturday 3,783. There was a better feeling to the market to-day at an advance of about 5c over Saturday's prices. Extreme range of sales 4.00a4.65.

SHEEP—Receipts since Saturday 229. Market steady. Sales: 114 natives, averaging 96 lbs., at 2.50.

PRODUCE MARKETS.

New York.

WHEAT—Lower. Ungraded red 92a94c, No. 3 red 87a88 3/4c, No. 2 red 90a91c.

CORN—No. 2 5/8a54c elevator, 54a41c afloat; No. 2 August nominal at 53c, Sept 52a52 3/4c.

St. Louis.

WHEAT—Market nervous and unsettled, and more sellers than buyers. No. 2 red, cash 88 3/4c, August 86 3/4c bid, Sept 88 3/4a89 3/4c.

CORN—No. 2 mixed, cash 42a44 3/4c, August 40 3/4c bid, September 40 3/4a41 3/4c, October 38 3/4a39c.

OATS—No. 2 mixed, cash 22a22 3/4c.

RYE—Dull at 55a55 3/4c bid.

Chicago.

WHEAT—Sales ranged: August 77 3/4c, 79 3/4c, September 78 3/4a79 3/4c, October 80 3/4a82c, November 82 3/4a83 3/4c, No. 2 spring 78c, No. 3 spring 71c, No. 2 red 8 3/4a85c, No. 3 red 79a79 3/4c.

CORN—Cash 44 3/4a44 3/4c, August 44 3/4a45c, September 44 3/4c, October 42 3/4a44c, November 39 3/4a40 3/4c.

OATS—August 26 3/4a28c.

RYE—Market steady. No. 2 at 56 3/4c.

Kansas City.

WHEAT—There was a weak and unsettled market to day with lower values. No. 2 red cash and August were nominal; September sold at 70 3/4c against 72 3/4c Saturday; October sold at 73 3/4c against 75 3/4c Saturday; No. 3 red cash was nominal; August sold at 68 3/4c, 2 3/4c lower than Saturday's bid; No. 2 soft cash was nominal; August sold at 84c 3/4c lower than Saturday's bid.

CORN—No. 2, cash, 33c bid, 33 3/4c asked; August, 2 cars at 33 3/4c.

OATS—No. 2 cash, 20 3/4c bid, 24c asked.

RYE—No. 2 cash, 40c bid, 44c off-rings.

BUITER—Receipts are very light of all kinds and demand active for good.

We quote:

Creamery, fancy..... 20 a

Good..... 17

Fine dairy in single package lots..... 16 a18

Storepacked, in single package lots..... a12 3/4

EGGS—Receipts fair and market steady at 11 3/4c per doz, fresh re candled.

CHEESE—We quote: Full cream, 11c; part skim 8 3/4c; Young America 11c.

POTATOES—New Irish potatoes, home grown 30c per bus. Sweet potatoes, home grown, — per bus.

BROOM CORN—We quote: Hurl 4a5c, self working 3 3/4a4c common 1 1/2a2c, crooked 3 1/2a4c.

HAY—Receipts 24 cars. Market weak. We quote: New small baled 6 00; large baled 5 50.

OIL CAKE—100 lbs. 1.25, 25 ton 24.00, free on board cars.

FLAX SEED—We quote at 1.05a1.08 per bus. upon the basis of pure.

CASTOR BEANS—Quoted at 1.40a1.50 per bus.

In the Dairy.

About the Production of Milk.

A correspondent (C. B. A.) writes for information in general concerning the production of milk. The subject is so extended that it can be but barely touched in one ordinary newspaper article; but as our correspondent is a new man in the business, what he most needs is something relating to the foundation of the milk producing business, and that means (1) the machine—the cow, and (2) how to take care of it.

The best milch cow is that which produces the largest quantity of milk, not only for a week or a month, but for the whole period between calvings. It matters nothing about the breed if the milk is attainable in sufficient quantities. Ayshire cows are probably the largest milk producers, but their milk is not as rich in butter as is that of the Jerseys. These two breeds have been bred specially for the two purposes—one for milk, the other for butter, and we would advise every dairyman to work into possession of those breeds as fast as he can without embarrassment. If the sole object is milk, take the Ayshire; if it is butter, take the Jersey. But do not part with a good cow simply because she is not of any particular breed. The writer of this once owned a scrub cow that turned out milk enough to supply the family and make seven pounds of butter a week during good pasture time.

As to the structural appearance of cows, that matters little, except in one or two particulars, if they only produce milk in satisfactory quantities. A cow's horns ought to be short and turned inwards or downwards, on account of danger from horning other animals; and her teats ought to be set far apart, and they ought to be large so as to render the operation of milking easy. The bodily conformation of a cow ought to show large belly and open roomy hind quarters, that gives capacity for food storage and renders breeding more certain and safe.

In the care of cows, the first thing is feed, of course; but while feed is absolutely necessary, there are considerations relating to shelter, cleanliness and exercise that cannot safely be disregarded. The quantity of food ought to be just what every cow will eat without waste, and as to quality, it ought to be (1) such as will, while sustaining life and maintaining functional vigor, produce the most milk, and (2) that which is palatable both from its natural properties and its cleanliness.

Animals of the cow kind need some coarse food, as grass, hay or cornfodder. This they must have every day. Grass alone will produce milk of good quality and in large quantities as long as it is fresh and juicy; but the best of grass is materially assisted in its milk producing work by a little meal of some kind, as oats, rye, flax seed, etc., ground. And when dry feed is used, wheat bran is necessary for health; oil cake, mill stuffs, the meals above named, are necessary for milk, and upon their judicious use depends the health and sustaining power of the animal.

Good milk cannot be produced without good water and plenty of it. When on fresh and vigorously growing grass, cows do not need much water; but what they do need, they ought to have, and have it regularly three times a day. When on dry feed, they will need a great deal more water, and that part of their care needs prompt attention. When on dry feed, and always in cold weather, a considerable part of the water should be fed to them in slops and meal mixtures, and it ought to be

warm. Cooked feed is better than raw feed, and by feeding it warm there is a saving also in the matter of animal heat. If a cow drinks half a barrel of cold water, it requires a good deal of heating to raise the temperature of the water up to the normal standard—blood heat, and the heating operation requires expenditure of vital energy. In cold weather it often requires all or nearly all the food eaten by animals to maintain their bodily temperature; they do not gain an ounce of flesh, and milk cows give but little milk. This is a very important item in the care of milch cows. Corn may be fed to cows in the winter and during all the colder months in quantities corresponding with the temperature. It is the best heat producer, but there is not nearly as much milk in it as in wheat, rye, oats, barley, flax seed or cotton seed.

Where a person intends to establish a permanent milk business, he ought to prepare for summer feeding on the soiling plan, to cut the feed (grass, oats, rye, sorghum, millet, Hungarian, etc.) and feed it to the cows in comfortable quarters. In this way one acre of ground will go further than five acres of ordinary pasturing. And, also, one or more small fields should be prepared specially for exercise. These should be so many lawns, neatly set to blue grass, and shade trees, and these fields ought never to be used immediately after a heavy rain. The object is to give the cows pleasant exercise, and at the same time give them the greatest possible comfort. Cows, like sheep, need repose, and when giving milk, they ought not to be overheated at any time, nor should they be permitted to stand long in the open sun light on very warm days. Every cow ought to have her own stall or feed place, and there she should be fed, and turned out only after feeding. The barns or sheds ought to be so arranged that water as well as feed could and would be given every day.

The health of the cows must be studiously cared for and continually protected. Don't give medicines unless it appears to be absolutely necessary. Good food, water, and comfortable quarters, with quietude and contentment, are better medicines than can be procured by all the veterinarians.

There is a great deal in the matter of milking. Cows ought to be milked two or three times every day, at regular times, and the work should be done well. Milk clean; take every drop. And in the matter of milking there should be a good understanding between the cow and the milker. No harsh or unkind treatment should be allowed. The cows ought to be treated with the utmost consideration. Feed them well; milk them well; treat them well.

What Shall We Feed Our Summer Milkers?

Here is what an Eastern farmer says in the *Pittsburg National Stockman*:

Recently I met an intelligent farmer from the Western Reserve of Ohio, who is conspicuous for his bright attainments in feeding for milk, and I asked him if, with the low price of dairy produce (5 cents for ten pounds of new milk, equal to about 5 quarts) he was feeding high this season. "I am not feeding anything in the way of grain this year. I can't afford it. It don't pay to feed six or seven cent's worth of grain to get five cents' worth of milk. Now here was a level-headed farmer, one who could intelligently get at the law of food equivalents, and when it pays to feed he does it; and when the milk supply does not nor cannot be made to equal the extra furnished food, drops back to nature's supply, and makes milk from the cheapest of all foods, and, perhaps, after all, about as cheap as anything, and, I had almost added, when judiciously supplied, about the best.

Good milk at best consists of 87 parts

in 100 of water, and the grasses contain water as follows: Pasture grass, 80 per cent., clover 83, white clover 82, cabbage 89, best pasture grass 78. So it is seen that the solids of milk and the solids of grass do not greatly differ. Again, the dry substance of the best meadow hay has 9 per cent. of albuminous matter; so that, other things being equal, the cow that has fresh-grown feed, also is not so annoyed by flies, boys and dogs, that she cannot eat a sufficient quantity of grass to first support her body, and then digest enough more material to make 40 pounds of milk per day, ought to give a profitable mess of milk without grain. But if the pasture is "short," then with the annoyance of heat and insect pests the cow is prevented from obtaining the larger amount of food necessary to make both milk and blood with which to support the system, and so she falls off in milk. It is then that meal comes in play to supply in condensed form the needed supply ready to be acted upon by the digestive apparatus, and requiring but a small amount of secretions of the stomach to properly prepare it for digestion.

This season I have tried the all-grass method, and until milk or butter is more valuable than now I shall continue the plan. The plan I pursue is somewhat like soiling, but with the difference that I let the cows cut their own night feed of clover. Barb wire is cheap, and two strands running across a lot on posts 66 feet apart makes two pastures, with yet another lot that can be used in turn as a night pasture. I get fresh feed every week, and in the two weeks that follow lot No. 1 has freshened up wonderfully. Then the nights afford the cows an excellent opportunity to get that luxurious nibble of clover that keeps the dairy well up to the grain possibilities. If we consult the tables we find that two-thirds of the ration fed cows goes to the support of their bodies, and the one-third goes to the milk supply. So in feeding an abundance of grass, the secret seems to be to present it in so attractive a form that the cow will be induced to eat so largely, and keep the digestive apparatus so perfectly performing its duties, that the ration can be largely increased so that more than one-third shall be appropriated for the milk supply.

This the point in brief about the phenomenal performances of some of the great milk and butter yields. No one would argue that it takes two-thirds of fifty imperial quarts of the most concentrated meals like corn, oats, cottonseed and peas, to support a cow weighing 1,000 pounds; but when we come to see that the facts of these fifty quarts amount to nearly seven pounds, and seven pounds was the daily butter product, minus water, salt, etc., it is seen that two-thirds of the butter element of the food did not go to the support of the carcass. But determining this to be so does not point out the cheaper and more profitable way of production, for this forcing business is at best a notoriously expensive one, and has a host of doubters at that, and it is wholly impracticable to the dairyman at large. Fortunately for him, it is very easy to determine how far he may be benefitted by feeding a grain ration. Estimating grain meal at one cent per pound, and milk freshly drawn at half a cent per pound, the farmer can tell at the close of a ten days' test with three or four of his average cows whether the gain in milk the tenth day has paid for the grain. The balance of the dairy may have shrunk, which would then have to be taken into account. Then this grain ration would needs be compared with the yield of cows with their changing fresh feed, a series of tests that would afford many a farmer "food for thought," and which might be of great benefit in future calculations.

If grain is fed, how much constitutes a proper ration, and of what shall it consist? So far as this relates to grass as a ration nothing can be devised better than the mixed grasses of pasture growing upon fertile, well-drained land, supplemented with clover to a proper extent. In the best of grains nothing has ever met with such success—to our knowledge—as corn meal, oats and bran mixed. We feed oats, corn and bran of equal weights, fed in all varieties of ways. We have at last fallen upon the plan of feeding the meal after the ration of hay has been eaten; nor have we thought that wetting the meal was as well as to feed dry, and therefore cause the cow to properly moisten her own grain with the secretions of the mouth; then when taken to the stomach and there incorporated with the gastric

juices, the digestion has perfected and assimilation has been rendered perfect. It is perfect digestion that results in perfect milk secretion. It is calling upon each digestive organ to properly perform its office. And then it is abundant food, rich in blood-forming power, that enables the milk glands to transform blood into milk, the most perfect of all foods.

About Canning Fruit.

The secret of successful fruit-canning is no longer a secret. Certain conditions being insured, an exchange truly remarks, the work is safely done. The fruits (and vegetables) must be just ripe, freshly-gathered and perfect of their kind. All germs in the cans, received by contact with the air, or otherwise, must be destroyed by heat in the form of boiling water, and all germs of microscopic animal or vegetable life in the fruits—germs of fungus growth or of fermentation, must also be destroyed.

Then the air must be effectually excluded from the cans, so that all germs will be kept out. The surest way of securing all these conditions is to put the fruit into the cans, and, after partially sealing them, put the cans into cold water, raise this to a boiling point, and keep it there until the contents are sufficiently cooked, then remove from the water and seal tightly, and turn the cans on end. If they leak they are liable to ferment; if they do not leak, no air can enter to carry the seeds of fermentation into the can.

But this is slow work where one carries on the business in the family on a large scale, and with suitable precautions one can can two, three or a dozen cans at once as safely as one, and with as good results. Have a kettle that will hold at least two cans, and a larger kettle is preferable, and while the fruit is cooking in that, enough can be prepared to replenish it each time it is emptied.

The shorter the time consumed in getting the fruit from the tree, or the vegetables from the garden, into the cans, the better. All fruit that has to be peeled darkens by exposure to the air, and should be placed, as soon as the skin is removed, in cold water. If more than two quarts at a time are cooked it is difficult to do the cooking evenly. That at the bottom of the kettle will be done sooner than that at the top, and if one stirs the fruit while cooking, its shape is likely to be injured.

For very nice canning, it is better to put the fruit into the cans as soon as peeled, cover with liquid, syrup or water, put on the rubbers, tops and rings, and cook till done, in water raised slowly to the boiling point. Then seal tightly.

For ordinary canning, prepare the fruit, two cans at a time, cook it till done, then ladle it into cans, let them stand for a time with their covers on till they "settle down," fill again with boiling hot fruit or water, and seal tightly. In this case, as in the former, cans, covers and rubbers should be immersed in boiling water before the cans are filled.

Boiling hot fruit or water may be poured into cans without breaking them, if they are first placed on a very wet towel, and a silver spoon is put in them.

Rams often fight desperately, bruise their heads, and the maggots get in the bruised places and kill the sheep. Many valuable rams are lost in this way every season, and where several aged rams are kept together they should always be blinded, so as to prevent fighting, says the *Canadian Breeder*.

The tramps are complaining that the business is lamentably overdone. There are a hundred men now where there was, one fifteen years ago.

Ask your Druggist for a free Trial Bottle of Dr King's New Discovery for Consumption.

The Poultry Yard.

Poultry for Eggs and Chickens.

There are a large number of varieties of fowls, and the owners of each one kind would be quite ready to say, and prove, if it were doubted, that his is the best. But it is a very true adage that "fine feathers make fine birds," and when a person is satisfied with fine feathers his fancied sort of poultry is the best—for him, no doubt. But there are other persons who are not so easily satisfied with appearances, and want the more solid return of eggs and chickens from their flocks, from which they look for a profit for their outlay and labor. And we may say, from long and abundant experience, that there is no other kind of domesticated animal that can be kept and cared for more easily and agreeably and with greater profit than common poultry. We have heard of profits of 30, 40, or even 70 per cent. from flocks of sheep and herds of cattle, but it is a poor hen or a poorly-managed one that will not pay 200 per cent. on the investment after paying for liberal keeping.

But one must have the right kind in the right place, and we propose here to describe those varieties of fowls which we have found the best for a farmer to use, or for a person to keep who wishes to devote his or her whole time and attention to them. And we begin with the Light Brahmas as our first choice, having kept them for nearly twenty years continuously. This bird is one of the most beautiful of poultry; of large size, handsomely and gracefully formed, of agreeable and picturesque color in the mass, as when a flock is seen together, viz.: pure white variegated with a black collar, black edges to the wings, and a black edging to the tail, and running very near together in this respect, so that it is difficult for even the owner to distinguish one bird from another; having a small, neat head, a very small pea-comb, and scarcely any wattles; yellow legs, feathered down to the end of the toe; abundant soft down for warmth, and a hardy, vigorous constitution; so that in their appearance they are very pleasing and attractive, and they are well suited to our cold and vigorous winters. Besides these good points, they are remarkably docile, will easily feed from the owner's hand, follow him about, and submit to be picked up and petted as a kitten might do. They thus give no trouble when rearing their broods, and can be lifted from their nests and put on again without struggling and doing mischief. Moreover, they will not fly, and can be kept within a three-foot fence when it is desirable to restrain them from liberty. They grow very fast; the chicks will reach a weight of four pounds in three months, and will begin to lay when seven months old, and at six to nine months of age the cockerels will weigh from seven to nine or ten pounds, and the pullets from six to eight pounds. When a year old the cocks weigh ten to fourteen pounds and the hens eight to ten. The young chicks when about two to three pounds weight make the sweetest and juiciest of broilers, and are very popular in the market on this account, bringing at times thirty cents a pound, and rarely less than twenty-five cents.

The pullets begin to lay early, both as regards age and season, and are even ahead of the yearling hens in this respect, making, too, the best mothers. Our own pullets are now laying quite freely, and usually continue well into the late summer and fall, resting for a brooding spell, and generally laying in the coops before the chicks are weaned. The chicks are so hardy that they can be reared with ease without any hen, and by using an incubator a very large number of chicks can be raised. We have a few pullets now laying that were thus reared last year as an experiment, that were never brooded by a hen and were reared and fed in a coop out of doors by hand wholly, and they have done better than those reared under the hens. But we cannot linger over our favorite Brahmas, and pass on to the next best fowls, at least in our estimation and from our own experience.

These are Plymouth Rocks. This variety is also a handsome bird. In color they are bluish penciled; they are large, squarely-built, well-feathered, with clean yellow legs, very hardy, and in every respect come so closely to the Brahmas that one is embarrassed in deciding between them. It hardly reaches the size of the Brahmas, the mature birds weighing ten to twelve

pounds for the cocks and the hens eight to nine pounds. The chicks are more compact than the Brahmas—not quite so leggy—but not so large nor so well-flavored. This breed is a cross between the Light Brahma and Black Java, and does not breed so true as the former, throwing a few black chicks and sometimes dark or feather-legged ones. A cross of Plymouth Rocks and Light Brahmas makes a bird equal in every respect to the latter, and, very much like them, differing only in their imperfect plumage. These two breeds exhaust the list of profitable birds for the farmer or the poultryman, in respect to eggs and chickens both.

Next come the egg-producing and non-breeding varieties. The Leghorns are at the head of this class. These include the white, brown and black. The last is rarely seen out of the fanciers' yards, and in every respect is so much like the Black Spanish as to offer no choice between them. Black fowls, however, are not popular in the markets, however good they may be. The White Leghorn is the most popular of this kind, and is a very neat, compact, pretty fowl, wholly white, with a large drooping single comb and large wattles. This fowl produces a clear, pure white egg of good size and very handsome shape, and a basket of them looks very attractive in the market or the store. It lays young and early in the season. It may yield a few more eggs in the year than the two preceding varieties, but while it is resting it is earning nothing, as those do when they hatch and rear a brood. The Leghorns are worthless for spring chickens, as they are too tender to be reared early enough to get into market condition in the spring and are very small and light in weight. We never yet succeeded in rearing a brood in the winter months, and, although we have hatched the eggs under Brahmas, the chicks dropped off in a few days, while the young Brahmas reared in a glass coop out of doors have frolicked in the snow, and the Leghorns have been kept under glass in-doors and in a sunny window. Yet for eggs alone they will take the palm from any other breed, and being small, are easily kept and fed. They are restless and cannot be kept in any fence that is not twelve or more feet high, or in a yard covered on the top with netting. With a large range, warm, comfortable quarters, and good care, White Leghorns may be made profitable fowls; but when neglected they soon succumb to disease and die off rapidly by roup and cholera.

The Brown Leghorns are much like the old-fashioned games in appearance; are said to be as good layers as the white ones; but we cannot indorse this of our own knowledge.

An excellent small fowl is the Dominique; the old-fashioned, bluish-penciled, neat, natty, rose-combed, slaty-legged bird, which lays as well as the Leghorn and performs her maternal duties better than any other hen we know of, being an excellent and steady brooder, light and careful with her chickens, and very soon resuming her laying. A hen of this kind in our yards last season hatched twelve chickens from thirteen eggs and raised all of them safely. This year she was the first to begin laying and began in November, and the rest of them soon followed. If they were not as agile upon their wings as a hawk, and did not soar over any obstacle in the way, and so inveterate in their scratching proclivities as to be a terror in the garden or the grain field, this breed would be one of our cherished ones.

The Houdan is one of the profitable fowls of the non-breeding kinds. It is a French variety, and has a large hood and a muffle, with a small comb nearly hidden by the crest, which spreads and falls over the head and makes almost a ball of feathers. It is of a bluish color, spangled and penciled, and has five toes like the English Dorking. It lays large, white eggs, and is prolific and handsome, but it is useless to raise chickens.

We must not forget the games, the oldest of our domesticated fowls, and the origin of the common so-called barn-door or dung-hill fowl. It was a bird of this kind that found the jewel upon the dung-hill, as so truly related by the famous Aesop, and which would gladly have exchanged it for a grain of barley. Its native home is the East Indies, where the gallinaceous tribe probably originated, and even now exists in its wild state as the jungle fowl, which almost precisely resembles the modern brown-red games. There is no handsomer fowl, either in the brilliance and variety of color of its plumage or in its graceful and well-proportioned form, or its activity, courage and endur-



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ance. Unhappily, its natural pugnacity and courage have been made an excuse for its culture as a means for the brutal amusement of cock-fighting, and this has caused its more useful and valuable qualities to be overlooked in the odium which has been thus attached to all of this variety of fowls. But the game fowls are for domestic and not for business use, and there is no greater delicacy than the game fowl or its eggs upon the table, while for pastry no other eggs equal them, excepting those of the tiny bantams.

We might mention the Hamburgs—black, white, golden, and silver-spangled and penciled, which are excellent layers; the Andalusian, which is said to be the first as regards its laying qualities and the last as to its other uses; the Black Spanish and the Polish, which are all crested, and some of them curiously so, as the black with white crest and the pure white black-crested, and which, when young and small, are the quaintest of chickens. But the profit of these is in the pleasure of keeping them, in which the pocket derives no benefit, and, lastly, we might refer to the operation of caponizing the chickens as a means of doubling the value of the fowls in size and quality, and for this use there are no other kinds which approach the first two on the list, viz., the Light Brahma and the Plymouth Rock. We might further remark that when properly begun and attentively carried on there is no more profitable pursuit for women and girls than poultry-keeping, in which the work is light, pleasant and interesting, and which is spread evenly over the whole year, with no rush at one time and too much leisure at another; from which a comfortable income can be secured with but a moderate outlay, and which can be begun in a small way and rapidly increased to quite considerable proportions.



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Horticulture.

The Inorganic Constituents of Plants.

Professor Puryear, of Richmond College, is publishing a series of articles on the subject above named. We copy No. 1:

When plants are burned, the organic part passes off into the atmosphere as gasses and the vapor of water, while the inorganic part remains in the form of ash. The amount of ash in different plants is very variable, ranging, as a general statement, from 1 to 12 per cent. of the weight of desiccated vegetable matter. The amount of ash in wheat grains is hardly 2 per cent; in tobacco, it is 24 per cent. The amount of ash varies not only in different plants, but also in different parts of the same plant. Thus the ash in the grain of wheat is 2 per cent., but in the straw $3\frac{1}{2}$ per cent.; in the wood of the elm, 1.88 per cent.; in the leaves, 11.88 per cent.; in the wood of the oak, 0.21 per cent.; in the leaves, 4.5 per cent.

Now, what substances constitute the ash of plants? They are potash, soda, lime, magnesia, oxide of iron, oxide of manganese sometimes, silica, chlorine, sulphuric and phosphoric acids. Let no one be appalled by what may seem a list of hard names. As we advance, it will be seen that most of them are well known substances and have more familiar names. To learn not only the names of these bodies, but their composition and properties, is an easy matter. Let no one, therefore, be deterred from reading this article, and others to follow, by this bristling array of scientific terms. Some of these substances will be welcomed by the farmer as old friends, when we proceed, as we shall soon do, to strip them of their new dress and present them in their old names.

These substances, the inorganic constituents of plants, do not exist in the soil or in the ash of plants, in the free or uncombined state, as the incautious reader might infer from our mode of presentation. For instance, potash is found not as potash, but in combination with carbonic and sulphuric acids, constituting respectively the carbonate and the sulphate of potash. Phosphoric acid is found neither in the soil nor in the ash as phosphoric acid, but in combination with lime and magnesia, and forming, therefore, the phosphate of lime and the phosphate of magnesia. Chlorine, of course, is not found free, but in the form of sodium chloride or common salt; silica and the oxide of iron are found both free and in combination.

All these substances are solids. They are found only in the soil. They do not, and cannot, exist in the atmosphere. We look to the soil exclusively to furnish them to growing crops. The atmosphere is the primary source of the organic elements of plants, and we cannot control the atmosphere. "It bloweth where it listeth, and we hear the sound thereof," and that is all. But the soil, the exclusive source of the mineral or inorganic constituents of plants, is our property and subject to our control. We may add to it, we may take from it. Not only do we change the composition of the soil, but we modify, at pleasure, its mechanical and hygrometric condition. In discussing, therefore, the inorganic constitution of plants, we are entering the realm of practical agriculture; we are dealing with those tangible forms of matter which are subject to our control and are capable of being made subservient to our interests. If the series of articles, which we now begin, on the inorganic constituents of plants, shall seem to our readers a little duller than the series on the organic elements, we hope they will have sufficient compensation in finding them more directly profitable, practical and useful.

In some plants the amount of mineral matter is less than one per cent., in others, two, three, four, five per cent., even when the vegetation is thoroughly dried. The relative amount of mineral matter is correspondingly less in plants containing their natural quantum of water. It was, therefore, once the general opinion that the inorganic constituents of plants are accidental and not necessary; that plants simply absorb soluble mineral matter as may happen to be present in the soil. This theory of agriculture had no place for the application, as plant food, of gypsum, or caustic lime, or the phosphates, etc. Such substances, it seemed, were too small a part of the weight of plants to

be essential to their constitution. Such a theory provided only for the application of organic putrescent manures, which were to furnish, as they decomposed, the organic elements of the coming crop. The demonstration, now complete, that the inorganic constituents of plants are not accidental, but essential, is perhaps the most beneficial application of modern chemical science to practical agriculture, and places agriculture upon a strictly scientific basis. If the inorganic constituents were accidental and not necessary, it would, of course, follow that the ash of plants would vary with the soil which produces them. Not so, however. Wherever 100 pounds of wheat grains are produced, there is a demand upon the soil for two pounds of ash, half of which is phosphate of lime. The amount and constitution of this ash are constant, whether the cereal be grown on soils formed from primary rocks, or metamorphic rocks, or on alluvial foundations. The ash of wheat, both in amount and constitution, is the same, whether the grain be raised in New York, or in Tidewater or Piedmont, Virginia. A soil absolutely destitute of phosphate of lime, however rich otherwise, cannot mature a bushel of wheat. In the vegetable economy whatever is necessary is necessary; and if a plant cannot get a single constituent, how small soever relatively that constituent may be, its capacity to work up, into organic forms, other elements is arrested at once. Everything must go on *pari passu*. If the supply of lime, or potash, or phosphoric acid, be absolutely exhausted, then the whole work of the plant ceases instantly; and if the supply be inadequate, then the growth is correspondingly slow and the yield correspondingly small. An acre of land may have everything necessary to enable it to yield thirty bushels of wheat, except, say potash. The amount of potash it can furnish during the growing season is only enough—we will say—to meet the demand of fifteen bushels. Then the potash will determine the yield—fifteen bushels—though everything else demanded is sufficiently abundant for thirty bushels.

An acre producing 1,000 pounds of tobacco, must yield to the growing plants 240 pounds mineral matter, made up of eight or nine substances, among them potash and lime. The demand for lime will be eighty-eight pounds; for potash sixty-five pounds. If the land cannot yield this much lime and potash, then it cannot grow 1,000 pounds of tobacco.

It is impossible to overestimate the immense practical value of the great discovery that the mineral constituents of plants are essential and not accidental. It establishes a relation between the soil and the crop which may be sharply defined, and a correct knowledge of which may be confidently relied on to abridge the labor, and increase the gains of the farmer. A soil may be abundantly rich in everything except, for instance, phosphoric acid. Ten dollars' worth of ground bones applied to such a soil will be of more value than a hundred dollars' worth of ordinary putrescent manures. The ground bones, in supplying phosphoric acid, meet the deficiency, the only deficiency, of the soil; the putrescent manures, heavily applied, meet the deficiency also; but they increase tenfold the labor and expense by supplying at the same time other things not needed.

Pruning Evergreens.

In nothing has progress in arboriculture been better indicated than in the use of the pruning-knife on evergreens. Up to within a recent period one might prune any trees except evergreens, and few articles ever took the public more by surprise, says Thomas Meehan in the *Gardener's Monthly*, than our first paper showing that pruning benefited these plants. Now it is generally practiced, and it is believed to be followed with more striking results than when used on deciduous trees.

In transplanting evergreens of all kinds from the woods, the best way to save their lives, is to cut them half back with hedge shears, and when any come from the nurseries with bad roots which have accidentally become dry, a severe cutting back will save them. And then if we have an unsightly evergreen—a one-sided or sparsely-clothed evergreen—if it is cut back considerably it will push out again green all over, and make a nice tree. It must be carefully remembered, however, that in all these cases the leading shoot must be cut away also.

An idea prevails that a new leading

shoot will not come out on the Pine family after one has lost its first. But this is a mistake; sometimes they will not show a disposition to do so; side shoots near the leaders' place will seem to put in rival claim for the leadership the following year but if these are then cut away they will not make a second attempt, and the real leader will push on.—*Exchange*.

The Busy Bee.

Comb Honey--Best Management in Its Production.

Mr. F. C. Benedict, a competent bee-keeper, gives these suggestions on the production of comb honey. He says that in "early spring we shall have to start, perhaps, before the first natural pollen is gathered, upon rye or graham flour. When natural pollen appears, or on some warm, pleasant day before, look over each colony and see if it has a good queen and plenty of honey. Cover the hives with enameled cloth or some material that will keep in the heat and moisture. Contract weak colonies by the use of the division board until they have no more frames than they can cover well. Be sure each time to leave plenty of honey, uncapping a portion that the bees may move it about in the combs.

"Let the bees rest about ten days more, and by this time the young bees in the hive will begin to be quite numerous, and if you find the queen is using all the room add one frame to the brood nest. Begin now to feed and stimulate to brood-rearing. This feeding may be done in the hive from a top feeder, or from a feeder placed at the entrance. Three or four tablespoonfuls is a plenty unless they are very short of stores.

"At this season of the year bees use a large quantity of water in preparing the food for the brood, and if the keeper will supply it by feeding one part of sugar or honey to three of water, it will save thousands of workers that would go out on unfavorable days in search of water, never to return. The period mentioned is never far from the 1st of May. Now push them as fast as possible, as you only have about fifty days to white clover bloom, at which time no one need fear getting his colonies too populous. During the fifty days subsequent to early May, look to each colony weekly, add combs by spreading brood and by placing an empty comb in the center, keeping a record of every colony.

"Good results may be obtained with nearly all of the movable frame hives. During spring management a hive in which you can extend the brood nest is of great advantage. If your hive is such that you can add extra frames they will be quickly filled with brood. Now we come to the honey season, being all ready with sections filled with light foundation, not less than ten square feet to the pound, placed on racks with separators clamped between. Go to the yard, and, as you pass through, lift up the quilts, and if you find that they are whitening the tops of the combs, they are starting new honey and should be given the sections at once. There is no way in which the sections can be given that has the advantage of the rack or clamping case, worked upon the tiering-up system. When nicely started, raise them up and place under another set. Continue this until well along in basswood time; then be careful not to get more started than the bees will finish on white honey.

"With all strong swarms that issue up to within one week of the opening of basswood bloom, remove the old hive to a new stand, and place the new hive upon the old stand filled with one empty comb and seven frames with wire foundation, with the sets of partly-filled

sections from the old hive placed in position on the new one. Now hive the swarms and they are ready for business. As you have all the working force of the old hive, there will seldom be any trouble with the new colonists swarming again.

"As to the condition of the old colony, there will be found eight frames of brood in all stages, and young bees enough to care for the eggs and larvae, and hundreds more hatching every day. Let them stand six or eight days, then open the hive and cut all queen cells, saving the best to be placed in nuclei from which is to be taken a laying queen, and place in the old hive. There will then be a colony which will often fill one, and perhaps two, sets of sections during the basswood flow.

"When within a few days of the basswood bloom, everything must be made to count. Hive the swarm on the old stand as before, but do not carry the old hive to a new stand, but place it beside the new one with entrance at right angles. Let this stand eight days. Towards night of the eighth day, open the old hive, and there will be found a fair colony of bees. Have the comb box ready. Remove the combs, shake the bees at the entrance of the new hive, place the combs in the box, shake some of the bees from the old hive, and remove to a new stand. Place the combs in the hive, cutting out all queen cells but one. The young bees, with what are yet to hatch, will take care of the work in the hive and with care will be in trim to take the last of basswood and store dark honey enough to winter upon. From the first swarms you will obtain more honey than you would have had in trying to keep them in one hive, and in trying to suppress the swarming impulse. Again, you get the greater part of the worker bees when they will do the most good, that is, during the honey-flow."

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Kansas Fairs.

The following counties have reported dates for holding their annual fairs, giving name of Secretary and the place of holding the fair:

The Western National Fair (Bismarck), Lawrence, September 7-12; Secretary, R. W. Cunningham.
Anderson County Fair Association, Garnett, August 25-28; Secretary, M. L. White.
Bourbon County Fair Association, Fort Scott, October 6-9; Secretary, E. W. Hildbert.
Brown County Exposition Association, Hiawatha, September 8-11; Secretary, C. H. Lawrence.
Butler County Exposition Association, El Dorado, September 29 to October 2; Secretary, H. W. Beck.
Chase County Agricultural Society, Cottonwood Falls, September 22-25; Secretary, E. A. Kinne.
Cherokee County Agricultural and Stock Association, Columbus, September 8-11; Secretary, S. O. McDowell.
Clay County Agricultural Society, Clay Center, September 15-18; Secretary, Wirt W. Walton.
Coffey County Fair Association, Burlington, September 15-18; Secretary, J. E. Woodford.
Coville County Fair and Driving Park Association, Winfield, September 21-25; Secretary, D. L. Kretzinger.
Dickinson County Agricultural and Industrial Association, Abilene, September 23-26; Secretary, H. H. Floyd.
Doniphan County Agricultural, Horticultural and Mechanical Association, Troy, September 15-18; Secretary, Thos. Heushall.
Elk County Agricultural Society, Howard, September 15-18; Secretary, J. V. Bear.
Western Kansas Agricultural Fair Association, Hays City, September 22-25; Secretary, P. W. Smith.
Franklin County Agricultural Society, Ottawa, September 28 to October 2; Secretary, John B. Shaffer.
Harper County Agricultural and Mechanical Association, Anthony, September 1-5; Secretary, J. W. Clendenen.
Harvey County Agricultural Society, Newton, September 22-25; Secretary, A. B. Lemon.
Jefferson County Agricultural and Mechanical Association, Okaloosa, September 23, 24 and 25; Secretary, A. J. Buck.
Valley Falls District Fair Association, Valley Falls, September 1-4; Secretary, M. M. Maxwell.
Jewell County Agricultural and Industrial Association, Mankato, September 29 to October 2; Secretary, Geo. A. Bishop.
Johnson County Co-operative Fair Association, September 22-25; Secretary, C. M. T. Hulet.
LaCygne District Fair Association, LaCygne, September 29 to October 2; Secretary, O. D. Harmon.
Marion County Agricultural Society, Peabody, September 1-4; Secretary, L. A. Buck.
Marshall County Fair Association, Marysville, September 22-25; Secretary, C. B. Wilson.
McPherson County Fair Association, McPherson, September 19 to October 2; Secretary, J. B. Darrah.
Miami County Agricultural and Mechanical Association, Paola, October 7-10; Secretary, H. M. McLachlin.
Montgomery County Agricultural Society, Independence, September 16-19; Secretary, B. F. Devore.
Morris County Exposition Company, Council Grove, September 29 to October 2; Secretary, F. A. Moriarty.
Nemaha Fair Association, Seneca, September 15-18; Secretary, W. E. Wilkinson.
Phillips County Agricultural and Mechanical Association, Phillipsburg, September 16-18; Secretary, J. W. Lowe.
Rice County Agricultural Society, Lyons, October 13-16; Secretary, C. W. Rawlins.
The Blue and Kansas Valley Agricultural Society, Manhattan, August 25-28; Secretary, S. H. Sawyer.
Saline County Agricultural, Horticultural and Mechanical Association, September 29 to October 2; Secretary, C. S. Martin.
Arkansas Valley Agricultural Society, Wichita, October 5-9; Secretary, D. A. Mitchell.
Sumner County Agricultural and Mechanical Association, Wellington, September 8-11; Secretary, D. A. Epp.
Neosho Valley District Fair Association, Neosho Falls, September 21-25; Secretary, O. S. Woodard.
Decatur County Exposition Society, Oberlin, September 23-25; Secretary, T. D. Bebb, Vallonia.
Smith County Agricultural Society, Smith Center, September 23-25; Secretary, F. J. Patten.
Kaw Valley Fair Association, St. Marys, September 22-25; Secretary, A. J. Beak-y.
Osage County Fair Association, Burlingame, September 15-18; Secretary, A. M. Miner.
The Kansas Central Agricultural Society, Junction City, September 30 to October 2; Secretary, Chas. S. Davis.
Rice County Fair, Lyons, October 6-9; Secretary, C. M. Rawlins.
Washington County Fair, Washington, September 29 to October 2; Secretary, C. W. Aldrich.
Kansas Association of Trotting Horse Breeders, Topeka, September 22-25; Secretary, Rufus Bean.
Parsons Fair and Driving Park Association, Parsons, September 15-17.
Caldwell Driving Park and Agricultural Association, Caldwell, August 27-29; Secretary, John W. Nice.
Pawnee County Fair and Stock Association, Larned, September 23-26; Secretary, Geo. A. Sells.
Keno County Fair, Hutchinson, October 13-16.
Ottawa County Fair, Minneapolis, September 8-11; Secretary, W. H. Chappel.
Centralia Fair Association, Centralia, October 6-7.
Frankfort Fair Association, Frankfort, September 29 to October 2.
Linn County Agricultural and Mechanical Association, Mound City, September 21-25; Secretary, E. F. Campbell.
Rush County Fair Association, LaCrosse, October 1-2; Secretary, E. F. Brown.
The Kansas City Fat Stock Show, Riverview Park, Kansas City, October 29 to November 5; Secretary, Edward Haren.
First Annual Poultry and Pet Stock Show, Kansas City, December 29, 1885, to January 1, 1886, inclusive; Secretary, Edward Haren.

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

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

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

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

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

Any person taking up an 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, and he shall give a full description of the same and its cash value. He shall also give a bond to the state of double the value of such stray.

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

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

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

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

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

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

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

Strays for week ending August 12, '85

Harvey County--John C. Johnston, clerk.

PONY--Taken up by J. B. Price, (P. O. Burdett), June 23, 1885, one chestnut sorrel mare pony, about 9 years old, branded N J B on left shoulder, dim brand on left hip, white spot in forehead, collar-sore on point of left shoulder, saddle marks on back, medium size; valued at \$25.

Barton County--Ed. L. Teed, clerk.

PONY--Taken up by Franz Keast, of Walnut tp., July 1, 1885, one roan mare pony, 13 hands high, branded S L Y; valued at \$20.

Graham County--H. J. Harwi, Clerk.

COW--Taken up by Norman Edwards, of Gettysburg tp., April 28, 1885, one dark brindled cow with reddish head, white in forehead, 3 or 4 years old, drooping horns; valued at \$20.

Marshall County--H. C. Woodworth, clerk.

STEER--Taken up by Thos. McMahon, of Franklin tp., July 22, 1885, one red steer, about 2 years old, white spot on knee and white spot on each side; valued at \$30.

HORSE--By same, one roan horse, 9 years old, both hind feet white, branded V on left hip; valued at \$30.

Strays for week ending August 26, '85

Davis County--P. V. Trovinger, Clerk.

PONY--Taken up by Wm. Ward, of Jefferson tp., August 8, 1885, one sorrel mare pony, 15 hands high, white on left fore foot, covered with tick-marks, very wild, branded K with two sides of a triangle attached on front side in such shape as to nearly form a triangle, on right shoulder; valued at \$25.

COLT--By same, one bay mare colt, supposed to be 1 year old, white on right hind foot, white under belly, blemish on right fore leg above the knee; valued at \$10.

Johnson County--Henry V. Chase, clerk.

MARE--Taken up by W. W. Butram, living 7 miles southeast of Shawnee, June 18, 1885, one bright bay mare, 5 or 6 years old, 15 hands high, marks of distula, scar on withers, few white hairs in forehead, knot on inside of left hind leg; valued at \$50.

MULE--Taken up by John Myers, living in the town of Shawnee, one iron gray horse mule, about 4 years old, 12 hands high, rope brand on right hock, saddle mark, stood on three feet; valued at \$20.

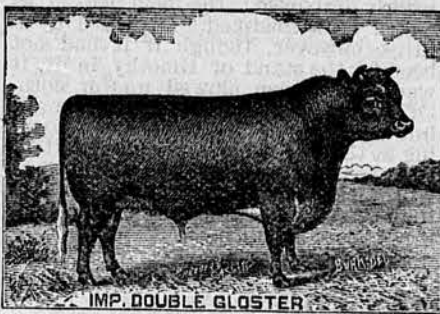
COW--Taken up by Albert Cochran living about 2 miles south of Olathe, one red and white spotted cow, 7 or 8 years old, not giving milk, slit on under side and notch in end of left ear; valued at \$25.

Allen County--R. W. Duffy, clerk.

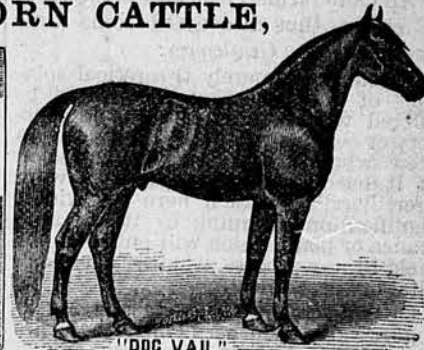
MARE--Taken up by L. B. Pearson, of Salem tp., July 19, 1885, one dark brown mare, 3 or 4 years old, both hind feet white, wire cut on left fore foot; valued at \$30.

COLT--By same, one iron gray horse colt, 1 year old, no marks or brands; valued at \$30.

BLUE VALLEY HERD and STUD OF SHORT-HORN CATTLE,



IMP. DOUBLE GLOSTER



"DOG VAIL"

Such as Cruickshanks, Roses of Sharons, Young Marys, Phyllises, Josephines, and other good sorts. Also

Roadster, Draft & General-Purpose Horses, Mares & Mules.

Stock always in fine condition and for sale at reasonable prices. Correspondence and inspection invited. Call at the Blue Valley Bank, Manhattan, Kansas.

WM. P. HIGINBOTHAM, Proprietor.

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ALL AGES AND BOTH SEXES. HOME-BRED AND IMPORTED.

Cows and Heifers Bred to Best Netherland and Aaggie Bulls.

The Average Records of a Herd are the True Test of Its Merit.

The Following Milk and Butter Records Have All Been Made by Animals Now in Our Herd:

MILK RECORDS:

Five Cows have averaged over 19,000 lbs. in a year. Ten Cows have averaged over 18,000 lbs. in a year.

We know of but 23 Cows that have made yearly records exceeding 16,000 lbs. and 14 of them are now in our Herd and have averaged over 17,500 lbs.

Twenty-five have averaged over 14,000 lbs. in a year. Sixty-three, the entire number in the Herd that have made yearly records, including 14 three-year-olds and 21 two-year-olds, have averaged 12,785 lbs. 5 ozs. in a year.

BUTTER RECORDS:

Five Cows have averaged 20 lbs. 7 ozs. in a week. Nine Cows have averaged 19 lbs. 3/4 oz. in a week. Fifteen Cows have averaged 17 lbs. 6 ozs. in a week. Six three-year-olds have averaged 14 lbs. 3 ozs. in a week. Eleven three-year-olds (the entire number tested) have averaged 13 lbs. 2 ozs. in a week. Six two-year-olds have averaged 12 lbs. 1 1/2 ozs. in a week. Fifteen two-year-olds (entire number tested) have averaged 10 lbs. 8 3/4 ozs. in a week. The entire original imported Netherland Family of six cows (two being but three years old) have averaged 17 1/2 lbs. in a week. This is the Herd from which to get foundation stock. Prices low for quality of stock. SMITHS, POWELL & LAMB, Lakeside Stock Farm, Syracuse, N. Y.

THE ELMWOOD HERD

—OF—

A. H. Lackey & Son,

PEABODY, Marion Co., KAS.,

BREEDERS OF

SHORT-HORN CATTLE

AND

BERKSHIRE SWINE.

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

Premium Berkshires very cheap.

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,

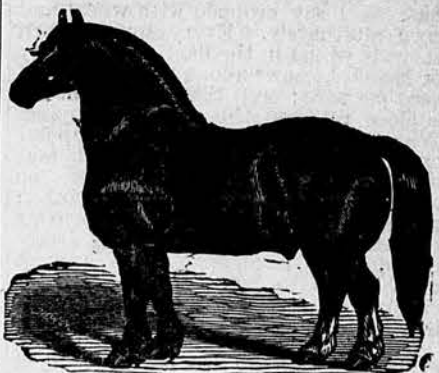
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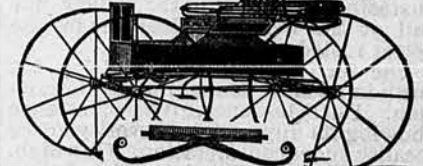
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IT WILL BE AN ADVANTAGE to always mention the KANSAS FARMER when writing to advertisers.

Clover as a Fertilizer.

An Ohio farmer, who knows the value of clover, thus discoursed some time ago in *Country Gentleman*:

Probably no merely theoretical solution of this question that could be offered would be accepted as satisfactory or conclusive; but I have a case in view where a practical demonstration of it has been made, and to the word "fertilizer," I attach here the widest signification, meaning by it any substance or plant which will enhance the yield by any process, whether chemical, vital or mechanical.

On contiguous farms in the Muskingum valley, southern Ohio, there are two fields, one of twenty acres, one of ten, separated only by a fence. They both lie on the second plateau or bench, have been cleared and in cultivation the same length of time (about seventy years), and have been subjected to the same rotation of corn and wheat—the ten-acre field without interruption, the twenty-acre field with a rest of a year or two about every fourth year. The reader will please bear this fact in mind, since it shows that the larger field has had the advantage in one respect, and it should have full force attached to it in connection with the results about to be recorded.

The greatest and most important difference between the systems of cultivation pursued in these two fields is, that the small field has been kept seeded in red clover, while the large one has been allowed to seed itself to white. At any rate, this has been the case for the last twenty-five or thirty years. The little field is part of a small farm, while the large one is part of a large farm; and, though the successive owners of the small farm have been on the whole better farmers than the owners of the other, yet the latter have maintained a system of tillage which was better than the average of Ohio, and which might, perhaps, be said to have been inferior to that followed on the little farm, only in that it neglected the seeding of the ground with red clover, allowing the white to take its place.

The proprietor of this small farm has, as I say, cropped with wheat and corn alternately. Every spring when there is wheat in the field, in February or March he sows about two quarts of seed per acre; and this small amount suffices to keep the ground occupied. White clover never makes its appearance, nor any other vegetable in fact except some ragweed after harvest, so thoroughly has the red clover taken possession. But in the field just over the fence, white clover is equally firmly established. It comes up after harvest so thick as to hold the ragweed in check fully as well as the red clover in the neighboring field, if not better.

Now, it will hardly be denied by the experienced farmer that red clover acts as a better mechanical divisor of the soil than white clover. It has coarser and more abundant roots and stems. It lays, as it were, a great number of minute tile-drains through the soil. In the red-clover field, with an equal amount of tillage, the soil will always be finer, less lumpy than that in the white-clover field. Therefore, whether it has a greater or less percentage of nitrogen (which I have not the tables by me at this moment to determine), it serves as a better inductor of that element from the rain and the atmosphere into the soil.

Last fall both these fields were sown to wheat. The ground in each received an equal amount of seed (about 1½ bushels per acre), and there was substantially the same amount of preparatory tillage. But in the white-clover field the ground broke up more lumpy, as usual, than its neighbor, and it was more lumpy when the wheat was drilled in. But the timely rains brought the seed up nicely in both fields, and when winter set in both were completely covered with the foliage, presenting a very fine appearance.

But this apparent equality was delusive, for, as subsequent events demonstrated, the wheat in the mellow, fine soil of the red-clover field was far the better rooted of the two.

The terrible winter of 1884-5 is too fresh in memory to require any description. I will, however, give one instance showing its unparalleled severity in the locality under consideration. On a high, sandy and gravelly plain, the fourth plateau or the river bottom, there were in the fall a great many thrifty young mulleins. The repeated freezings and thawings of the unprotected soil so completely uprooted them that the wind swept them away and drifted them into

the fence row, in some places, two feet deep.

When spring at last came, the wheat in the white-clover field seemed to be utterly destroyed; the field looked as naked as a road-bed. It picked up a little, however, though if it had not been for the stand of timothy in it, it would have been plowed up for corn. Of course it is only guess-work now, but any farmer of experience, on looking at the two fields, would not hesitate to say that the ten-acre red clover field will yield considerably more wheat than the twenty-acre white clover field, if not twice as much.



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

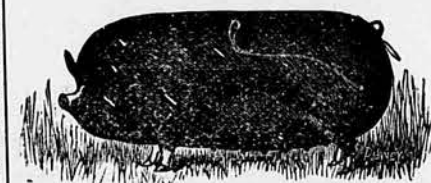
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PLEASANT VALLEY HERD

Pure-bred Berkshire Swine.



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

PURE-BRED Berkshire and Small Yorkshire SWINE.



We are breeding 25 of the best selected sows of the above named swine to be found in the country, direct descendants from Imported Sires and Dams. We are prepared to fill orders for either breed, of both sexes, at the very lowest prices.

We have tried Small Yorkshires thoroughly, and are satisfied that they cannot be excelled as a profitable hog to raise. They are very docile and mature rapidly. Send for prices and catalogue to WM. BOOTH & SON, Winchester, Jefferson Co., Kas.

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;

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to place an order for
A SPRING PIG;

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OTTAWA HERD OF Poland-China and Duroc Jersey Red Hogs.



I. L. WHIPPLE, Prop'r, Ottawa, Kas.

I have for sale a fine lot of young pigs sired by Jay-hawker 2630, Ottawa King 2885 (the champion hogs of Franklin county), and Buckeye Boy 24 2310, Ben Butler 2977, Leek's Gilt-Edge 2887, which are very fine breeders of fashionable strains. My sows are all first-class and of popular strains. I also have an extra fine lot of Duroc Jersey Red pigs for sale from sires and dams that have never been beaten in the show ring in four counties in Kansas. I have hogs of all ages in pairs or trio of no kin, for sale. My herd has never had any disease. Stock all eligible or recorded in Central Record. Please call and see stock, or write and give description of what you want. Inquiries promptly answered. Farm, three miles southeast of Ottawa, Kas.

TIMBER LINE HERD OF HOLSTEIN CATTLE and POLAND-CHINA HOGS.

HOLSTEINS.

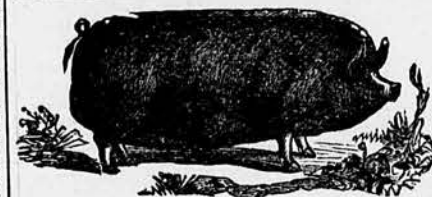
We are now ready to supply the Western trade with Holstein Cattle—Bulls, Cows and Calves. Also Grade Cows (bred or unbred) and Calves. By carload or single animal. We claim that we have the best herd west of Missouri, both in points and record. Our prices are reasonable. We are glad to have persons call and see for themselves. We invite correspondence.

W. J. ESTES & SONS, ANDOVER, KANSAS.

POLAND-CHINAS.

We also have an extra lot of Poland-China Hogs, from a sucking Pig to a four-year-old Sow. Our Hogs are made up of the best blood that money can buy, and to prove our claims we will sell by measure, giving points; and we guarantee all stock to breed, or to be replaced by animals that will breed. Please ask for what you want.

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

EARL OF CARLISLE 10459,

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

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THOROUGHbred. POLAND-CHINAS



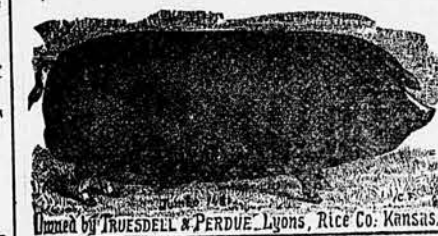
As produced and bred by A. C. MOORE & SONS, Canton, Ill. The best hog in the world. We have made a specialty of this breed for 38 years. We are the largest shippers of thoroughbred Poland-Chinas in the world. Shipped over 700 pigs in 1883 and could not supply the demand. We are raising 1,000 pigs for 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.



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All well pedigreed. Correspondence solicited

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Elegant Equipment Between Kansas City and Omaha.

On and after July 1, 1885, the Missouri Pacific night express, between Kansas City and Omaha, leaving Union depot at 8:20 p. m., arriving at Omaha at 6 a. m., returning leave Omaha at 9 p. m., and arrive at Kansas City at 6:35 a. m. daily. These trains will be equipped with two new elegant Pullman palace sleeping cars, the Potosi and Glendale, and elegant palace day coaches. Day express (daily) except Sunday to Omaha leaves Kansas City at 8:45 a. m., arrives at Omaha at 6 p. m. These trains run through Leavenworth, Atchison, Hiawatha, and run to and from the Union Pacific depot at Omaha.

Connections made at Omaha for all points west on the line of the Union Pacific, for all points north to St. Paul, and with all eastern lines from Omaha.

For tickets and sleeping car berths, call on your ticket agent, or No. 1,048 Union avenue and 528 Main street, Kansas City, Mo.

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J. H. LYON, W. P. Agt.,
St. Louis, Mo.
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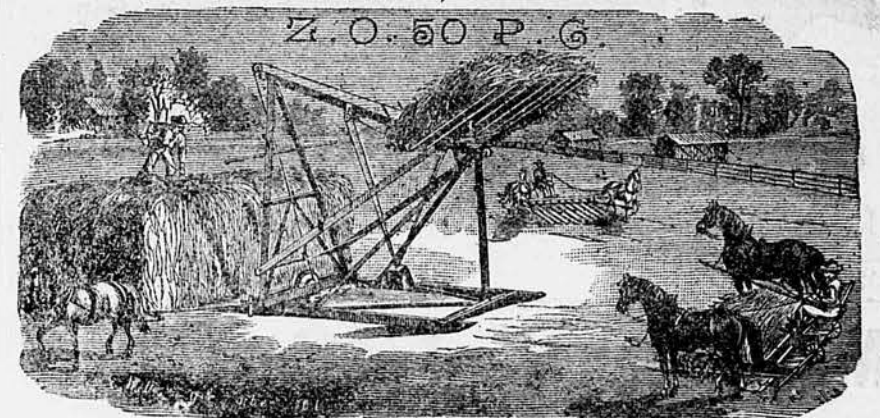
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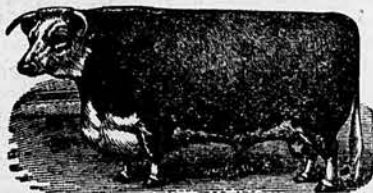
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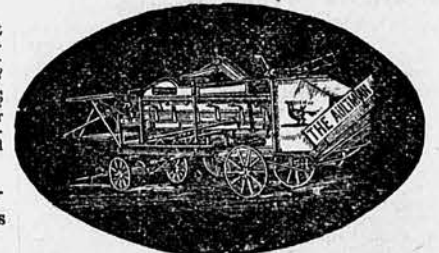
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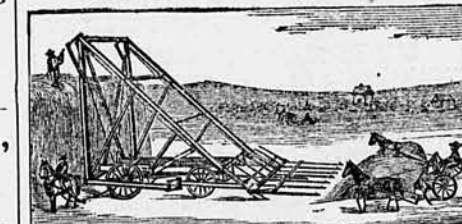
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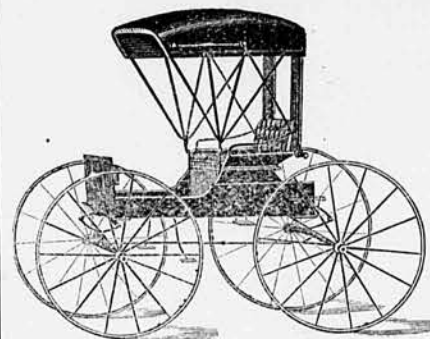


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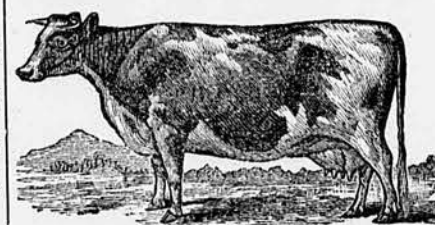
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