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RAW FLAX AND FINISHED THREAD.

Flax was probably the first fiber spun by man. It is mentioned in the Bible; it is found in the form of linen wrappings covering the embalmed dust of the Egyptian mummies, and fragments of it are still in existence which show association with neolithic implements of much earlier date. It is not, however, my intention to place before the readers of this magazine an archaeological treatise on this subject, and I shall content myself with mentioning these few facts, my object being to show that thread manufacture can boast of "claims to long descent," and that it is one of the industries of man to which a pedigree is attached sufficiently lengthy to satisfy the proudest Lady Vere de Vere.

Flax is grown in many parts of the world, the finest being produced in France; Russia, Belgium, Holland and Ireland are also countries where this useful plant is largely cultivated. The flax plant grows rather shorter than wheat; its stem or stalk is not quite so thick. It is the outside or bark of this stem or stalk which furnishes fiber for spinning; the inner portion being a hard, woody pith, which has to be threshed out, great care being taken that in so doing the fiber or bark is not damaged. When freed from its pith, the flax is sold to the mills to be converted into thread. Its price varies from \$40 to over \$200 a ton, yet the difference in the quality of the fiber is scarcely perceptible to an outsider; so it is very evident that any one who was not a connoisseur might make but a very sorry bargain. None but the best and most perfect flax is fit for thread-making.

The manufacture of thread is not confined to any town, district or country, but in this particular industry we certainly hold our own, for in this "tight little island" are to be found the largest and finest thread-mills in the world.

In the production of the best thread it is not easy to say which is the most essential, the selection of the flax, the perfection of machinery employed, or careful manipulation in the many and various processes through which it passes. It is certain, however, that one machine not in perfect order, one careless worker, or even one imperfect roller, will in a short time do as much damage as any obstreperous bull in a china shop; for most assuredly a very considerable quantity of the most carefully prepared materials would be ruined, and passed on in such a state that it would be condemned, when coming under the eye of the all-seeing over-looker, as not being up to the necessarily high standard.

To begin at the beginning, the first process that the flax undergoes, after making its *entree* into the mill, is that of "hackling," by which the broken, tangled or imperfect fibers are combed out. The operation is very similar to that of a lady combing out her hair when it has become very knotty and entangled, only that in place of one comb there are hundreds, the teeth being of steel, and steam-power instead of hand performs the necessary operation. I could safely recommend the "hackling" machines to any lady, as capable of combing out the knottiest tresses, but would not guarantee that after the operation was finished there would be much hair left to adorn the head. The next operation takes place in a "sorting room," where the flax, now called "line," is still further relieved of any impurities, by men who carefully look it over and then sort it

into the "numbers" into which it will spin. "Preparing" is the next process of manufacture, which is one of the greatest importance in the production of a perfect and regular yarn. The small locks of the "line" are laid by girls on a slowly-moving strap of leather, each lock overlapping the one before it so as to form a continuous ribbon one or two inches wide, which is carried by the motion of the strap into the first "drawing-frame." The principle of the drawing-frame is this: The ribbon of material passes between a pair of slowly-revolving rollers, which hold it while they pass it forward, and it is then taken by another pair of rollers, which, revolving at a higher speed, draw the ribbon out to a greater length, and in consequence make it thinner. But since a long fiber when pulled away by the drawing-rollers might catch and entangle the fibers near it, a beautiful mechanism (which must be seen to be understood) was invented by flax-spinners, and afterwards adopted for spinning silk, worsted, and other long staples, by which a number of fine needles are pushed through the ribbon of fiber between the first and second pair of rollers, and travel along with it, giving it a support and preventing the fibers from being snatched away prematurely.

The ribbon, or "silver," as it is called, when it emerges from the drawing rollers, is smaller than that made by hand, but is far too irregular in size to be spun into yarn, so four or more of these are wound together into a can, a receptacle not unlike the milk cans that we see on railway platforms, and the silver thus produced goes through a series of similar drawing processes, at each of which a number of silvers are laid together and drawn out to a smaller size, that is, more nearly to the size of the yarn required. As many as 50,000 silvers are thus laid together, and all the irregularities of the first hand-made ribbon equalized, before a first-class thread yarn can be produced.

The next process is "roving," which is the first twisting of the silver, or band which has been formed out of the flax. Previous to the twisting, the silver, or very thin narrow ribbon as it now looks like, has no strength; the slightest pull would break it asunder. It is, therefore, twisted and wound on a large bobbin and is then ready for the spinning frame. There are two kinds of spinning, hot-water spinning and dry spinning. In the former, the "rove" of flax, as it is now called, is made to pass through a trough of hot water, the object being to moisten the gum natural to flax. Thread yarns vary in size from 3000 to 30,000 yards to the pound, and some small quantity is spun as fine as 60,000 yards to the pound.

The utmost scrutiny is given to the yarn in order that all flaws or knots may be detected. Men examine these yarns, which are hung on a pole in front of a window. They hunt for knots as though their very life depended on it—indeed to a certain extent it does, for if they allowed any to pass them undetected they would at the end of the week be unpleasantly reminded of that fact, by finding that a fine had made their wages rather shorter than usual. But they are sharp-eyed men, and it is very seldom they are caught napping. If, however, they detect any fault, the girls who have passed it on are of course fined. This strict system of fining is most necessary, as a knot in a thread, as our readers well know, would often snap a sewing-machine needle.

The hanks of yarn are next taken to the

dry-house, and are first boiled in water to which has been added an alkaloid. This process is to cleanse the yarn of its gummy matter, and leave nothing behind but pure fiber. Were it not for this process, the yarn would ferment and rot. The hanks of yarn are next washed by being hung on a revolving bar of wood, with their ends dipping in the water and the bar slowly revolving. Next follows a machine somewhat resembling a huge wringing and mangling machine, which squeezes out all the water from the hanks, even more effectually than the hardy muscles of our grandmothers wrung dry the family washing.

After being duly washed, the hanks do not get their hair combed like good little boys, for that has been done previously, but are treated to a dip in the dye. In a huge cauldron, round which the witches of Macbeth might have felt quite at home, is brewed a liquor which, if not composed of such odd and varied ingredients, has sufficient in it to impart to the hanks a good clear color. The liquid contents of the cauldron are conveyed along little wooden troughs to the receptacles in which the hanks are placed. They are made to turn as in washing on a revolving beam, their ends only dipping in the dye, and it is owing to this continuous movement that an evenness of color is obtained. Those who dye articles at home would do well to note this fact.

Having been dyed the required color, the hanks are next taken to the "drying-room"—a not very enviable place to be in in sultry weather, as it is usually kept at a temperature of about 222 degrees F. Different colors require different temperatures; some will stand great heat, while others would run were the air too hot. After the hanks have become well-dried, they have to undergo an important process—that of finishing. The hank is wound on to a bobbin, and then passes through a polishing solution; different threads require different polishes. Before being polished the thread is dull, but when it has passed through the machine it is glazed, smooth, and firmer to the touch. In the machine which polishes are small brushes and fine plush rollers, the material covering the latter being more costly than any worn by Belgravian belle. In some cases the thread is polished in hanks. When such is the case, they are dipped in the solution, and polished with flannel-covered rollers.

Some hanks are polished simply by the friction gained by twisting or wringing. Youths with large iron hooks, and suitable machinery, twist and wring them about in tortuous positions as eagerly as if they were officers of the inquisition bent on extracting a secret from the luckless being in their hands. Other threads, such as those used for boot-sewing, and all that are waxed by the user, would be ruined by being polished, and are therefore "finished" in other ways, the secrets of which are only known to the initiated.

The old-fashioned skein threads in pound packets are put up by boys. These young gentlemen sit at wooden benches, each one having in front of him small wooden pegs, fixed upright into the bench. Between them they arrange the skeins in layers, and tie them around tightly with another skein. With a little skill with the fingers, and by the aid of sundry taps given constantly with a wooden stick, a nice firm pound packet is produced. First, however, in order that the thread when made up may present a neat

and tidy appearance, the knots which tie the skein are arranged by little girls so that they shall be all in one place. The skeins are stretched across a frame, and the children pull the knots round till they are all of a row. The skeins are next made up into pounds by girls and papered up. Of course a large quantity of thread is not sold in packets, but on reels or spools. These, which have to be turned with the utmost regularity, are generally imported from Canada, Norway, and a few other places. They are made in many shapes and many sizes.

Perhaps the "last stage of all that ends this eventful history" is that of winding the thread on the spools, or reels, as they are called in every-day parlance. This operation is, of course, done by machines. In order that every reel may have its exact length, a system of checking is adopted, and every morning two or three reels or spools are taken at hazard from those wound by each girl during the previous day, and having a private number affixed, they are taken to the overseers to test the measurement. "Baling" is also done on machines which are self-measuring, and the balls too are constantly weighed by the attendants, each one of whom has her scales as a check on the machine.

Referring to threads for sewing boots and shoes, we may mention that hemp is sometimes used instead of flax. The fiber is very similar to flax, though the plant is botanically very different. The finest hemp is grown in Italy, and is used for coarse shoe-threads. The finishing of wax threads is different from that of ordinary threads; they are not glazed, and are so finished that they will readily absorb the wax.

The labels for the spools or reels, which are ready gummed, are stuck on by little girls; and instead of making the tongue perform the damping operation, as is customary when affixing a postage stamp, the child damps the label on a narrow brass cylinder, which is made to revolve slowly while the lower half of it is in water. Strange to say, the children have in many cases a strong prejudice against this useful little machine, and prefer the far more injurious plan of moistening the gummed labels with the tongue.

A journey through a thread-mill, for indeed it is a journey, so large and extensive are such places, is most instructive and interesting. The ear of the visitor is, no doubt, subject to a continuous hum, whirl and buzz of machinery; but he quickly becomes so wrapt in amazement at the marvelous mechanical appliances used, which are the most ingenious the human brain could invent, that the discomfiture of the ear is soon unnoticed. When at length one reaches the open air, the quiet is such a contrast to the interior of the mill that at first it seems unnatural.—*Exchange.*

Farming, like every other business, must be attended to or it will go down. The following is the pithy reply of a farmer to the question if he had joined a silver mining scheme talked of in his neighborhood. "No. If a horse is to win a prize on the race course he must not leave the track. If he jump it the other horse will win every time. I believe in sticking to the track. This is the only hope I have of winning." This laconic reply should be heeded by farmers who would make a success in their business.

We think very few people sensible, except those who are of our opinion.—*Rocheport-Courier.*

The Stock Interest.

PUBLIC SALES OF FINE CATTLE.

Dates claimed only for sales advertised in the KANSAS FARMER.

September 30—Clay Co., Mo., Short-horn Breeders' Association, Liberty, Mo.

October 9—C. S. Eichholtz, Wichita, Kas., Short-horns.

October 16—Clay County (Mo.) Short-horn Breeders, at Liberty, Mo.

October 22—First Annual Short-horn Sale of Capital View Stock Farm, at Topeka Fair Grounds.

November 6—S. E. Ward & Son, Short-horns, Kansas City, Mo.

November 18 and 19—T. W. Harvey, Short-horns, at Fat Stock Show, Chicago.

November 20—Jos. E. Miller, Holsteins, at St. Louis, Mo.

May 20, 1885—Powells & Bennett, Short-horns, Independence, Mo.

Cooked Food for Animals.

There is no doubt in our mind about the cooking of food being among the economic questions which farmers in Kansas will soon be called upon to discuss. In their natural state animals do not eat cooked food, and for that reason many persons oppose giving it to such as we have domesticated. But on the same principle we need not make any change from the natural habits of the animal. We raise grass and corn for them, we make barns and sheds for them, we fix up palatable swill for them, and we do many other things for them that nature does not do. It is, however, a matter of dollars and cents, this cooking food is, and not a matter of taste or of metaphysics. If we can make as much milk, butter, cheese or meat with less expense by cooking feed than we can in any other way, that ought to settle the question with us.

We have discussed the subject heretofore in this paper, and refer to it now because we have just read an article by John M. Stahl in the last number of the *Indiana Farmer*. A man can increase the feeding value of a crop 20 per cent., he says, more easily than he can increase the amount of that crop to an equal extent. While the farmer is still endeavoring to increase his productions, he is now inquiring how he can most fully utilize those productions. It has been demonstrated that the most profitable grain and grass crops are those driven to market. This in turn presents problems not fully solved; among which is the economy of cooking food for farm stock.

One of the problems connected with stock feeding has been definitely settled—that it is profitable to provide a greater variety of food than is commonly done, and that this variety should be made by the addition of root, tuber and grass and green-seed foods and not of grain foods. These added foods are generally so much increased in value by cooking that it will pay to cook them. Cooking can add nothing to the substance of a food; but it may increase the digestibility of the food, and therefore its value in feeding. All foods are made more digestible by being cooked, but in some cases the added value is more than equalled by the expense of cooking.

A desirable root food for farm stock is turnips. It does not pay to cook them for sheep or cows unless in cold weather, and not then unless they can be fed under cover, but for hogs they must be cooked, as swine will not eat raw turnips in sufficient quantities to fatten. When cooked, other foods should be added; generally it is best to add them before being cooked. Thus clover hay is excellent to be mixed with turnips; so are corn-meal, oats and shelled corn; all of which will be rendered more valuable by being cooked along with the turnips.

Turnips may often be grown upon odd pieces of ground which otherwise would not be utilized, and are then cheap food; so are pumpkins, small potatoes, carrots, beets, refuse cabbages and short-cut clover. I have known of

several splendid lots of hogs being fattened on boiled turnips and a little meal. The foods above enumerated, as well as corn and oil-meal and wheat middlings, when cooked make a food greatly relished by hogs and pigs, and especially valuable to the latter. Generally it pays to cook such food.

Does it pay to cook grain? It may be said that cooking is equally beneficial for cattle, sheep and hogs, though the latter relish most and eat most readily cooked food. Corn, the universal farm stock food, contains about 64 per cent. of starch; rye, 54 per cent.; barley, 47 per cent.; and oats, 40 per cent. Starch consists of globules or grains, contained in a kind of sac. These sacs burst only when put in water heated to at least 162 degrees; a less temperature will not disrupt the sacs. This shows that the heat of the animal stomach cannot fully utilize starch, and that to get the full benefit of it the substance containing the starch must be cooked. It would appear that the gain by cooking the grains named would be great; and we have the authority of careful experimental feeders that the feeding value of corn and corn-meal is increased from 50 to 100 per cent. by cooking. The gain by cooking other grains would be in proportion to the amount of starch they contained and therefore not quite so large as in the case of corn. Whether it will pay or not to cook these grains will depend upon the farmers' facilities and the amount to be cooked. The greater the amount the less proportionate cost. The farmer can easily calculate the matter for himself. Taking the lowest estimate a gain of one-half, he will gain half a bushel by cooking a bushel of corn or corn-meal; and he can easily determine whether or not this is a fair compensation for the labor involved. So in the case of other grains. The computation is easy, and each farmer can make it for himself, as he alone can determine what it costs him to do the cooking. In some localities fuel will be an important item and in others not.

About Fattening Stock.

So many influences operate favorably or unfavorably in the process of fattening animals for meat that it seems strange so many of them often are neglected. The time is fast approaching when all these things will be found to be real money considerations. Heat, cold, shelter, food, drink, attention, quantity, quality, variety, regularity, light, darkness, cleanliness, ventilation, exercise—these are some of the things entering into the combination of influences that affect the process.

It is quite generally acted upon as if it were a belief that all an animal needs to grow fat on is plenty of some kind of feed. It matters nothing, say many people by their actions, whether the food is good and wholesome, or where the animals feed, or in what kind of a place it is, or whether they are cold, warm or clean. But this is a great mistake, as farmers who have high-priced land have long ago learned.

But many persons have never thought seriously on the subject at all, and many others are beginners. "It is not every farmer," says a late writer, "that can fatten an animal economically. It is an art that must be learned by study and practice. There are many phases to this subject, and their numerous conditions must be thoroughly understood if the farmer would realize the most from his feed; quantity food, quality of food, variety of food, warmth and quiet of stables and many other important items must be taken into consideration in fattening stock."

"As in many other departments of farm labor, there is a great lack here of

systematic work. Some are ignorant as to the best methods, while others are careless of their real interests, and have no regularity in their work.

"Every farmer seems to have his own way, and it is too often chosen with regard to the convenience of feeding rather than the economy. Ten chances to one he never knows whether he has gained or lost on the animal he has sold to the butcher.

"We cannot lay down any definite rules to be followed in fattening stock, and it would be still more difficult to follow them up to the letter, supposing they were given. But we can learn the general principles of economic feeding, and should never rest until they are put into practice. A man of good sense and judgment can apply them to his own particular circumstances. I might, for instance, say that the most economical method of feeding rough food is by the process of steaming, which would be very true, while at the same time I would not advise all farmers to go to the expense of purchasing an apparatus for this work. To those who have a large number of animals and proper facilities, it would be good economy, but to the small stock raisers or fatteners it would be impracticable or too expensive to be economical. The same might be said of the silo and other theories or methods.

"Throwing aside the discussion of particular methods, I would beg leave to call the farmers' attention to some few things that can be applied alike to all, and in the programme of which the nicest system and regularity should be observed:

"First—Fatten stock in the stall. Turn them out for exercise, but never feed in the yard. The animal that is obliged to fight for its food among the herd, and eat it after it has been fouled and trampled, cannot thrive to its fullest capacity. There is also an enormous waste of food when given in this manner.

"Second—Give the animals warm, well-ventilated and quiet quarters. An animal will take on fat much more readily when it is made comfortable and not in constant fear of injury. The idea that an animal should be confined in a dark stall probably originated in this way. I do not consider darkness an important condition, for if the other conditions were attended to there would be no reasonable grounds left for such a theory. Nothing should be neglected that will add to the comfort of the animal confined. It should be carded and bedded as well as fed.

"Third—Give them their feed in such a condition that they can get its full nutritive value, and that, too, with the least trouble and annoyance. If the fodder is coarse, it should be cut up and sprinkled with meal. A ton of corn-stalks treated in this way will do more good than a ton and a half thrown into the manger whole. If given whole, they will nose it over until they get all the leaves off, and then commence on the tender portions of the stalk, gradually working the mass over until it is thoroughly fouled by their breath, causing them to leave nearly half of it uneaten. They should have their feed of roots cut up, so that they will not be obliged to gnaw them off or run the risk of choking.

"Fourth—Feed and water them regularly. Regular feeding is an important element in fattening stock, and one that is too often disregarded by the farmer. His chores must be done when he can do nothing else—before daylight in the morning and after dark at night, with a little intermediate attention whenever he happens to be around the house. The idea of taking cattle out of a warm stable and turning them into the yard

before they have fairly eaten their breakfast, and leaving them out until dark again, is a very barbarous one, and will surely work a loss to the farmer who harbors it."

The Best Horses.

A prize essay by A. L. Sardy.

If I were called upon to name the two requisites most necessary for a farmer to possess, in addition to a good farm, I should say a good wife and a good team; and when a young farmer becomes possessed of these he has made a good start on the road to success. While no industry of the farm pays better than raising good horses, none is more unprofitable than that of raising inferior ones. It costs but little more to raise a horse which, when six years old, will command a ready sale at \$400 or \$500, than one which can with difficulty be disposed of for \$100; or than it does to raise a heifer or steer which, at maturity, is worth \$50 or \$75. The best team for the farmer is one which will best answer all the purposes of the farm; plowing, hauling, taking the farmer and his family to town, or his boys and their sweethearts for a lively sleigh-ride; and, in addition to all this, will give him a pair of colts every year, which will earn their keep from the time they are two years old until they are sold for \$800 or \$1,000 at five or six. The team to do this is a pair of handsome bay mares sixteen hands high, weighing 1,200 to 1,250 pounds each, with small, bony heads, large nostrils, broad foreheads; large, bright eyes; small, tapering ears; long necks, nicely arched, deep as they spring from the shoulders and small at the throat-latch; long, oblique shoulder-blades; moderately high withers; short backs, and deep but not overbroad chests, because a horse with a very wide breast, although usually of good constitution and great strength, is seldom a graceful or rapid trotter; is apt to have a "paddling" gait; and if used for road work will generally give out in the forelegs from the extra strain put upon it by the weight of the broad chest. Our team must also have long, muscular thighs; large knees and other joints; short cannon (shin) bones; legs broad below the knees, and hocks with the sinews clearly defined; fetlocks free from long hair; long, moderately oblique pasterns; rather small, though not contracted feet; broad loins; wide, smooth hips, and long, full tails. They must have plenty of nervous energy and good knee action; must be prompt, free drivers, capable of trotting a mile in four minutes; be fast walkers, and good, hearty eaters; must not "interfere," and must carry their heads well up without checks when on the road.

It will readily be seen that these mares are neither Clydesdales, Normans, Canadians, Arabians, thoroughbreds, nor trotters; but they are a team which will pull the plow through two acres of land in a day, will pull a ton, yes, two, if the roads are good, of produce to the village four miles off in less than an hour, and trot back with the empty wagon in half that time without distressing themselves or their driver. Should the farmer have a trip of twenty miles to make, on business or pleasure, he can hitch them to his spring wagon, take his wife and children with him, and they need not be away from home more than three hours, or should he choose to go on horseback, he can mount one of the mares and enjoy a ride on a very fair saddle-horse. A team of Clydesdales may pull a heavier load at a dead drag; Canadians will stand more exposure and poorer fare; Arabians are better saddle-horses; thoroughbreds can outrun them; trotters, when hitched to a light buggy, can pass them on the road; but neither of these breeds combine anything like

the desirable qualities for a farmer that the team which I have described possesses, and when it becomes desirable to dispose of their produce, the colts of such mares will find a readier sale than those of any of the others, being exactly suited to the wants of the rich city gentleman for his family carriage, for which he must have a strong, handsome, showy team; and, as such teams are always scarce, he must pay a good price for them.

Large dray-horses usually bring remunerative prices; but few men will pay as much for a team to haul their bales of cotton or barrels of flour as they will for a team to draw their families in Central or Lincoln Park in winter, or at Newport and Long Branch in the summer, where each millionaire strives to outdo the others in the beauty and style of his carriage-horses.

It will be useless for the farmers to try to get such horses as these for a very low price; but when he has found them, never mind the price. An extra hundred dollars or so invested in such a span will pay better interest than in the savings bank. When the farmer has obtained his team of mares let him look for a stallion of as nearly the same type as he can find. He must be full sixteen hands high, of good disposition, and have the bold, high knee action which characterizes a fine carriage horse, for which rich buyers are willing to pay liberally. If this horse can trot in three minutes instead of four, so much the better.

The Poultry Yard.

POULTRY AT STATE FAIR.

Full Report of the Display, Exhibitors, Awards, etc., and Election of Officers of the State Poultry Association.

Kansas Farmer:

I send you a list of the awards made at our fall exhibition. The quality was better than in previous years. The chick class was unusually large, especially in Plymouth Rocks and Leghorns. The specimens were not as well matured as in former years. In point of numbers the Plymouth Rocks took the lead—one hundred entries, F. W. Hitchcock, Greenleaf, Kas., showing some very fine stock in this class. Of the Leghorns, there were sixty-seven entries of white and forty-two of brown. Geo. H. Hughes, of North Topeka, displayed his celebrated stock in this class, and for birds of true merit they are unsurpassed. As a Black Spanish breeder, Mr. Hughes is a success. The Rose-combed Leghorns were well represented. Wyandottes, eighteen entries. The Asiatic class was not large but good. Old birds were in moult, and did not show at their best. French class good, in Houdans, especially. Games well represented in B. B. R. Turkeys and water-fowl classes not large, but some very fine birds. In the turkey class, the most noteworthy were the bronze, slate and white varieties. Bantam class not large but good. The North Missouri Poultry Club, Mrs. G. Taggart and H. McCullough made a very creditable display.

Taken as a whole, we consider our third annual exhibit better than previous exhibitions.

At the annual meeting of the State Association held September 12th, the following officers were elected: President, Geo. H. Hughes, North Topeka; Vice President, J. G. Hewett, Topeka; Treasurer, F. W. Hitchcock, Greenleaf, Kas.; Secretary, Chas. H. Rhodes, North Topeka.

The Association decided to hold a winter show in January, next, and the intention is to make it one of the best

in the West. Prominent capitalists of Topeka have promised their assistance to help make the winter show a success financially.

The following are the awards made:

Dark Brahmas.—Chicks—2d, Mrs. G. Taggart, Parsons.
Black Cochins.—Fowls—1st, C. H. Rhodes, North Topeka; 2d, same. Chicks—1st, C. H. Rhodes; 2d, O. Badders, Topeka.
Langshans.—Chicks—1st, Mrs. G. Taggart.

Wyandottes.—Fowls—2d, J. N. Hopper, Topeka. Chicks—2d, J. N. Hopper.
Plymouth Rocks.—Fowls—1st, F. W. Hitchcock, Greenleaf; 2d, A. D. Jenks, Topeka. Chicks—1st, F. W. Hitchcock; 2d, North Missouri Poultry Club, Trenton, Mo.

Black Spanish.—Fowls—1st, G. H. Hughes, North Topeka; 2d, Bauer & Oliver, Topeka. Chicks—1st, G. H. Hughes; 2d, same.

White Leghorns, single comb.—Fowls—2d, Mrs. H. McCullough, Fayette, Mo. Chicks—2d, Geo. M. McMahon.

White Leghorns, rose comb.—Chicks—1st and 2d, North Mo. Poultry Club.

Brown Leghorns, rose comb.—Chicks—1st, North Mo. Poultry Club.

Brown Leghorns, single comb.—Fowls—1st, Frank Lester, Creston, Iowa; 2d, I. Sheetz, North Topeka. Chicks—1st, James Kelly, Topeka; 2d, J. Horsely, Topeka.

Houdans.—Fowls—1st, A. D. Gore, Hlawatha, Kas.; 2d, W. Foster, Kansas City. Chicks—1st, W. Foster; 2d, Mrs. G. Taggart.

B. B. Red Games.—Fowls—N. C. Westerfield, Eureka, Kas. Chicks—2d, same.

Pit Games.—Chicks—2d, P. K. Pratt, Topeka.

B. B. R. Game Bantams.—Fowls—1st, North Mo. Poultry Club; 2d, A. D. Gore.

Bronze Turkeys.—1st, H. McCullough. **Slate Turkeys.**—1st, same.

White Turkeys.—1st, same.

Rabbits.—White English, black English, Angora, Belgian, fawn, Himalaya—Thomas & Shelberger, Topeka.

Pigeons.—Best display, E. Butts, Topeka. **Peafowls.**—1st, H. W. McAfee, Topeka.

White Mice.—Clinton Rhodes, Topeka. **Water Fowls.**—Best display, H. McCullough.

SWEETSTAKES.

Fowls to score 90 points; chicks to score 85 points.

Highest scoring breeding pen—1st, F. W. Hitchcock; 2d, C. H. Rhodes.

Highest scoring cock—C. H. Rhodes, "Black Hawk."

Highest scoring hen—C. H. Rhodes, "Jet."

Highest scoring cockerel—F. W. Hitchcock.

Highest scoring pullet—Mrs. G. Taggart.

Asiatic class.—Fowls—C. H. Rhodes. Chicks—Mrs. G. Taggart.

Spanish class.—Fowls—Geo. H. Hughes; Chicks—James Kelley.

American class.—Fowls—F. W. Hitchcock. Chicks—same.

BEST DISPLAY.

Blue ribbon to count two, and red ribbon one. Tie between F. W. Hitchcock, C. H. Rhodes and H. McCullough.

C. H. RHODES, Secretary.

Hay Fever.

I have used Ely's Cream Balm for Hay Fever, and experienced great relief. I most cordially recommend it as the best of all the many remedies I have tried.—T. B. JENKS, Lawyer, Grand Rapids, Mich. Price fifty cents.

I was severely afflicted for eleven years with Hay Fever. After trying almost everything without avail, I gave up all hopes of being cured, when I purchased a bottle of Ely's Cream Balm. To my surprise, after a few applications, I was entirely relieved.—A. WATSON HARRIS, Letter Carrier, Newark, N. J. Fifty cents.

I have been a Hay Fever sufferer for three years; have often heard Ely's Cream Balm spoken of in the highest terms; did not take much stock in it because of the many quack medicines. A friend persuaded me to try the Balm, and I did so with wonderful success.—T. S. GEER, Syracuse, N. Y. Price fifty cents.

One trouble in making sugar from beets is the fact that the varieties yielding the sweetest juice are poor croppers, and are, therefore unprofitable to farmers who grow them.

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

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

J. S. HAWES
Importer and Breeder of

HEREFORD
Cattle.

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

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

BREEDERS' DIRECTORY.

Cards of three lines or less, will be inserted in the Breeder's Directory for \$10.00 per year, or \$5.00 for six months; each additional line, \$2.50 per year. A copy of the paper will be sent the advertiser during the continuance of the card.

CATTLE.

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

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

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

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

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

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

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

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

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

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

J. W. LILLARD, Nevada, Mo., Breeder of THOROUGHbred Short-horns. A Young Mary bull at head of herd. Young Stock for sale. Satisfaction guaranteed.

W. M. P. HIGINBOTHAM, Manhattan, Riley Co., Kas., Proprietor of the Blue Valley Herd of Recorded Short-horn Cattle of the best families, and choice colors. Also High Grade Cattle. Offers some choice bargains in Bulls, Cows and Heifers. The growing of grade bulls for the Southern and Western trade a specialty. Correspondence and a call at the Blue Valley Bank is respectfully solicited.

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

Hereford Cattle.

E. S. SHOKEY, Lawrence, Kansas, breeder of Thoroughbred Hereford Cattle. Three cows and 11 bulls for sale. Also Grade bulls and heifers for sale.

W. C. MCGAVOCK, Franklin, Howard Co., Mo., Breeder of Thoroughbred and High-grade Hereford and Short-horn cattle. 100 head of High-grade Short-horn Heifers for sale.

F. W. SMITH, Woodlandville, Mo., Breeder of Thoroughbred Hereford Cattle. Dictator 1989 heads the herd. 50 Grade Bulls for sale.

CATTLE AND SWINE.

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

SHORT-HORN PARK, containing 1,100 acres, for sale. Also, Short-horn Cattle and Registered Poland-China. Young stock for sale. Address B. F. Dole, Canton, Kas.

HILLSIDE STOCK FARM. W. W. Waltmire, Carbondale, Kas., breeds Thoroughbred Short-horn Cattle. Recorded Chester-White Swine a specialty.

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

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

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

H. B. SCOTT, Sedalia, Mo., breeder of SHORT-HORN CATTLE, POLAND CHINA HOGS, COTSWOLD and SHROPSHIRE SHEEP. Send for catalogue.

W. H. & T. C. EVANS, Sedalia, Mo., Breeders of Short-horn Cattle, Berkshire Hogs, Bronze Turkeys, Plymouth Rock Chickens and Pekin Ducks.

SHEEP.

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

R. HOFFMAN, Wichita, Kas., breeder of SPANISH MERINO SHEEP. Bargains in registered Rams.

D. W. MCQUITY, Hughesville, Pettis Co., Mo., breeder of SPANISH MERINO Sheep, Berkshire Swine, and eight varieties of Poultry. Eggs, \$1.50 per setting.

G. B. BOWWELL, Breckenridge, Mo., has 1,100 Merino rams for sale. 250 of them are registered. His seven best stock rams shear from 27 lbs. to 35 lbs., weigh from 145 lbs to 180 lbs.

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

SHEEP.

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

SAMUEL JEWETT, Independence, Mo., breeder of American or Improved Merino Sheep, Vt. Register. The very best. Choice stock for sale. Over 300 extra rams. Catalogues free.

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

SWINE.

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

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

POLAND-CHINA SWINE AND MERINO SHEEP.

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

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

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

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

POULTRY.

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

EGGS FOR SALE—Of Light Brahma and Black Spanish Chickens, by Mrs. M. Waltmire, Carbondale, Kas.

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

NEOSHO VALLEY POULTRY YARDS—Established 1870. Pure-bred Light Brahma, Partridge Cochins, Plymouth Rocks. Eggs in season. Stock in fall. Send for circular. Wm. Hammond, box 190, Emporia, Kas.

WAVELAND POULTRY YARDS, Waveland, Shawnee county, Kansas. W. J. McCool, breeder of Light Brahmas, Plymouth Rocks, and Pekin Ducks. Stock for sale now. Eggs for hatching in season; also Buff Cochins eggs.

MISCELLANEOUS

STOCK FARM FOR SALE—640 acres, together with stock and farm implements. Address J. H. Reints, Odin, Barton Co., Kas.

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

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

Branch Valley Nursery Co., Peabody, Kas.

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

THE LINWOOD HERD

SHORT-HORN CATTLE



IMP. BARON VICTOR

W. A. HARRIS, Linwood, Kansas.

The herd is composed of VICTORIAS, VIOLETS, LAVENDERS, BRAWN BUDS, SECRETS, and others from the celebrated herd of A. Cruickshank, Slitton, Aberdeenshire, Scotland. GOLDEN DROPS, and TEARS, descended from the renowned herd of S. Campbell, Kinellar, Aberdeenshire, Scotland. Also YOUNG MARYS, YOUNG PHYLISSES, LADY ELIZABETHS, etc. Imp. BARON VICTOR 42824, bred by Cruickshank, and Imp. DOUBLE GLOSTER head the herd.

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

H. V. PUGSLEY, PLATTSBURG, MO.



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

Try the KANSAS FARMER. Twenty-five cents will get it till New Year.

Correspondence.

The Brown County Fair.

Kansas Farmer:

Our fair for 1884, as was predicted, proved to be in most respects a crowning success. The President, Jas. M. Boomer, and Secretary C. H. Lawrence, and all the members of the board of the directors, and others, were unceasing in their efforts to make the fair a credit to our county. The weather the first three days was good; Thursday was very dusty; Friday it rained.

The attendance of every part of the county was very large. On Thursday the crowd was simply immense—the largest I think I ever witnessed in our county; and yet there was good order the entire day. The grain and fruit exhibit was splendid; but the corn display was in advance of everything I have ever seen in the county or elsewhere. In fact, Mr. A. Carothers, who was at our State Fair at Topeka this fall, says "that the Brown county corn far outstrips the State exhibit in quantity, quality and size." The beauty of it was, there was so much of it, and of different varieties, and the ears large, well developed and matured. The wheat exhibit was also quite large and good. The apple exhibit in point of beauty, size and variety could hardly be excelled. Of vegetables there was a fair display.

The horticulture, green-house and bee departments, superintended by Messrs. Beymer, Chase, and Margraves, was perfectly splendid. The cattle, horse, swine, and poultry show was fine and extensive; and a great incentive to persevere in raising fine stock.

There are yet many more items that I would like to touch upon if I had time and space.

The farm implement display was quite deficient and limited. The horse racing department—nearly always demoralizing—received much attention and the races were numerous. Too much premium is placed on horse jockies.

The two side shows that were admitted into the grounds might just as well have been excluded; the tendencies of such teachings cannot be otherwise but immoral. I firmly believe that our county fairs should be conducted so as to become high-toned educators for the young people, and the public good. And I think the Brown County Association aiming at that, but has not yet fully accomplished so desirable an end.

The Hiawatha Democrat published a daily issue during the fair week, which was well received, and added much to the success of the exposition.

Sept. 20, 1884.

C. H. ISELY.

Is it Hog Cholera?

Kansas Farmer:

About the last of July I noticed my hogs when lying in shade left puddles of water in the dirt from nose or mouth. This was unusual, but I paid little attention to it. They were dropping pigs at that time. About the middle of August some of the oldest hogs I saw vomiting, but did not see this with all of them. Most of them were off of feed for ten days or two weeks, but lost none, and they are apparently well now. I had some spring pigs in the orchard with the sows; these I moved 10th of August into feed lot from which I had just sold fat hogs. There was plenty of shelled corn on the ground, but they had been fed corn all summer and were on clover. In a few days some of them were sick; some vomited and purged; a black matter run through them like water. Of them I lost 3; some got back on feed, but they keep dropping off of feed, and have one now that has been sick for over ten days. I am feeding them what corn they will eat; am on to new corn now. When taken sick they lie on the belly.

I had 48 pigs from 4 weeks to 10 days old when hogs took sick; they are all dead. Some had scours, others not; were stupid, laid in piles of warm days, seemed to have fever, drank water freely, most of them went blind before they died. I have tried some medicine, but it don't seem to do any good. Now, if any of your readers can tell me what is the matter and give a remedy they would greatly oblige a brother farmer.

J. M. HARGRAVE.

Richmond, Franklin Co., Kas.

The Fairs.

Special correspondence KANSAS FARMER.

KANSAS CITY INTER-STATE FAIR.

The Fourteenth Annual Kansas City Exposition held last week was a great success financially and was well attended. The great feature of the fair was in the speed ring and hundreds of trotting and running horses were on hand striving for a share of the \$11,000 offered in this department. The next greatest display was that of farm machinery of every conceivable kind, covering an area of over four acres. It was the largest display of the kind ever made in the west. Every wholesale house in Kansas City in the line of buggies, wagons or agricultural implements had an immense display, which in addition to the exhibits of the various manufactories from over a dozen states made the machinery display a grand and extensive show. The exhibit of cattle was not worthy of the place by any means, a much larger exhibit might be seen at any county fair in Kansas. The action of the cattle exhibitors at Topeka refusing to show at Kansas City on account of the parsimonious premiums made this feature of the fair a failure. There was not a representative herd present from either Kansas or Missouri. The cattle exhibit was confined to the noted Turlington Stock Farm herd, owned by T. W. Hearvey, of Nebraska, and a few town cattle near by.

The exhibit of sheep was creditable, the Merinos, Long Wools and Middle Wools being well represented. The premiums offered in this department had been made by sheep men, consequently sufficient inducement was offered to attract the best showing ever made in this department at a Kansas City fair.

The swine department was about the same as last year, and there was a representative showing made by the breeders of Berkshires, Poland Chinas, Jersey Reds, Chester Whites and Yorkshires, from Missouri, Iowa, Nebraska, Illinois, Indiana and Maryland. The noted exhibits shown were those of B. F. Dorsey & Son, and A. A. Dorsey & Son, Perry, Ill., making the same exhibit as at Topeka; also that champion and leading breeder of the Durock or Jersey Red swine, C. H. Holmes & Co., Grinnell, Iowa, and Alec Fulford, Maryland, with English Berkshires. An excellent exhibit of Poland Chinas was also made by E. E. Elliott, Knightstown, Ind.

The exhibit of poultry was small, the most extensive exhibit being made by Mrs. Harry McCullough, Hughesville, Mo.

The exhibit of fruits, flowers, plants, and farm products, was unusually good, and only excelled by the exhibit by the State Horticultural Society at Topeka, yet the display was superior to this in the color and freshness of the fruit. L. A. Goodman, the superintendent, and one of the most noted and progressive horticulturists in the State is largely responsible for the excellent showing in this department.

There is no reason why the exposition at Kansas City should not be equal to that of St. Louis, provided the same proportionate premiums are offered in the live stock departments that are offered in the speed ring.

AT BURLINGTON, KANSAS.

The fourth annual exhibition of the Coffey County Fair Association was visited by a representative of the FARMER on Wednesday. The attractions were duly noted and a number of new subscribers made happy. The exhibits of farm and garden products as well as fruits was entirely too small for so good a county, but the showing of live stock, horses, cattle, sheep and swine was a great credit for the county. Very representative Short-horn, Hereford, and Polled cattle were shown. The number of entries in all departments numbered 600.

FAIR AT PARSONS, KANSAS.

The third annual fair of the Parsons Fair and Driving Park Association held last week was greeted by a rousing attendance. Every department of this fair had a well balanced exhibit, apparently no department was lame. There was a large and representative display of cattle, horses, swine, poultry, farm products, machinery, fruit, etc., and everything that goes to make up a good county fair. There were a number of individual exhibits that deserve special mention, but space forbids at the present time. The writer especially desires to congratulate the exhibitors and the association for their show.

HEATH.

Joint Hereford Sale.

Special correspondence KANSAS FARMER.

The combination Hereford sale as advertised in the FARMER took place at River View Park, Kansas City, on the 16th and 17th inst. The cattle were in good condition for sale and were from the well known herds of Guggell & Simpson, Independence, Mo.; A. A. Crane, Osco, Ill.; Geo. Leigh, Beecher, Ill., and F. P. Crane, Kansas City, Mo. Col. Muir wielded the hammer and 70 Herefords were readily disposed of at an average price of \$522.25; the six bulls sold averaged \$586, and 64 females averaged about \$517.

Five Herefords were disposed of at the following sensational prices: Primrose 2d, & b. c., Geo. Morgan, Cheyenne, Wyoming Territory, \$1500; Bean Monde, 9903, E. S. Shockey, Lawrence, Kan., \$1,000; Royal 16, 6459, G. W. Henry, Chicago, Ill., \$1000; Miss Archibald, 1119, W. E. Campbell, Caldwell, Kas., \$1230; Sylphid, 11044, McGavock & Crews, Franklin Mo., \$1150.

The following is a list of the purchasers: W. E. Campbell, Caldwell, Kas.; McGooick & Crews, Franklin, Mo.; G. W. Henry, Chicago; E. S. Shockey, Lawrence, Kas.; W. W. Leonard, Fayette, Mo.; T. E. Owen, Trinidad, Col.; J. S. Hawes, Colony, Kas.; Geo. W. Scott, Belton, Mo.; L. J. Halstead, Hastings, Neb.; Geo. L. Miller, Junction City, Kas.; H. L. W. Anderson, Pleasant Hill, Mo.; E. W. Barker, Burlington, Kas.; Cornish & Patton, Osborn, Mo.; Fred Miller, Fairfield, Kas.; J. R. Crest, Rock Creek, Kas.; H. H. Groover, Eldorado, Kas.; Davis Lowman, Hastings, Neb.; Geo. Morgan, Cheyenne, Wyoming Territory; C. Hawkins, Weston, Mo.; C. B. Smith, Fayette, Mo.; John T. Shoemaker, Perrin, Mo.; Whally & Young, Pleasant Hill, Mo.; T. J. Lewis, Odebolt, Ia.; D. C. Hurd, Pueblo, Col.; A. W. Turner, Independence, Mo.

Kansas City, Mo., Sept. 17.

Paring the Horse's Foot.

By N. H. Paaren, M. D., Ill. State Veterinarian.

In a state of nature, the growth of the foot and the wear and tear are pretty equal. When the latter exceeds the former, the animal becomes tender-footed, which induces him to rest till the horn becomes replenished. This is the case in South America, where horses run wild, and are caught as required, worked till tender-footed, and then let loose till they again become sound.

The object in paring is to make the removal of horn equal to the growth of the foot, which wear and tear would do if the horse had been unshod and taking his natural exercise. We see the effects of not paring in some horses on which shoes are allowed to remain for months. The crust or wall becomes long, the sole thick, and the horse is apt to stumble and trip at every step. This inordinate growth of horn is more frequently perceptible in asses, whose labor is light, and whose feet are neglected from motives of economy, or from no motives at all. In these animals the crust is sometimes double the ordinary length, and curling up so that the toe does not meet the ground. These cases show that the foot requires paring, as a substitute for its natural wear, from which shoeing relieves it; it is also necessary, in order to have at each shoeing a fresh portion of horn for attaching the shoe.

In preparing the foot for the shoe, after carefully removing any remaining stubs, the crust should be lowered with the rasp from toe to heel, which being done, the sole should be pared with the drawing-knife. If the foot has been sopped or soaked, the old flakes of horn can be removed without difficulty; they have the appearance of cheese rind, and altogether different from the tough, firm horn further above. Care must be taken to cut off a portion of the horn between the crust and bars, so the heels of the crust will be higher than those of the sole. Generally paring off these flakes and ragged portions will be sufficient. The bars will simply require cleaning and the removal of loose portions without diminishing their strength. The heels, that is, the junction of the bars with the crust, will sometimes curl inward; if so, straighten them by cutting away a little horn. It is nearly a general custom for smiths to open the heels by cutting away a great portion of the interior and posterior parts of the bars. It certainly, by widening the commissures, makes a narrow foot appear wider, but it

must weaken the heels, by withdrawing a great portion of one of the walls or buttresses which constitutes its strength, and thus it assists contraction of the foot.

Some horsemen will tell the blacksmith that the frog is on no account to be touched. This is very unwise; for, although smiths are inclined to cut the frog unnecessarily, the total disuse of the knife is likely to predispose thrushes, or, if they exist, to render them worse. The frog will grow too luxuriantly and become ragged, because the shod foot cannot receive the same wear and pressure as if unshod. In consequence, the frog often touches the bars, having a vacant space above, serving to harbor wet and filth, by which thrushes are often produced. Now, the commissures of the frog ought to be cleaned out so their deepest part can be seen, and as much of the frog removed as necessary for the purpose; cut away any ragged portions, and if there are cracks into which the dirt has penetrated, cut them out as far as the dirt extends. Thus far the knife should go, and no farther. By no means cut the frog away merely because the smith fancies it too large. Some feet require little or no paring beyond loose and irregular parts; the heels of such feet should be preserved with the nicest care; with weak feet, particularly, it is desirable to remove the horny sole at the heels with a small drawing knife—a large one may cut away the bars with the sole, thus weakening the heels. In other feet, the growth is so great as to require the removal of considerable horn at each shoeing. Thus no fixed directions can be given for paring the horn. The nature and condition of the feet must determine how much.

Liquid Manure.

Perhaps no department of farm economy receives so little attention as the value of manure, and yet on no other does so much depend in maintaining and increasing the fertility and productiveness of the farm and thereby the farmer's bank account. An exchange states that analysts have found that the difference between the values of the solid and the liquid excrements of cattle, is but a trifle, the small balance being in favor of the solid voidings. Farmers usually urge that farm-yard manure is the best kind of fertilizer, as it contains all the elements necessary for plant food. This would be sound logic providing none of the constituents were permitted to run to waste. The urine of our domesticated animals holds nearly all the nitrogenous compounds, with some phosphoric acid, potash and soda, and all the urine is usually wasted, so that our farm-yard manure is deficient in this most valuable part of plant food. The solids hold the phosphoric acid, lime and magnesia. It has been shown by analysis that a ton of liquid manure contains 17½ pounds of nitrogen, 10 pounds of phosphoric acid and nearly 16 pounds of potash. Counting each at the market price, it will be found that a ton of urine is worth \$5.30; and a ton of solid manure, as before stated, has about the same value. A cow well fed will void four tons of liquid and ten tons of solid excrement in a year, which according to the above figures, would be worth \$42.40. At these figures it is no wonder that shrewd farmers are satisfied with the manure of their stock as clear profit. Thus the value of the liquid manure is clearly shown, and the importance of providing tanks and vats at the stables for saving it; and also means for its convenient distribution on the fields.—Ex.

Consumption Cured.

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

Professor Meriman declares that in "10,000 years the ocean will roll 200 feet deep over New York city." This should not alarm the New Yorkers, however. By that time apartment houses in New York, at present rate of altitude, will be built 500 feet high.

Where size is desirable, as in draft horses, it is not desirable to breed young mares until they are three years old.

WHEAT IN THE FUTURE.

Should Farmers in Kansas Increase Its Growth?

New questions are coming up for consideration every year. Once the routine of a farmer's life was very simple and he did not need to pay much attention to the world at large. In this country, in the childhood of many men now living, our farmers sent all their surplus wheat to foreign nations. They sold it to the grain dealer and with the money received purchased family supplies which were prepared in other lands. But that time is past and will never return. Steam and electricity have revolutionized the affairs of men. Railroads have made it possible to grow wheat profitably two thousand miles from market. Within sixty years the area of wheat fields has been increased a hundred-fold in the United States. What in 1824 was a vast wilderness and ten years later designated by law as the "Indian country," comprising all our territory west of the Mississippi, except the State of Missouri and the Territory of Arkansas, is now cut up into prosperous States and inhabited Territories and largely devoted to the growing of wheat. American farmers (those of the United States, we mean,) now produce about five hundred million bushels of wheat annually, although less than one-half of our people are engaged in agriculture. In our earlier history nearly all the people were farmers. In 1840 the number of persons engaged in agriculture was 3,717,536, and the total population was 17,069,453. In 1880, persons engaged in agriculture were 7,670,493, and the total population was 50,155,783. These figures stand only for persons actually farming or working on farms, not the wives and young children of farmers. If we let every person enumerated as engaged in agriculture represent two other persons—as wives, children and other dependents, we would have for 1840 considerably more than one-half the people in agriculture. The exact figures would be: Total population, 17,069,453; agriculturists, 11,152,608, or a little more than two-thirds. Apply the same rule to the figures of 1880, we have: Total population, 50,155,783; agriculturists, 3,011,479, or less than one-half.

But, while our farmers are decreasing relatively in numbers, they are wonderfully increasing their productions and their power of production. We have always raised enough of breadstuffs for our own use and some to spare; and, notwithstanding the facts that our farmers are decreasing relatively, and that our manufacturing industries have multiplied wonderfully, and that our home markets have so greatly increased that whereas we once sent abroad about nine-tenths our surplus, we now dispose of that much at home, sending out of the country only one-tenth, still our exports of breadstuffs have increased from \$13,535,926 in 1840, to \$208,040,850 in 1883.

These figures are presented for the purpose of showing the tendency of things, the direction which our farmers' affairs are taking. There is a steady decrease (relatively) of farmers, and there is a corresponding increase of farmers' customers—persons engaged in other industries.

The fact that our farmers are increasing the production of wheat, both relatively and absolutely is explained by the adoption of improved methods of cultivation and by the use of labor-saving machinery. When wheat was cut by hand with the sickle or grain cradle, three persons did not average more than three acres per day. One man now with a self-binder will put ten to twelve acres in sheaves in a day. Fifty years ago two hundred acres was a large farm in

the best wheat States. Many wheat farmers in the Western States now reap wheat acres by thousands every year. The riding plow, the seed drill, the reaper and binder have greatly increased the power of grain production, and the building of railroads has greatly lessened the cost of transporting it to market. The natural tendency of improvement in method is to increase of product; and when we add to that the use of machinery that dispenses with the use of nearly all the men, we can easily understand why our farmers are now raising so much more wheat than they did a few years ago. In fourteen years they have doubled their yield. The total crop raised in 1870-71, as reported by the Agricultural Department at Washington was 235,884,700 bushels; and the aggregate for 1882-83, as shown by same authority, was 504,185,470 bushels. The reports for 1883-84 will not be quite as large, but for '84-85 they will show gains. This is an increase of 100 per cent. in fourteen years, while our population, in the same time, did not increase more than about 40 per cent. Our exports of wheat, including flour, in 1870-71 was 50,273,190 bushels; in 1882-83 the amount was 147,811,316 bushels. It will be seen that we have been increasing the quantity which we send out of the country faster even than the quantity raised. That is to say, while we have doubled the amount raised in these fourteen years, we have nearly trebled the quantity exported.

If that condition of things were to continue, and we were so assured, our discussion might end here. But there are other and more important facts ahead of us. The price of wheat is lower now than it has been at any time during these fourteen years. The average price in Chicago for the year '69-70 was 98 cents. The lowest average for any one month of that year was 78 cents, in March '70. The average for '74-75 was 95 cents. The lowest average for any one month of that year was 85 cents in February '75. The average for '78-79 was 95 cents, and the lowest monthly average was 89 cents in August '78. The lowest monthly average for the entire period was 81 cents in October 1878. The highest yearly average during those years was \$1.30 for '81-82; the highest monthly average was \$1.36 in October 1881.

We have not made a careful calculation of it, but guess that the lowest average for any month of that time—81 cents, is more than the average for August of this year, 1884. These figures are taken from Chicago markets, and the wheat year is computed from August 1st one year to July 31 the next year. We are now in the beginning of another crop year—1884-85, and the yield for the country is reported at five hundred and fifty million bushels, a larger crop than we ever raised before.

We have a record of average wheat prices in New York city for the months of January in every year from 1825 to 1877, and that shows that in the first named year ('25) the price was \$1.01; in 1884 it was even \$1; it was never less than \$1 except in three years—'26 it was 90 cents; in '27 it was 93 cents, and in '43 it was 88½ cents. In 1854 it was \$2.04; in '55 it was \$2.57; in '56 it was \$2.14. It never again reached two dollars until '67, when it was \$3, and the next year, '68, it was \$2.45. In 1877, the last year of that record, it was \$1.47. In the same market the day this is written, September 20, 1884, wheat ranged from 85 to 89½ cents.

The London *Economist* recently published a record showing average yearly prices of wheat in that city for the entire period since and including 1780, or one hundred and four years. It seems that in 1780 the average price was 86

shillings (\$8.64) per quarter (8 bushels), or \$1.08 per bushel, and that the price has never been that low since. It has often been much higher. It was highest in 1812 when it reached 126 shillings and 6 pence per quarter, or \$3.79½ per bushel. During all of those one hundred and four years, after the first, the price never fell below \$1.20 per bushel except only 1851, when it was \$1.15½. The record closes at the end of the first half of this year, 1884, and the average for the first three months of this year, which is the third quarter of the wheat year of 1883-84, is \$1.10½, or within 2½ cents of the lowest average for the entire time.

These figures show that notwithstanding the wonderful development of manufactures and the great expansion of the wheat growing area in this country; and notwithstanding the repeal of the British corn laws in '46, and a great increase in manufacturing facilities in England; and notwithstanding the further facts that wheat growing in Canada, Russia, India, Australia and South America has been greatly increased in the last twenty-five years, still, we find that, running back over a period of a hundred years, the price of wheat has fluctuated, ranging in England from \$1.08 to \$3.79½ per bushel, and in this country, during a period of sixty years, from 88½ cents to \$3, and that several times before in our history wheat was as low as it is now.

All this, if it were all, simply shows that the production of wheat is like the production of all other agricultural articles that are always needed in trade, in so far as the holding up of prices is concerned; but it is not like the production of manufactured articles in that respect, because the prices of manufactured products have been going down all the time. Expansion of trade has been marvelous. Facilities for exchange of commodities have multiplied a thousand-fold in the last hundred years, and this helps to maintain prices of farm products because it lessens cost of transportation. And this widening of commercial freedom is now going on faster than ever before. We are bringing under cultivation new regions in this country every year; Canada is enlarging her farming areas; Mexico is awakening to a realization that within her boundaries lie vast resources for food; and all over the continent of North America fruits are increasing in quantity and means for their preservation are becoming familiar in practice. Besides, England, France and Germany are extending their domains in Africa and Asia, and even now it is proposed to build sixty odd new lines of railway in India for the purpose of stimulating the production of wheat in that country and of getting it to British ports at less expense. The quantity of wheat exported from India in the five years from 1876-77 to 1880-81 was only, on an average, 4,544,000 cwt., valued at \$9,755,000; whereas in 1881-82 it was 19,901,000 cwt., valued at \$44,350,000; in 1882-83 it was 14,144,000 cwt., valued at \$30,345,000; and in 1883-84 it was 20,961,000 cwt., valued at \$44,440,000.

The building of new roads in that country will increase the growing of wheat enormously; and while it is true that at this time India wheat is inferior to that grown by American farmers, yet we cannot count upon that condition to remain long under new and better methods of cultivation which will be adopted when better markets are afforded. We look for a continuous increase in surplus wheat in India for many years to come; and while population is perpetually increasing; and while advancing civilization is constantly giving the farmer a greater proportion of consumers, both because more wheat is used

by civilized and enlightened people and because more persons engage in other pursuits, still, with all these advantages, it would seem that wheat production is advancing faster than the actual requirements demand.

It is true that there is little, if any more wheat now on hand proportionally than there was at this time last year or the year before, but there is less ground for hope of advancing prices. People are using more fruit and vegetables now than ever before, and there is a disposition to use more oats, corn and rye on the table. Dullness in trade generally reduces consumption to some extent, but it affects wheat less than it does beef and pork.

This is a fruitful subject. We have been thinking about it a great deal within the last year or two, and there are many things we have to say about it that we have not room for now. It appears clear to our minds that the farmers of Kansas will do well to remain about where they are now so far as wheat is concerned, and not attempt to largely increase their production of that crop. We do not advise the abandonment of wheat, but simply to make your increased efforts in other directions. We need not raise less wheat, but produce more of other things, and particularly of fruit and stock. Our wheat market will grow better as fast as the surplus is used up, and if we do not increase our production, other influences will soon bring wheat to a more profitable plane.

A Bushel of Corn.

By experiments conducted at Houghton Farm, N. Y., it appears that it is rare that an exact bushel of corn is actually sold. A standard bushel of corn weighs 56 pounds, but this should contain 50 pounds of dry matter. The 56 pounds of corn at harvest weighs 42 pounds when dried, and 56 pounds of green corn when kept for a few months usually falls below 46 pounds. Corn after having been kept a year comes very near its 50 pounds of dry substance. Corn will vary perceptibly in weight from dry to wet weather. It is probable that a yield of 100 bushels per acre by weight, say 30 days after husking, would show a great falling off if weighed after six months. About 65 pounds of new shelled corn is required to make 50 pounds of dry corn.

When mowers, threshers, and all other farm machinery are not in use, they ought to be under cover. And when they have finished their work for the season they ought to be thoroughly cleaned, the wood work re-painted where it needs it, and the iron well oiled.

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The Home Circle.

Soulless Prayers.

I do not like to hear him pray,
On bended knee about an hour,
For grace to spend aright the day,
Who knows his neighbor has no flour.
I'd rather see him go to mill
And buy the luckless brother bread;
And see his children eat their fill,
And laugh beneath their humble shed.
I do not like to hear him pray,
"Let blessings on the widow be,"
Who never seeks her home to say—
"If want o'ertakes you, come to me."
I like not prayers so long and loud,
That's offered for the orphan's weal,
By him who sees him crushed by wrong,
And only with the lips doth feel.
I do not like to hear her pray,
With jeweled ear and silken dress,
Whose washerwoman toils all day,
And then is asked to work for less.
Such pious falsehoods I despise!
The folded hands, the face demure,
Of those whose sanctimonious eyes,
Who steal the earnings of the poor.
Those sainted faces that they wear,
To church and for the public eye,
Hide things that are not on the square,
And wickedness done on the sly.
I do not like such soulless prayers!
If wrong, I hope to be forgiven;
Such prayers no angel upward bears—
They're lost a million miles from heaven.

The Gunpowder Plot.

The Gunpowder Plot involved an attack on the nine-foot thick foundation walls of the ancient palace on the riverside, just below the chamber occupied by the House of Lords. The conspirators were all gentlemen, and they bloodied their delicate fingers at that point to no end. Their object was to put between thirty and forty barrels of gunpowder into the mine, and to blow the king and the Prince of Wales, the lords and the bishops, to atoms. They shortly found a cellar which answered their purpose better. Here they banked up their barrels under a suspicious quantity of coal and other fuel. When the train was laid, it led, however, to themselves, and when the explosion came, it was under their own feet. They were scattered to the four winds. When the fated members of the conspiracy were sought and found, a number were slain in the arrest, a few escaped, but the remainder were put to the torture and then tried. Guy Fawkes and seven others were arraigned before a special commission in Westminster Hall, and Coke, the Attorney-General, managed the proceedings against them. The result was, of course, an immediate and horrible execution in the rear of the Hall, and close to the scene of their labors. With very natural injustice this infamous attempt was attributed to the Catholic party.

The consequence of all this was the immediate formation of an imaginary explosive compound, that went by another name than gunpowder—a threefold mixture of this popular rumor, some actual Catholic discontent, and some latent treason, the fright of which lasts, in form at least, to this day. Parliament always looks under the bed at the opening of every new session, the Prayer book turns pale on the 5th of November, and Guy Fawkes is dishonored with a mock procession. But there was a period, and a good long one, when the memory of it revived in something more fiery than this now fossil ceremonial. In the nervous imagination of the people the explosive compound was always underneath the government. The mere spark of a suggestion was enough to set the whole train fizzing. This, for the most part, was after the Rebellion, at which time the throne was undermined and overturned by the Puritan party without exciting nearly so much scandal. The people were only afraid when the papists were at it. So when Titus Oates, seventy-four years after the Gunpowder Plot, told his enormous lie, they rushed, metaphorically speaking, to the cellars again to find the "popish plot" which had no existence, to seize and drag to judgment about as many supposed conspirators with supposed dark lanterns and supposed explosive materials concealed as Guy Fawkes had ever actually to do with, and again Westminster Hall had even more bloody work on its hands over

this fiction of a malicious brain and this credulity of a suspicious people than it had over the veritable plot itself. It was a petard which, nevertheless, worked so undesignedly well that it nearly hoisted Charles the Second out of his throne because he had the best reason for not believing it, which did hoist all the papists out of Parliament so high that they never came down till George the Fourth's day, and the ring of the detonation was so loud that James the Second had afterward to put his hands to his ears and leave the kingdom to the Protestant triumph which has prevailed ever since. The extraordinary peculiarity of this gaseous version of the Gunpowder Plot was that it blew up the royal family after all, and with the nation's joyous consent.—*Rev. Treadwell Walden, in Harper's Magazine.*

Concerning Mirrors.

The record of patents granted during the last 200 years throws a curious light upon the progress of the manufacture of mirrors. Up to that time the Venetians had a monopoly of the business; but in 1634 the French began to compete, and, competing in the art, beat all others from the field, and improved so rapidly that in another fifty years, in 1684, a glass plate was cast in Paris which was 18 inches long and 50 broad. The supremacy then gained continues to our day of three classes of mirrors supplied to the American market—the French, the German and those of home manufacture. Those of France are greatly preferable. The latter are imported pure, to be silvered here upon arrival, while the German is imported ready, and that of home manufacture is comparatively in little demand. American looking-glasses are mostly manufactured at Baltimore. French mirror plates are mainly prepared in the suburbs of Paris, while the seat of the German manufactories is in Bavaria. Imported glasses, with rare exceptions in the case of special orders, are framed in this country, a very large majority in New York city itself. The size of the plates as delivered to the dealers differs a good deal. Those from Germany run from 7 by 9 inches up to 48 by 20 and 40 by 26; French glass from 10 by 8, in all even inches, up to 160 by 84. The beveled glass, which is so fashionable to-day, is prepared after its arrival, being shipped in plain, even sheets.

Care of House Plants.

Plants for the house should be of the kinds to bear tropical heat, otherwise the dried air produced by furnace or stove will rapidly destroy them. They should always be placed lower than the gas-jets, for the sulphur from gas as made in cities is destructive to growth. Boxes and brackets for the windows, and all designs filled with ornamental plants should be placed low. The atmosphere in any apartment is better nearer to the floor; besides, to get the full beauty of plants, they must be looked into. The objection to suspended designs is that the roots and earth are more conspicuous than the leaves and bloom. All plants for the house must have light, if not sunshine. A temperature of from 55 to 70 degrees, is better than warmer for varieties cultivated indoors. If the vases in a room where plants are grown are filled with water it does much toward making the growth thrifty. Judicious watering is positively necessary. It is a mistake to warm the water used. It should be drawn and left to stand until it is of the temperature of the room. There are plants that will be seriously damaged by too warm water. Too much water is also harmful. The earth about a plant indicates when it is thirsty; then it should be thoroughly watered. None of the ornamental pottery vases for helping plants have a hole for drainage; it is not required when the plant is cared for intelligently; the earth needs only sufficient water to supply whatever is growing in it. A little judgment exercised, and it becomes an easy matter to know how much water the earth in the vase will absorb. An excellent plan is to try the soil with a slender stick, as cooks try bread or cake. To keep plants bright and healthy, the foliage should occasionally be gently sponged on both sides. This is particularly necessary for large leaved plants. All withered leaves and twigs should be picked off, and blossoms should not be left on too long, or others will not form in perfection. Newspapers pinned about plants will protect them when sweeping is done.—*N. Y. Evening Post.*

White Pine Ornamentation.

Some recent attempts with white pine appears to give it a value as an ornamental wood which its common uses have not heretofore suggested. The softness of its texture and its susceptibility of injury may have had some influence in preventing its general use for ornamental purposes, but the wood can be "filled," so that much of this objection is removed. Its pure white color—white as compared with other woods—recommends it for purposes for which holly has been heretofore used; and the size of the timber from which clear lumber may be cut is greatly in its favor, boards of a width of sixteen and even twenty inches being not uncommon, with no shade of distinction between sap wood and heart, and only the faintest perceptible grain.

Some specimens lately examined show a greatly enhanced beauty by very simple treatment—the filling with warm shellac varnish, bleached shellac in alcohol, applied with a brush while warm. Several coats are given, the last coat being rubbed with pumice and rotten stone moistened with water, not oil. A finish of a flowing coat of copal varnish completes the preparation. Thus treated the wood is of a faint creamy tint with an appearance of semi-transparency. Beautiful gradations of tone were obtained by panels of this prepared pine, mouldings of holly, and stiles of curly or birdseye maple, and fine contrasts were made with the pine and oiled black walnut.

The pine is too soft for floors, but for doors, casings, and chamber furniture it seems to be admirably adapted. The finest specimens of the wood noted come from Michigan, having fewer pitchy streaks and being of a more uniform color than the Maine product. Its ease of working by carving, and the coherence of its grain, are being utilized by masters and amateurs in interior wood decorations. A beautiful carved mantel relieved by pilasters of oiled black walnut has been recently finished, which suggests the mellow tints of statuary marble after a short exposure to the atmosphere, while being free from the chilling sparkle and sheen of the marble.

The Production of Beer.

An interesting return is published by a Vienna journal with regard to the quantity of beer brewed in Europe last year. England, of course, comes first with 27,050 breweries and about 990,000,000 gallons, though Germany, with 25,902 breweries and 900,000,000 gallons, runs her close. These two countries are far ahead of all the others, the third being France, which has 3,000 breweries, as against only 2,094 in Austria and Hungary, though the quantity of beer brewed in France is only 157,500,000 gallons, as against 280,000,000 gallons brewed in Austria and Hungary. Belgium has 1,250 breweries, which produced last year 210,250,000 gallons, and then come Holland with 500 breweries, producing 34,000,000 gallons; Russia, with 430 breweries, producing 68,000,000 gallons; Switzerland with 423 breweries, producing 27,000,000 gallons; Norway, with 400 breweries, producing only 13,500,000 gallons; Denmark, with 250 breweries, producing 28,000,000 gallons; Sweden, with 220 breweries, producing 21,000,000 gallons; and Italy, with 150 breweries, producing 4,000,000 gallons. No returns are given for Spain, Portugal, Greece, Turkey, or the Danubian kingdoms, but the production of beer is very small in them.

Husk Beds.

A correspondent of *Household* says the way to make a husk bed is to put the husks into plenty of water and spread them on the grass to dry, first spreading sheets on the grass to keep away the insects, etc., if possible. When the husks are dry, draw them through a flax hatchel, or with a fork split them several times to make them softer. Then fill into a bed tick. Don't put in enough to be hard, but make a good, comfortable bed. Have a slit in the center of the bed tick, and every day stir the husks up. A button and buttonhole in the bed tick will make all secure, and if you wash or scald the husks every few years, they will keep sweet, and you will have a cheap and comfortable bed.

The pipe lines connect with 21,000 oil wells in Pennsylvania, receiving from them daily 65,000 barrels of oil. Forty-one million

barrels are stored in tanks. To transport and store this enormous quantity of oil about 5000 miles of pipe line and over 1000 iron tanks of an average capacity are necessary. Besides the 5000 miles of branch pipe lines in use in the region, there are 1200 miles of trunk line for piping oil to the refineries at Cleveland, Buffalo and Pittsburg.

Fifty years ago there was a boy in Africa who was taken prisoner in one of the fierce wars between the tribes, and was carried away from his home to be sold as a slave. After being sold and re-sold, now for sugar and again for rum, he was finally carried away in a slave-ship. A British cruiser captured the slaver. The boy is now Bishop Crowther, England's black bishop of Africa.

A recent letter says: France is literally one garden. Every inch of soil is cultivated. In riding from Paris to Dijon, 150 miles, we counted only thirty cattle. We saw no sheep or hogs. The farms have usually from one to ten acres. Some farms have half an acre, and some have as many as twenty acres. They are usually from thirty to 300 feet wide and from 1500 to 2000 feet long. There are no fences between them.

It seems that the proposed Jordan canal, the plans for which have appeared in the foreign scientific journals, is not to be, in any proper sense, a canal, but rather a large inland sea, some 3,000 miles long, with an average of 10 to 15 miles in breadth. The waters of the Dead Sea would be raised from the present level about 1,300 feet, and its area, of course, be largely increased. The River Jordan, the Dead Sea and Lake Tiberias would all disappear with some square miles of land, principally on the western side of the Jordan valley as now existing; and in their place would be a vast inland sheet of water, fertilizing the neighboring desert with the rainfall produced by the evaporation from its surface. According to this plan, therefore, there would be, instead of a simple canal, a wide open channel, traversing Palestine from north to south, navigable in every sense of the term, with safe harbors here and there on either side.

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The Young Folks.

What We Do and What We Don't.

When a tender appeal for pity
Comes to us out of a book,
Where the veil of romance has tinged it,
How full of compassion we look!
But when a poor, shivering mortal
Comes hungry and cold to our door,
We're apt to say in a careless way
That pampers, at best, are a bore!

When we hear of some far off mission
And the deeds that heroes do,
We tire of a quiet position
And want to be heroes, too.
And yet should some pressing duty
Wait to be done to-day,
How many of us would fold our hands
In the quietest possible way!

When we read a sorrowful story,
We think how sweet it would be
To whisper to some poor aching heart
A word of sympathy.
Yet how many hearts around us
Are aching with real pain,
And we never speak the comforting word
That might gladden their lives again.

Why not wear for those around us
Loving compassionate looks?
Why not save for sorrowing hearts the tears
We waste on the pages of books?
Why not foster each kindly impulse
Like precious, God-given seed,
To scatter each day along life's way
For human hearts in need?

—Eliza Bulger.

AMONG THE RUSSIANS.

Letter From Moscow--The Strange Sights of the Ancient Capital of the Land of the Czars.

(Special Correspondence of the Tribune.)

I have thought some readers might be interested in a letter from this Russian city, and I stop for a few moments on my travels that I may send them a message of remembrance, and write them something concerning this place. It is the most interesting city in this far-reaching empire. St. Petersburg is in some respects more imposing; its Winter Palace, Marble Palace, and Hermitage are more magnificent than the royal residences of the older city; its Nevskoi Prospect is perhaps the finest avenue in all the Czar's dominions. St. Isaac's church, in its vast proportions and severe grandeur, is unequalled in this land of costly cathedrals. But the traveler from the west will find far more to interest him in the Oriental Moscow, a city whose history reaches back into remote ages, even to the time of Dolgooka, the long-handed, and hence was hoary with years when Peter the Great, desiring to have a window from which to look out on Europe, laid the foundations of the present capital among the marshes of the Neva. Although the greater part of Moscow was destroyed by the fires of 1812, when the First Napoleon came hither, yet the peculiar features of the original city were incorporated in the new. More pretentious residences were built, and greater bazaars, but they rose along the old tortuous paths, and so perpetuate the irregularity for which the former city was conspicuous. On the evening after my arrival here I climbed to the top of Ivan's Tower, and looked out upon the strange and impressive scene which was spread out before me. This great town with a population closely approximating a million, its multitude of domes gleaming in the light, its roofs all painted green, looking in the distance like so many hanging gardens, such as distinguished old Babylon; the beautiful Moltka river, its waters clear as crystal winding through, the prospect bounded by the distant hills—is the most unique, picturesque, and interesting city on which the sun shines.

THE KREMLIN

is of course the center of greatest interest. It is a triangular, central division of the city, nearly two miles in circumference. It looked down upon the flames kindled after Napoleon's entrance, witnessed the fearful surging as the waves of flame broke against the walls of this "holy place," and still it remains to engage the attention of travelers from all lands, and to look placidly down on the pageants of to-day. We entered the Kremlin by what is called the Redeemer's Gate. On the wall above the great portal

is a picture of Christ. A lamp burns before it continually. Many stop and gaze at it in wonder. It is said to possess miraculous power. Many attempts have been made to destroy it, but still it holds its place, and looks calmly down upon all who pass that way. I observed that no one entered the gate without uncovering his head. The Droskey drivers, and the travelers whom they carried, the merchants and their servants, the dark robed priests and mendicants, as the Emperor and his nobles have ever done, removed their hats and did not replace them until the deep portal was entirely passed. Regard for personal safety and respect for an old custom deterred the American travelers from doing otherwise. I have not time to write in detail what I saw in the Palace of the Kremlin, through the gorgeous apartments of which we were permitted to pass, nor give a description of the historic churches which stand near by. The Church of the Annunciation is interesting as that in which Emperors are baptized and married. The walls are adorned with costly and celebrated paintings, chief among which are the pictures of Christ and the Virgin Mary. The floors are composed of agate and jasper. The altar screen is highly ornamented and sparkles with jewels. Here, too, may be seen part of the crown of thorns the Savior wore, and a piece of the sponge which contained the vinegar He rejected. Many sacred relics are preserved in this church, while in another a monk showed us one of the nails which secured the person of Christ to the accursed tree. It did not even seem to be incredulous, but it occurred to me that the wood of the cross must multiply itself like the meal in the widow's barrel. That which is now exhibited in the churches of Europe would build a Great Eastern, and the nails would suffice for a railroad across the empire of the Czars.

A few steps brought us to the Church of the Assumption. Here emperors are crowned. Standing under the gilded dome with their faces toward the altar, they repeat the creed of the Greek church, so declaring their loyalty to the ancient symbols, and the Emperor, lifting the crown with his own hands, places it on his own head, after which he passes into the holy place behind the altar screen and receives the sacrament of the Supper from priestly hands. Some of the coronation days have not been particularly happy. The last one was far otherwise. Alexander III. came from St. Petersburg hither at the peril of his life. Dark shadows seemed to lie on the altar, floor, and columns of this great cathedral, as he heard the tread of soldiers without, and his trembling hands lifted the crown from the brow of his assassinated father that he might place it on his own uneasy head. We have but little sympathy with an absolute monarchy, and still less with a despotic socialism. But there must be a change. Russia seems to the passing stranger as peaceful as England. It is in fact

AN OPEN VESUVIUS

and any moment the slumbering fires may burst forth. Constitutional liberty is only a question of time. So soon as the people are prepared for it they will have it. At present they are not capable of self-government, and monarchy must dominate them for a season longer.

With such reflections we passed to the church of the Archangel St. Michael. Here all the emperors down to Peter the Great, are buried. Long lines of sarcophagi mark the place of their sepulchre. The tomb of John the Great, better known as the Terrible, the monster who murdered his own son, whose acts of violence were almost unexampled in history, his whole life worse than a travesty on the religion of his realm, is by a singular inconsistency located near the altar. One of the old Russian poets has described the funeral of "Our orthodox Czar, our Czar Ivan Vasilievich the Terrible," the gathering of princes and voyers in the Ouspenski Cathedral, and the devotions of patriarchs and priests as they read and prayed and surrounded the cedar coffin repeating the valedictory for the dead. It would seem that even the Greek church could not give such a man an immediate passage to the dwelling of the saints. But his outward regard for religion and his conquest of Mogul races whereby he extended the territory and power of Russia, is considered, in popular judgment, an atonement for his crimes. To-day the people seek the tomb of "Ivan the Terrible" and offer their prayers

beside it. Peter the Great is the only one of the succeeding dynasty who sleeps in St. Michael's church. The rest are buried in the cathedral mausoleum at St. Petersburg.

But I must close. With our pleasant traveling companions, the Messrs. Pettit and Bacon of Philadelphia, we are about to resume our journeyings in "silent Russia." With our passports, which are demanded and vized wherever we stop, conscious that we are in a land where the most rigid espionage is maintained, not knowing but that at any moment we may offend and be summoned before some stern official, experiencing continually the embarrassment growing out of our ignorance of the language—which is the only one most of the Russians know—with all these incidents and trials of travel, we walk softly, and shall welcome the freer atmosphere of Germany on our way to our mother country.

The remainder of our original party lingers at Dresden, greatly delighted, as we learn, with the art galleries of that pleasant city, and prudently abandoning all thought of a visit to Italy or southern France, on account of the plague which has smitten Toulon, Marseilles and other cities along the borders of the Great Sea. My clerical companion and I have been greatly pleased with our tour through Northern Europe. Copenhagen and Stockholm are charming places, particularly the latter, which is one of the most beautiful cities in Europe. We have also been to Abo and Helsingfors, the first the ancient, and the second the modern capital of Finland, and we have sailed under the frowning battlements of Constadt, the harbor and bulwark of St. Petersburg, and whilst we have seen much to interest us, and much to enjoy, yet we are increasingly impressed with the great civil and religious superiority of our own land, and shall gladly return to it.

Westminster Abbey.

The best known church edifice in all Europe, with the possible exception of St. Peter's, Rome, is Westminster Abbey, in London. It stands on the site of a Saxon church built in the Seventh Century, and is supposed to have received its name by way of contradistinction from the cathedral of St. Paul's, originally styled the East Minster—"minster" being old Saxon for a church attached to a monastery. The present structure dates originally from the time of Edward the Confessor 1055-'65, but little of the original remains. Most of the Abbey, as now seen, was built in the reign of Henry III. In 1220 that king erected a chapel to the Virgin, and five years later he demolished the old abbey and reared the existing choir and transepts. The rest of the building arrived at completion in the Fourteenth and Fifteenth centuries, save the two towers which were the later work of Sir Christopher Wren.

The Abbey is of vast size, having an extreme length of 511 feet, while its width across the transepts is 203 feet. Its height is 102 feet. Says one writer: "It is in the interior that the mind of the beholder becomes impressed with an almost boundless admiration. The harmony of its architectural proportions, the lofty and long-drawn aisles with their subdued light and ghostly silence, the superb stained windows—all combine to impress one with unusual feelings of veneration and solemnity." The Abbey is rich in tombs and historic monuments. Monarchs, and statesmen, and poets, and warriors, and philosophers and artists are here laid away in solemn state, as the highest consummation of a life's honor. The "Poet's Corner" has most general interest, perhaps, for there is the necropolis of English Literature—even our own American Longfellow has there a marble tablet "In Memoriam."

Near the altar-piece of the choir, are placed the two coronation chairs used by the English Sovereigns. That of the king encloses the famous Stone of Destiny, on which the Scottish monarchs were crowned for many generations. The other is the queen-consort's chair, first employed at the coronation of Mary, wife of William III. Attached to the Abbey are the cloisters, the Chapter-house, and the famous Westminster school, formerly used as a dormitory in old monastic times.

Repentance without amendment is like continually pumping without mending the leak.

Sparrows Outwitted by Swallows.

Baron Cuvier, the great naturalist, tells a curious story about the "battle of the swallows," as he terms it.

Cuvier, when a young man, was a tutor in a nobleman's family, and his room overlooked a garden. One morning he observed that two swallows had begun to build their nest in the very corner of his little window. The male bird brought the moistened clay in his beak which the female kneaded, and with the addition of some chips of straw and hay, she built her little lodging with wonderful skill. As soon as the nest was finished they went to a neighboring wood, and did not return till the end of twelve or fifteen days.

Alas! changes had taken place during their absence. While the swallows were laboring so busily in building a house, Cuvier had noticed two sparrows perched at a short distance, busily watching them. When the swallows went for their country excursion the sparrows took no pains to conceal their odious schemes; they impudently took possession of the nest which was empty, and without an owner to defend it, and established themselves there as though they had been its builders. Cuvier observed that the cunning sparrows were never both out of the nest at the same time. One of the usurpers always remained as sentinel, with his head placed at the opening, which served for a door, and with his large beak interdicted the entrance of any bird except his companion.

The swallows returned in due time to their nest; and their surprise may be imagined at finding the nest, on which they had bestowed so much care, occupied. The male, moved with indignation and anger, rushed upon the nest to chase away the usurper, but he found himself met by the formidable beak of the sparrow, who at that moment guarded the stolen property. What could the slim beak of the swallow do against the powerful pincers of the sparrow, armed with a double and sharpened point? Very soon the poor owner, dispossessed and beaten back, retreated, his head covered with blood, and his neck nearly stripped of its feathers. He returned to the side of his wife, with whom he appeared for some moments to hold counsel, after which they flew away into the air and quickly disappeared.

The female sparrow came back soon after; the male recounted all that had passed, and both seemed highly delighted. Presently the female went forth again, and collected in haste a much larger quantity of provisions than usual; and after having completed supplies for a siege, two pointed beaks, instead of one, defended the entrance to the nest.

Cries, however, began to fill the air, and an assemblage of swallows gathered on a neighboring roof. Cuvier distinctly recognized the dispossessed couple, who appeared to relate to each new comer the robbery of the sparrow. In a little while two hundred swallows had arrived at the scene of conflict. While the little army was forming and deliberating, the sparrows made not the slightest movement, but with their two large beaks steadily guarded the narrow entrance to the nest. The council of swallows continued to deliberate gravely; as soon as all were united they took flight, and Cuvier felt convinced they had given up the field, or rather the nest, to the robbers, who had so fraudulently possessed themselves of it.

Judge of his surprise, when in the course of a few seconds he beheld a crowd of two or three hundred swallows arrive, and with the rapidity of thought, throw themselves before the nest, discharge at it some mud, which they had brought in their bills, and retire to give place to another company, which repeated the same maneuver. They fired at two or three inches from the nest, thus preventing the sparrows from giving them any blows with their beaks. The mud continued to thicken more and more on the nest, and although the sparrows made desperate efforts of self-defense, their enemies soon succeeded in perfectly closing up the nest. But they had not yet done. They continued to carry up moistened clay till they built a second nest over the opening of the besieged one; it was raised by a hundred beaks at once, and then occupied by the dispossessed swallows.

The dishonest sparrows paid for their theft with their lives. A sudden and a miserable end was theirs; teaching us—if we will be taught by this true and curious story about birds—that "honesty is always the best policy."

THE KANSAS FARMER

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A person may have a copy for himself one year free, by sending us four names besides his own, and five dollars; or, ten names, besides his own, and ten dollars.

ADVERTISING RATES

Made known on application. Orders from abroad for advertising must be accompanied by the Cash.

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

NEW ADVERTISEMENTS.

A. H. Hendricks..... Jersey Red pigs for sale.
W. L. Harding..... Public sale.
A. A. Harney & Son..... Breeder's card.
Wm. Thompson & Son..... Rosedale Stock Farm.
J. W. Lillard..... Great Short-horn sale.
Southwestern Fence Co..... Fence material cheap.
A. C. Moore & Sons..... Poland-China swine.
Rev. Geo. T. Fairchild..... Education pays.
Mrs. G. Taggart..... Fairview Poultry Yards.
J. E. Shepard & Co..... We have.
T. S. Hubbard..... Niagara.
W. A. Noyes..... Consumption cured.

TO SUBSCRIBERS:

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

Damaging forest fires in Michigan are reported.

The KANSAS FARMER till New Year for 25 cents.

A heavy rain fell in this part of the State last Thursday.

Trial subscriptions are coming in on our twenty-five cent rates.

The condition of idle miners in Ohio is not good. Many of them are reported as destitute.

Nihilists still cause trouble in Russia. An armed body of them attacked a guard to release prisoners a few days ago.

It is believed in England that Irish Invincibles are preparing for fresh attacks on public buildings with dynamite and other explosives.

A good many manufacturing establishments are idle, waiting for better demand for their goods. This applies to iron, cotton and wool.

Boston and New England passengers should bear in mind that The Wabash is the only line running a through sleeper from St. Louis to Boston.

Exports from this country this year do not equal those of last year. Times are not any better on the other side of the Atlantic than they are on this.

Trouble is brewing in Egypt. The finance minister is using public funds for home purposes instead of paying it over to English creditors, and that is the cause of the trouble.

If a corn-crib is built on posts or on brick or stone pillars with pieces of wood in them to hold nails, and the posts or pillars are carefully covered with tin, rats and mice may be kept out.

To those of our readers who have not yet set out orchards, we will say this is a good time to select the ground, and clean it off so as to have it ready for a thorough plowing next month.

ELECTING A PRESIDENT.

The Duties of Presidential Electors.

About ten millions of people will vote in this country this year, and a great many of them believe they are voting directly for their choice for President. But that is not true. Out of the ten million voters of the country only four hundred and one of them will cast a ballot directly for a Presidential candidate. Let any of our Kansas readers pick up his party paper containing the Presidential ticket, and he will see the names of nine men besides the candidates for President and Vice President. Whether it be the Blaine ticket, the Cleveland ticket, or Butler or St. John, it has nine names. And the nine persons on the successful ticket will cast our vote for President. They are called Presidential Electors; the people vote for them, and they vote for President.

Every State has a certain number of Presidential Electors. The number is determined by the number of members of Congress the State is entitled to including the two Senators. Kansas has seven members of the House of Representatives and two Senators, thus entitling us to nine Presidential Electors. New York has 36, Pennsylvania 30, Maine 6, Oregon 3, Missouri 16, Maryland 8, and so on, the entire number for the whole thirty-eight States being 401.

On the first Tuesday after the first Monday in November every fourth year, the people in the several States vote for their Presidential Electors. (Each party has its own set.) Those which are elected meet at their State Capitol the first Wednesday in December and vote for President and Vice President. They make a record of their proceedings, as judges and clerks of general elections do of theirs. Three sets of these returns are made and signed. One set is filed in the Clerk's office of the nearest United States District court; one set is deposited in the post-office duly stamped and directed to the President of the Senate, Washington, D. C.; the third is delivered to a special messenger who is appointed by the electors—(usually one of their own number) and directed to deliver it to the President of the Senate in person on or before the first Wednesday in January.

The same proceeding is had in every State by the electors thereof, and at the same time.

There is no law requiring any Presidential Elector to vote for any candidate for President other than his personal choice; but it is always understood that the Electors of a party, if elected, will vote for their party candidate.

On the first Wednesday in February the returns from all the different States are opened by the President of the Senate in presence of both houses of Congress, and the votes are counted. If any person has a majority of the Electoral votes, that person is declared elected President. But if no person receives a majority, then the House of Representatives must elect. For that purpose every State casts one vote only, and that vote is determined by a majority of the members from that State.

This peculiar method of electing the President sometimes favors one man when a majority of the people prefer another. It has happened several times in our history that the popular vote showed a choice different from that of the electoral vote. It may be illustrated in this way:

Kansas has nine Electoral votes and Minnesota has seven. Together they have sixteen. Suppose both of those States this fall cast their vote for the Republican Presidential Electors, and by only a small majority—say five thousand in both States. Indiana has fif-

teen Electoral votes—one less than the other two States named. But Indiana, we will say, casts her vote for the Democratic Presidential Electors, and by a large majority, say twenty-five thousand. The fact would be, then, that Kansas and Minnesota would win the election over Indiana, though that State gave a majority the other way larger by twenty thousand than that given by the two States which win the election.

The Southern States, most of them, give very large Democratic majorities, but they are set off by less majorities in States having an equal number of Electoral votes.

The Blaine Libel Suit.

In the suit which Mr. Blaine brought against the Indianapolis *Sentinel* for libel, the attorneys for the paper filed some questions to be answered by Mr. Blaine, stating at the same time that they have no other witnesses to rely upon. If Mr. Blaine does not answer in their favor they ask that the suit be stayed.

Mr. Blaine answered fully and clearly every question under oath, and his answers were filed last Friday. He tells where, when and in whose presence he was married; gives time of birth and death of his first child; in short, fully and completely answers all the charges, and leaves his traducers nothing but to submit to such judgment of damages as a jury shall award. The libelors have absolutely no testimony to present. They were compelled to rely upon Mr. Blaine's answer, and that upsets the whole malicious scheme.

This suit and its result will do good. It will be a lesson for scurrilous newspapers and low scandal mongers to study. As soon as a man is named for office, and especially if it is a high and important office, the fiends of hell seem to be let loose upon him and men and women will peddle slander as if it were something good and they were specially commissioned.

It is greatly to be regretted that Mr. Cleveland did not bring suit against the Buffalo preacher. If the result had been similar to that in Blaine's case, the people would feel better about it, and four or five million voters would not be left in doubt as to the moral character of their candidate for the Presidency.

Our Trial Rates.

The managers of the KANSAS FARMER believe it well worthy of the people's support. We want to make a paper that will be useful to our readers and sufficiently remunerative to us to justify the outlay of any and every necessary expense. We want to extend its circulation so that as nearly as possible every farmer in Kansas shall have his own copy. We are now offering the paper at reduced rates for a short time ON TRIAL. Twenty-five cents will pay for it from this time until the end of this year. The reduction is for the purpose of introducing the paper among people who have not been taking it. Our regular subscribers are interested with us in extending the circulation, and we hope they will, as they may have opportunity, call attention of their neighbors and friends to the matter. We ought to have at least twenty-five thousand subscribers in Kansas. Try it a few months—just twenty-five cents worth, and if you do not care to renew there is no harm done.

The President of Mexico takes a hopeful view of things in that country. In his message to the Mexican Congress last week, he treated important subjects ably. He approves the reciprocity treaty with the United States, and asks that the time be prolonged in which United States soldiers may cross into Mexico after Indian marauders.

OUR CLUB RATES.

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

We want to get a greatly increased subscription list. We are sending out a good paper. We want to make it better, and we want to get paid for it. One dollar a year is low enough for any good paper.

Persons not accustomed to receiving the paper may send in twenty-five cents and try it till the last of the year and then come in clubs. It does not matter when the club is sent; if you are already subscribers, the time will be extended a year beyond the time already paid for.

Taking Care of Corn.

A great deal of corn is lost every year through carelessness. When corn ought to be husked depends upon several other considerations, such as whether the stalks were cut up, whether a crib is to be used, whether the crib is tight or large, etc. Corn ought to be kept dry, and if it is not to be well cribbed, it ought to remain on the stalk or in the shock until well dried out, or until it is needed for use. When corn is moulded or soured from heat or too close quarters, it is nearly useless as feed.

If corn is thoroughly dry before being cribbed it may be put together in very large quantities; but if not, then the crib ought to be narrow and open. There is no need of having an open crib take rain. Let the siding be four-inch boards with two corners, diagonally opposite, chamfered off at right angles; put the boards on horizontally one-half an inch apart. The lower outer edge of every board extends down as far as to the upper inner edge of the next board below, although the boards are half an inch apart. This prevents rain from getting into the crib. The beveled edges of the boards overlap, and yet do not touch. At the same time it affords good ventilation.

10,000 Names Wanted.

In view of the fact of the very low price for which the KANSAS FARMER may be secured in clubs this year, we would like to have the names of several thousand farmers who do not now get this paper. Now, if subscribers will kindly send us a list of farmers and their addresses, we will send each of them a free specimen copy. We want to send out 10,000 copies during the next few weeks. Please send us the names.

Last Friday an earthquake shock was felt seriously in many parts of Ohio, Indiana, Michigan, Iowa and West Virginia and Canada. A Columbus, Ohio, dispatch says: "At the Insane asylum one chandelier was swung so much as to fall and break to pieces. An arch of a church in the course of construction was jarred so that it fell. Dishes in cupboards were displaced, windows rattled, pictures and chandeliers were seen swinging and desks and floors moved. No serious loss to life or property."

A Word to Club Agents.

Our club agents and all friends of the "old reliable" KANSAS FARMER will be pleased with our new club rates this season, which are the most liberal that have ever been offered by the FARMER. Any present subscriber or, in fact, any one interested in the circulation of a worthy and representative farm journal, which is constantly being improved, should send for our new club list and secure a club at once.

A good deal of excitement was recently caused in Washington city by a report that Virginia farmers above were throwing into the Potomac river carcasses of hogs that had died of cholera.

Railway men are having more trouble than any body else it seems, nowadays, for they are holding conventions nearly every day, and the object is to prevent ruinous competition. The people can stand it.

The Emperors of Russia, Germany and Austria had a meeting last week for consultation. The object, it is believed, was to consider means for suppressing revolutionists and their dynamite methods.

James Euwer, a farmer residing near Topeka, brought into our office the other day a sample of his upland broom-corn measuring 16 feet 4 inches in height. He says he is ready to make oath that it is not spliced.

King Humbert, of Italy, goes in person to see the sick people in cholera districts. He talks to the stricken ones, gives them presents, money and other things. It is the only instance of the kind in the history of the world, so far as we know.

We hope that our friends will take advantage of every opportunity to recommend the KANSAS FARMER to their neighbors and acquaintances who are not taking the paper. Twenty-five cents will secure it on trial all the rest of this year.

Kansas Fruit, 1884.

We are in receipt of a statement forwarded by G. C. Brackett, Secretary of the State Horticultural Society, showing the condition of Kansas fruit on the first day of August. Apples rate about 62 on a scale of 100; peaches 18; plums 44; pears 53; grapes 83.

The Western Kansas Agricultural Fair, held this week at Hayes City, are giving out a good many copies of the KANSAS FARMER as premiums. This is a good plan. It has given satisfaction all around whenever tried. This paper a year is worth a good deal more to any farmer than a ten-dollar gold piece.

Kansas Patents.

The following devices were patented Sept. 16, 1884, by citizens of this State, and were reported for the KANSAS FARMER by J. C. Higdon, solicitor of patents and attorney for patentees. Underwriters exchange building, Kansas City, Mo:

Washing machine—Cornelius Nelson and A. R. Wilson, Winfield.
Penetrating oil—P. G. Cusick, Topeka, Kas.

The acreage in wheat in Kansas this year is estimated at two million. At the rate of fifteen bushels to the acre the aggregate yield would be thirty million bushels, or about the same as last year. If the average yield should reach the figures of 1882, or a little over twenty-three bushels per acre the total yield would reach upward of forty-six million bushels. Putting it at twenty bushels, the average, we would have forty million bushels.—*Kansas Farmer.*

Why this exaggeration? Why this deception? Kansas does not have to be bolstered up by any such preposterous figures. There was no two million acres of wheat harvested in Kansas this year and the average yield will not reach twenty bushels per acre. This kind of figuring was commenced in this State a good many years ago and has been regularly kept up. There is not a man in Kansas who believes we harvested forty million bushels of wheat this year, or any other year for that matter.—*Eldorado Republican.*

—If our neighbor of the *Republican* had been posted he would not have written that. The Secretary of the State Board of Agriculture is our authority, and his last two monthly reports show an aggregate wheat yield for the entire State of nearly fifty million bushels. The foregoing extract was written last June.

Book Notices.

Wm McCoy, publisher, Topeka, Kas., will please accept our thanks for a copy of "My Little Kansas Home," a song prepared by J. H. Bond, and set to music by W. H. Clark.

OFFICIAL FACTS, a statistical compendium prepared by C. B. Schmidt, of the Immigration Department of the A., T. & S. F. railroad company, Topeka, is full of facts and figures showing the productions of Kansas.

Mr. Schmidt has prepared, also, "Royal Record of Kansas." Both these little books are intended to be used as correct reference books. They will be sent free to any persons writing for them.

OGILVIE'S HANDY BOOK—Of useful information, is the title of a modest little book of 128 pages we have just received, which contains more information of practical value than many books that cost from \$2 upwards. It contains statistical tables of practical value for every department of human effort, and we can assure our readers that they will find something of great value in this book. The political, historical, and biographical information alone, is worth double the price of the book. It is bound in handsome leatherette, flexible covers, and will be sent by mail for 25 cents; or bound in silk cloth for 50 cents, by J. S. Ogilvie & Co., Publishers, 31 Rose street, New York.

Jean Robie is unquestionably one of the foremost living flower painters. His pictures excel in their fidelity to nature, the warmth and richness of their coloring, and his subtle rendering of the spirit of the flower. His roses are unrivalled. Like every artist of genius, Robie has been very unwilling to permit the publication of copies of his most cherished works. It is a matter for just congratulation to Americans that he has, at last, accorded this privilege to one of the most famous art publishers. Mr. Louis Prang has undertaken to reproduce one of the artist's masterpieces as a satin print. The picture selected is of medium size and includes roses of various kinds, intermixed with spirea, and arranged in a deep blue vase, which contrasts charmingly with a crystal bowl in the foreground, which reflects as it seems, every ray of light. The copy is absolutely faithful to the original, and is the most ambitious publication of the kind ever attempted.

AMERICAN MONTHLY.—An independent magazine, devoted to the free discussion of literature and science, politics and religion. With the October number will close the first volume of this monthly, which, to use the words of a metropolitan journal "has already climbed to the front rank of magazine literature." The six numbers, comprising volume one, (600 pages,) will be sent, post-paid, to any address, on receipt of two dollars. Single copies fifty cents. The future success of the American Monthly being now assured, it will be the aim of the manager to make it without exception the best magazine of its kind published in the United States. Yearly subscription, \$4 in advance; single copies, 50 cents. Address all orders and remittances to J. Thompson Gill, Manager, 78 Fifth Avenue, Chicago, Ill.

No. 1, volume 2, American Monthly will contain a discussion, on the Tariff question between Gen. M. M. Trumbull, (free trade,) and Charles C. Chester, (protection;) an article by Rev. H. W. Thomas, entitled, "The Cross of Christ, in the Light of Modern Thought;" "Honest Money," by Lyman E. DeWolf; and a variety of papers on important and timely subjects.

The *North American Review* for October is notable as well for the importance of the topics treated, as for the eminence of its writers. The leading article, "Moral Character in Politics," is by President J. H. Seelye, whose exposition of the ethical principles involved in the popular election of candidates to high station in the government must command the attention of every right-minded citizen. "Benefits of the Tariff System," a sequel to the article in the September number on the "Evils of the Tariff System," is a symposium consisting of three articles, written respectively by John Roach, Prof. R. E. Thompson, and Nelson Dingley, Jr., who advocate the policy of protection of American industries with great ingenuity of reasoning and abundant citations of statistical facts. In addition to these most timely discussions of high political issues,

the *Review* has an article by the Rev. Dr. Augustus Jessop, entitled "Why I wish to visit America;" "The Philosophy of Conversion," by O. B. Frothingham; "The origin of Yellow Fever," by Dr. C. Creighton; "Shall the Jury System be Abolished?" by Judge Robert Y. Hayne; "The Genesis of Tennyson's Maud," by Richard Herne Shepherd; and "The Development of Machine Guns," by Lieut. C. Sleeman.

Gossip About Stock.

We have received a photograph card of some of H. C. Moore & Son's Poland China stock.

Don't fail to read advertisement of public sale by W. L. Harding, Secretary. Good stock is offered.

By an error last week E. S. Shockey was listed among the Hereford exhibitors at the State Fair. This was a mistake. His prize winners were only shown at Lawrence.

R. Catten, Burlington, Kas., has established a nice herd of Herefords at that place, the breeding stock coming from the herds of T. L. Miller and Adam Earl. He showed 14 head of Herefords at their fair last week.

October 21 is the date of a very important sale of Short-horn cattle at Fort Scott, Kas., by J. W. Lillard, Nevada, Mo. This is a prize winning herd of good Short-horn cattle of the best families. Don't fail to be present.

On account of the Pleuro-pneumonia excitement among certain herds of Jersey cattle, the breed was excluded from the Illinois State Fair and will also be prohibited from exhibition at the great St. Louis Fair next month.

Lovers of good poultry will be interested in the card of Mrs. G. Taggart, Parsons, Kas., which appears this week. The prizes won by Fairview Poultry Yards at the State Fair may be seen in the report which is published this week.

T. W. Harvey, proprietor of the Turlington Stock Farm, Turlington, Nebraska, sends a list of his winnings at their State Fair with his Polled Angus and Short-horn cattle, which were six sweepstakes prizes and eleven first and four second premiums.

During the Kansas City fair last week, Sam Jewett & Son sold three Stubby ewe lambs to H. V. Pugsley, Plattsburg, Mo., for \$200; S. E. Ward & Son, Westport, Mo., sold a Cotswold buck lamb to Jacob Powell & Son, Independence, Mo., for \$40.

Porter Moore, Parsons, Kansas, has opened a representative establishment for English draft stallions and Holstein cattle at their place and reports a brisk business. He showed 13 head of his horses at Bismarck and won three 1st and two 2d prizes. His exhibit at his home fair was one of the main attractions.

We call attention this week to the Interstate Short-horn sale which will be held during the Fat Stock Show at Kansas City, Oct. 28 and 29. As an entire lot this will be the best representative sale ever held west of the Mississippi river. The sale will consist of some of the very best Short-horns from the best herds in Kansas and Missouri. 100 head will be sold.

The breeders' card of A. A. Dorsey & Son, Perry, Ill., appears this week. He has shown his Shropshire sheep and Chester White and Duroc swine at the Topeka and Bismarck fairs, this State, and Jacksonville, Ill., and Kansas City, Mo., and at each of these places he won nearly all the premiums competed for, and at each place made a number of fine sales.

R. T. McCulley & Bro. won the best premiums on their Merinos at the Kansas City fair last week and made the following sales: Six rams at \$35 each to Abe Branshaw, Dallas, Texas; one ram to J. O. L. uVall, Silvan Springs, Arkansas, for \$25; and one to F. Swighart, Jasper, Missouri, for \$25. Another was sold in Texas for \$33, and one went to Arkansas for \$30.

Wm. Thompson & Son, Marysville, Mo., made one of the best exhibits of the English Shire horses that has been made at western fairs this fall and won a large number of the best prizes. Their ad. appears this week. Any one desiring good Shire horses will do well to consult them. After the State Fair, Mr. Thompson left for England for another importation which will arrive in October.

Cool nights remind us that frosts will not be delayed more than a month.

THE MARKETS.

By Telegraph, September 22, 1884.

STOCK MARKETS.

Chicago.

The Drovers' Journal reports:

HOGS Receipts 10,000, shipments 3,500. Market slow but steady. Rough packing 5 25a 75, packing and shipping 5 85a 25, light 5 35a 05, skips and grassers 4 00a 25.

CATTLE Receipts 8,500, shipments 1,900. Market weak and dull for all grades, common 10a 20c lower. Exports 6 40a 80 good to choice shipping 6 00a 50, common to medium 4 50a 65, rangers weaker, Texas 3 90a 60.

SHEEP Receipts 2,000, shipments 800. Market steady. Inferior to fair 2 50a 50, medium to good 3 00a 75, good to choice 3 75a 25, Texas 2 50a 80.

The Journal's Liverpool cable reports: Cattle weaker. Choice American steers 15c dressed tops; sheep 13 1/2c.

St. Louis.

HOGS Receipts 2,900, shipments 1,800. The market was active and lower. Porkers 5 80a 00, packing 5 40a 90 butchers 6 00a 25.

CATTLE Receipts 1,800, shipments 650. The market was steady and slow. Exports 6 40a 75, good to choice shipping 5 90a 30, common to medium 4 50a 60, Colorado steers 4 00a 50, grass Texans 3 50a 50, mainly 3 60a 20.

SHEEP Receipts 2,100, shipments 1,500. Market steady. Inferior to fair 2 25a 75, medium to good 3 00a 50, choice to extra 3 60a 00, lambs 3 00a 50, Texas 2 00a 50.

Kansas City.

CATTLE Receipts to-day 3,758. The market to-day was weak and 15a 20c lower for grass Texans; natives 10c lower. Exporters 6 00a 30 good to choice shipping 5 60a 85, common to medium 5 00a 40, feeders 4 00a 75, cows 3 00a 30, grass Texas steers 3 40a 90.

HOGS Receipts to-day 2,218 head. Owing to light supply the market was firmer and in some cases values were a shade higher. Lots averaging 246 to 303 lbs. at 5 50a 75 bulk at 5 55a 65.

SHEEP Receipts to-day 4,822. Market quiet. Natives av. 94 lbs. at 3 00.

PRODUCE MARKETS.

Chicago.

WHEAT Regular opened strong and higher. Sept 7 1/2c, Oct 7 5/8c, Nov 7 7/8c, Dec 7 7/8c.

CORN Excited and higher. The excitement surpassed any witnessed for many months in the grain market on change and from the outset prices rose rapidly and orders were on the market to buy September, but scarcely any was offered until 80c, the price of 10-day's advance was reached, when offers were made to settle. This was an advance of 10c over Saturday's market. Oct rose 3 1/2c, closing 1 1/2c higher, than Saturday. Nov rose 1 1/2c, closing 1 1/2c higher, and the year and May closed 3/4c lower. Cash 72a 80c, closing at 75a 70c; Oct 71a 80c, closing at 79c; Oct 56 1/2a 9 1/2c, Nov 47a 4 1/2c, year 4 a 1c.

OATS Firm, 3/4c higher. Cash 26 1/2c.

RYE Firm at 50c.

BARLEY A shade easier at 60a 70c.

FLAXSEED Lower at 1 33 1/2c.

Kansas City.

WHEAT Receipts 33,000 bushels, shipments 61,000, in store 48,000. Market lower. No. 2 red cash 1 1/2c lower at 57a, Sept 57c bid, 57 1/2c asked; Oct 56c lower at 57 1/2c, Nov 56 1/2c lower at 59 1/2c, Dec 56c lower at 61 1/2c; Jan 62c bid, 63 1/2c asked; May 6 1/2c bid, 69 1/2c asked; No 3 red 50c.

CORN Receipts 13,000 bushels, shipments 19,600, in store 16,000. Market quiet. Cash 74 1/2c higher, Sept 74c better.

No 2 Mixed cash 45 1/2a 45 3/4c special elevator. Oct 43 1/2c, Oct 37 1/2c bid 38c asked; Nov 29 1/2c bid, 29 3/4c asked; the year 30c asked, Jan 26c bid, 28c asked.

OATS Cash nominal; Sept 40c bid, 40 1/2c asked. BUTTER Supply continues light, the demand is not heavy but in excess of the supply of good butter. Values rule firm.

A quote packed:

creamery, fancy fresh made..... 25a 76
creamery, choice..... 22a 23
Choice dairy..... 16a 18
Fair and good dairy..... 12a 14
Foreign table goods..... 12a 14

EGGS We quote at 14a 1/2c with a fair supply.

CHEESE quote eastern out of store. Full cream: Young America 11 1/2a 12c per lb; do twin flats 9c; do cheddar 9c. Part skim: Young America 7a 8c per lb; flats 6 1/2a 7c; cheddar 6 1/2a 7c. Skim: Young America 5a 6c; flats 4 1/2a 5c; cheddar 4 1/2a 5c.

APPLES Consignments of Missouri and Kansas choice 1 25a 1 0 1/2c bid common to good 1 00a 1 10c. Home grown from wagons 35a 50c per bus for shipping fruit.

POTATOES We quote home grown 40a 45c per bus.

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

TURNIPS Home grown 40 50c per bus.

SORGHUM We quote consignments in car loads: dark 18a 20c; bright 2c.

British Grain Market.

LONDON, September 22.—The Mark Lane Express in its weekly review of the corn trade says: Fine hot weather causes very favorable conditions for the next year's crop. Values declined. Sales of English wheat the past week were 74,135 quarters at 33s 10d, against 60,414 quarters at 41s 9d the corresponding week last year. In foreign trade there has been further decline and values are only nominal. Off coast trade is confined to a few Australian cargoes and one American which sold at 32s 3d. There were ten arrivals during the week and seven sales, two cargoes withdrawn, five remained. Fifteen cargoes are now due. In London trade is much depressed. Flour is 6d lower. Maize is very quiet. Barley is 6d lower. Oats are quiet.

Horticulture.

The Value and Management of the Timber Lands of the United States.

A paper read before the American Forestry Congress in Washington, May 8th, 1894, by F. P. Baker.

It will be seen that the topic assigned me at this meeting refers not to the general forest area of the United States, belonging both to public and private parties, but that I am called upon to speak only of the forest lands actually belonging at this time to the National government.

It would be naturally supposed that there could be nothing easier than to find in official records the answers to the two questions embraced in the title of this paper.

1. How many acres of timber are owned by the government, and

2. What are those acres worth?

Application to that well informed and courteous gentleman, the Commissioner of the General Land Office, revealed the fact, however, that the Government of the United States does not know how much timber it owns, where it is located, or its actual condition and value. All the figures in the possession of the Interior Department are, at best, meagre and approximate. This condition of affairs of itself justifies the existence of the Bureau of Forestry. There have, of course, been volumes of reports on the subject of forestry in general of the United States, and of suggestions in regard to the preserving of the Government timber, but, as I have said, the report is still unwritten which contains a complete and satisfactory answer to him who would know the extent of those forests which are still under the absolute control of the Government.

The volume issued by the Public Land Commission and entitled "The Public Domain," estimates that in 1880 the Government still retained 85,000,000 acres of timber valued at \$2.50 an acre, which would amount to \$212,500,000.

We are so accustomed to speaking of immense areas in connection with the public lands, that a hundred thousand or a million or so acres of land is considered a trifle, and in fact 85,000,000 acres is a small fraction of what was once the public domain, estimated at one billion, eight hundred and fifty-two million, three hundred and ten thousand, nine hundred and eighty-seven acres.

Yet eighty-five million acres of forest comprised in one forest would make a very respectable "wood lot," particularly when, at a low estimate, it was considered worth \$212,500,000. It is an area half as large as the State of Texas, and more than three times as large as the State of Virginia. It may seem strange that any uncertainty should exist in regard to a possession so valuable, but it must be remembered that the Government has parted with a forest domain very much larger and more valuable without any special restraints or regulations conveying an idea of its special value. In disposing of the great forested States east of the Mississippi, forest lands were sold or granted at the same price or on the same conditions as any other lands. The Government never made any difference between forest and prairie, save that millions of acres of forest were disposed of, as if an incumbrance, under the vague title of "swamp lands." This is singular when we consider that the earliest settlers of the Western States set a great, in fact an undue value on forest lands for purely agricultural purposes. The first value of the prairie was at first imperfectly understood in States like Illinois, and the pioneers clung to the wooded lands along the streams, and condemned themselves to years of hard work in consequence. Had the Government then placed a higher price on the timbered lands it might have been better for all parties. The prairies would have been settled earlier and the lesson of the true use of forest taught in season.

The past, however, cannot be recalled, and the first question before us is, what is the extent and value of the timbered lands still in possession of the Government? And growing out of these questions what, in the light of past experience, should be done with them?

In the absence of official figures we cannot say just where all these lands are located, or which lands are the most valuable. In our search for them we

must be guarded by certain generally known facts.

In the first place, it is, of course understood that what are called arable lands in the older States are occupied, and that the Government lands remaining unsold or undisposed of in these States are broken, mountainous, swampy or sandy barrens, and such lands are covered with forest growth of greater or less value. So of the 23,000,000 acres of land in the Southern States, which the Government owns, the larger part may be supposed to be forest. And as these lands lie, for the most part, in the States of Florida, Alabama, Mississippi, Arkansas and Louisiana, it will be safe to say that the larger part of these lands are pine lands.

The unsurveyed public lands lie in Minnesota, Nebraska, California, Nevada, Oregon, Washington, Colorado, Utah, Arizona, New Mexico, Dakota, Idaho, Montana, Wyoming, Louisiana, Florida, Indian Territory, and Alaska.

Within this region lies, beside the lands in the Southern States, what is left of the forest domain of the United States Government. The Government in 1880 owned in round numbers 28,000,000 surveyed acres in Minnesota and 5,000,000 surveyed acres in Wisconsin, but these by this time may be considered as passed or rapidly passing from the control of the Government.

Of the territory containing lands still belonging to the Government, Nebraska and Dakota are prairie regions; Utah and New Mexico are, to say the least, not timbered countries. The Indian Territory is not open to settlement, and with its present inhabitants, nobody, outside of it, is concerned about its future. The unsurveyed lands of Florida are in the Everglades and are inaccessible.

The timbered lands of the United States, then, in which the greatest interest should be felt, are situated on the east and west slopes of the Rocky Mountains and parallel ranges in California, Nevada, Oregon, Washington, Colorado, Idaho, Montana and Wyoming, and much the largest proportion in California, Oregon, Washington and Colorado.

Here we have given in a rude way the location in two great bodies, or regions, of the 85,000,000 acres of forest, more or less, belonging to the United States.

The forest lands belonging to the Government in the Southern States are and have been for years, for sale at \$1.25 an acre, and for two or three years past have been in active demand, especially in Arkansas and Mississippi. An attempt was made some years ago to fix a price on and sell the timber land unfit for cultivation in California, Oregon, Nevada and the Territory of Wyoming, but while the price was set at the low figure of \$2.50 per acre, in two years only 20,000 acres were disposed of. In a country where Government timber has always been stolen there has not yet sprung up an ardent desire to buy it.

But here is the timber. It grows on the mountain slopes at a height of 11,000 feet. Nearly all of it is fir, spruce, pine and cedar. It is valuable enough to be foraged upon by miners, railroad tie cutters and charcoal burners. But much of it is inaccessible to the woodman, and yet it has a value, and that value is not to be estimated in dollars and cents. What shall be done with it?

If the Government should sell off its southern pine lands at the estimated value, \$2.50 an acre, and put the money in the National Treasury, the bargain might be a fair one. But if the Government should sell off its forests in the Rocky Mountains at \$2.50 an acre, the condition, positive or implied, being that the forest should be at once cleared off, the bargain would be the worst ever made in the world.

In these mountains rise the Platte, the Arkansas, the Rio Grande, great rivers and numberless small ones. On the existence of the forest on the mountain slopes depends the fact whether these streams shall, to use a figure, die or live. The question is one that once interested a few thousand people; it is one that now interests millions. The value of these forests lies not in what they will sell for in the shape of railroad ties or charcoal, but in their being the conservators of climate; the guardians of the snow; the reservoirs of rivers. Once the Rio Grande and the Arkansas sent their waters through narrow ditches painfully dug by the Mexican with his mattock and hoe to water a few acres of alfalfa, or of vineyard; but now these rivers are to play their part in mighty agricultural enterprises hundreds of miles from the mountains. There is in the course of construction in Kansas to-day one irrigating ditch forty-five feet wide, to be, with its laterals, 200

miles long, and intended to water 500,000 acres; and this enterprise is only one of many such in progress in Kansas and Colorado, saying nothing of the canals already in existence in Colorado, Utah and New Mexico. No estimate of the value of the forests on the Rocky Mountain slopes can be made without reference to the value of these irrigation enterprises present and to come.

If the Government could sell these forests for money at any figure, no matter how small, the case might assume a different aspect; but experience has shown that no sale can be effected. The only alternative offered the Government is, shall the forests be stolen or wasted by careless fires, or shall they be preserved to be a priceless blessing. The slopes of the Rocky Mountains up to 11,000 feet of altitude will certainly never be taken up under the homestead or pre-emption acts, or be sold for cash. The timber under the present system will suffer as before. It will be cut, stunted, girdled or burned. It will disappear, and the result will be desolation; the frequent land and snow slides carrying destruction; the drying up of streams great and small; and the utter exhaustion of the supply of timber now more than sufficient for the ordinary and reasonable uses of the local population.

Thus we have given in a rough way a reference to, rather than an account of, the forest domain of the Government. Now a few words as to its management.

That branch of the Government of the United States having charge of the public lands for the better part of a century and till within a very few years, was conducted apparently in utter ignorance of the economic value of forests.

A few thousand acres of live oak and cedar reserved for the use of the navy; a general commission of land officers to prevent the unauthorized cutting of timber, if they felt so disposed; this was all the Government did until 1877 to save for itself or the people such forests as grew nowhere else on the face of the globe. Since 1877, special agents have been employed to protect the timber, by prosecutions after the timber has disappeared, to lock the stable after the horse is stolen. But a substantial advance has been made by the institution of the Bureau of Forestry, and it is to be hoped that intelligent action will follow the acquisition of knowledge.

The State of New York affords an illustration. The State had a forest domain in the Adirondacks. It suffered that domain to pass out of its hands and beyond its control. The woods were cut down and wasted, and for non-payment of taxes the desolated acres fell back into the hands of the State. The question now is, "What is the value and extent of the forested and deforested domain of the State of New York?" The loss the State has sustained by the flow of water in the Hudson and other streams is apparent enough, but the way to a sufficient remedy is full of difficulties. The objection arises at once, that in order to secure a sufficient area to conserve and grow the necessary forest, the land of private parties must be purchased and that the State will be forced to pay exorbitant figures.

In the case of the Government this difficulty does not exist. Its ownership and control are absolute. Its power exists to withdraw to-morrow every acre of Government timber land from sale or entry. In the case of the Rocky Mountain forests this should be done. If the preservation of the natural curiosities of the Yellowstone Park justifies such a course on a small scale, the preservation of the agriculture of New Mexico, Utah, Colorado, western Kansas and Nebraska justifies it on a large scale.

The extent of the timber lands of the United States should be maintained in order that their value may be increased. The forests should be kept, not given away; preserved, not wasted. The timber can be kept growing where it now stands, and be restored where it has been wasted. No citizen or honest settler or miner will suffer thereby. It is not necessary to health, happiness or prosperity that the fire should leave the side of the mountain bare, or that wealthy corporations shall use stolen ties.

It is seen that when we come to speak of the management of Government timber lands we enter on a new field. There has been so far nothing that indicates the existence of a plan on the part of the Government having for its object the preservation of the forest still under its ownership and control. Under that head I would make a few suggestions:

1. Timber lands, properly so-called, should be subjected to a different clas-

sification from arable lands, and the Government should, as soon as possible, cause such lands to be surveyed and described, so that it may be known where the lands are, the character of the timber, and their value.

2. Government timber should nowhere be sold at \$1.25 an acre. If sold at all a price should be fixed upon it somewhere near its value.

3. Until the land is sold the timber should be carefully protected from spoliation by fire and timber thieves. This applies to pine lands in the South.

4. In case of Rocky Mountain forests the Government should at once withdraw them from sale or entry. Their destruction, authorized or unauthorized, is an evil for which there is no possible compensation.

5. The continued holding of the timber lands by the Government should be so regulated that waste, fallen and surplus trees may be disposed of for the absolute wants of the settlers; but no more timber should be slashed down, and no more railroad corporations be furnished ties at the expense of the Nation.

6. The care of the Government forests should not be left to the inefficient supervision of land officers whose present duties render such supervision impossible, but should be made the work of trained, competent and honest men, commissioned by the Federal Government, responsible to and paid by it, and performing the work similar to the Government foresters of other countries.

7. The Department of Forestry, the duties of which are at present merely to collect information and give advice, should be organized into a working force, intrusted with the labor of classifying, describing and preserving the Government forests, increasing the area, where practicable, by planting and other means, and by bringing to justice those parties who trespass on the public timber lands either in wantonness or for the purpose of plunder.

8. In connection with these labors it should be remembered that "knowledge is power," and consequently the training of a body of foresters should go on at schools of forestry and experimental stations to be established and maintained in different parts of the Union by the general Government. By these agencies also the whole theory of the effect of forests on climate, on the flow of streams, and other kindred matters should be carefully studied, and the result made known to the public.

In the little Republic of Switzerland there is law enough and power enough to prevent the cutting of a single tree where its disappearance might make way for the avalanche. The Government of the most enlightened and powerful country on earth if we may believe its orators, is certainly strong enough and wise enough to prevent the spoliation and wasting of its own property.

I have given in a very general way my views of the value of a great property belonging to the people of this country, and I indulge in the hope that the Government will continue to collect the facts concerning this great interest in some convenient and accessible form, so that some future investigator may be able to speak to you in a more detailed, accurate, interesting and instructive manner than I have been able to do.

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

The Veterinarian.

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

OVER-EXERTION.—What is the matter with my mare? While cutting oats she took to coughing and bled at the nose. When discharge ceased, breathing became easy, until to-day, when plowing, she had a like attack. Mare five years old and is suckling a colt three months old. [The mare is in a weakened condition from suckling the colt; symptoms indicate that she was over-worked. Give her a rest, with good care and feed, till she recovers strength. A tonic would help.]

WORMS.—Hogs go shaking their heads, whirl around, jump and roll over; getting worse all the time. Toward the last a bloody froth comes from the mouth, and any motion near them will produce spasms. The water they have to drink is poor. [You give a perfect description of worms. Take santonine and sulphur, equal parts; to a three-months old pig give 3 grains in a little dry oatmeal, with a little salt, every morning, and 1 oz. of Glauber salts in the evening, in a slop feed; six months old, double the quantity.]

ENLARGEMENT ON HORSE'S LEG.—I have a horse that I use for light road driving. He has an enlargement on the inside of the fore leg, about three or four inches below the knee-joint. I gave him quite a long drive to-day, although not longer than he often gets (twenty-five miles), and to-night was the first I noticed it. It is not hard like a splint. When I rub it down, I can feel something like water in it. He is not lame. [The horse struck it with the other foot. Rub parts three times a day with the following mixture: Tincture of opium, 2 oz.; tincture of aconite root, 3 oz.; tincture of iodine, 3 dr.; spirits of camphor, 2 oz.; mix. Any enlargement remaining, in three weeks will need blistering off.]

DISEASE IN CALVES.—When three or four months old the nose will crack and blotches come out on the skin and run a matterly fluid; live in that state for one month and die. [In West Virginia, where the heat is so great, any animal that shows any eruption on the skin ought not to be allowed to graze in the open air. They ought to be shut up so that the flies may not communicate the disease from diseased to healthy stock. Every one that shows any eruption on the skin, keep shut up in a dark, airy place. Give internally, sulphur 4 oz., sulphate of iron 4 oz., gentian 2 oz.; mix, and make up into twelve powders; give one two times a day in mash, with a 2-ounce dose of salts every other day. Dress the skin with iodine ointment.]

INJURY TO A COLT'S NECK.—Can a colt's neck be straightened—caused by getting his hind foot over the strap and throwing himself? Draws his neck to one side; has been so for six weeks. [Yes, the neck will come all right. Keep the colt at pasture, and if you see improvement without the fore legs becoming crooked, let him stay; but if he has to bend the fore legs to get at the grass, keep him in the stable, place his feed at a distance so as to make him exert himself to get to it, which will of itself enable him to get his neck straight. But a proper way is to put a halter on the colt, place him firmly against the stall, then place your knee on the neck, upper part, and draw the head firmly in the opposite way to which the head is turned. It is a case of partial dislocation.]

If your horses have sore shoulders, scratches, cuts or open sores of any kind, use Stewart's Healing Powder.

This, That and the Other.

Jay Gould likes watermelons. He always did like to get a good deal for his money.

Ferdinand Ward paid twenty per cent. a month for money. He could afford to do it, because he had none of his own.

Corregio's picture of the Mule and Muleteer in the Sutherland gallery, England, is said to have been painted for a sign.

Voltaire was the first writer in France to recommend the adoption of inoculation for smallpox to the people of his country.

To scour knives easily, mix a small quantity of baking soda with your brick-dust, and see if your knives do not polish better.

In England the causes of lepers were referred to ecclesiastical courts, as the lepers were under the protection of the church.

The ancients were so fond of perfumes that they scented their persons, garments, vases, domestic vessels and military insignia.

The sluggard invariably refuses to follow the advice of the proverb which tells him to go to the ant. He always goes to his uncle.

Salt will curdle new milk; hence, in preparing milk porridge, gravies, etc., the salt should not be added until the dish is prepared.

A specimen of every plant named in the Bible is said to be growing in the gardens of the Missouri Botanical Society, near St. Louis.

"I admit," said the young lawyer, "that I am not a very good man, but then how could you expect it of me. It's practice that makes perfect, you know; and that I haven't got."

In Japanese newspapers the columns begin at the bottom instead of at the top. But it is not necessary for you to stand on your head, or even to turn the paper over, in order to read.

A couple of pickpockets followed a gentleman for some blocks. He suddenly turned into a lawyer's office. "What shall we do now?" asked one. "Wait for the lawyer," said the other.

"Yes," sighed Amelia, "before marriage George professed to be willing to die for me, and now he won't even get his life insured in my favor," and the poor girl burst into a fashionable flood of tears.

"Mamma," said Freddy, "I wish I was a chimney-sweep." "What a wish, you foolish fellow! Why would you like to be a chimney-sweep?" "Because then I could have a new soot every day."

Stale buns may be made to taste as nicely as when fresh if they are dipped a moment or so in cold water, then put into a hot oven for five or ten minutes. They will turn out as light and crisp as when first baked.

When one has had a fever and the hair is falling off, take a teacup of sage, steep in a quart of soft water, strain it off into a tight bottle. Sponge the head with the tea frequently, wetting the roots of the hair.

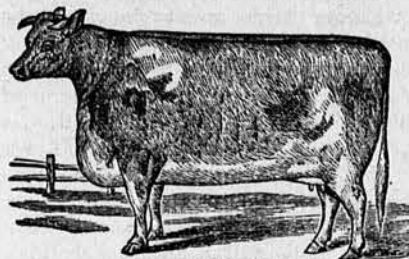
A model of an overhead electric railway is now on view in London, which the inventor declares will attain a velocity of 150 miles an hour for passengers. He prudently intends, however, to start his railway only for parcels at first.

Kerosene will soften boots or shoes which have been hardened by water, and render them as pliable as new. Kerosene will make tin teakettles as bright as new. Saturate a woolen rag and rub with it. It will also remove stains from clean varnished furniture.

A Chinese nut or fruit called li-che is becoming popular. It is the size of a walnut, and has a skin about as thick as writing paper. Within is the fruit, which resembles a fine raisin in flavor and consistency, and which contains, in turn, a small oval seed. They cost three cents per pound in Hong Kong, twenty cents in San Francisco and forty cents in New York.

The Scientific American says, if a bottle of the oil of pennyroyal is left uncorked in a room at night, not a mosquito, or any other bloodsucker, will be found there in the morning. Mix potash with powdered meal, and throw it into the rat-holes of a cellar, and the rats will depart. If a rat or mouse get into your pantry, stuff in its hole a rag saturated with a solution of cayenne pepper, and no rat or mouse will touch the rag for the purpose of opening a communication with a depot of supplies.

SUNNY SIDE STOCK FARM.



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SHORT-HORN CATTLE

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Correspondence or inspection of herd cordially invited.

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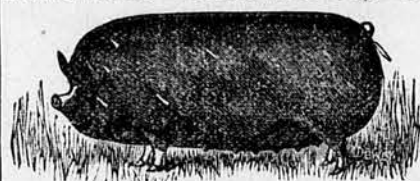
PIG EXTRICATOR, to aid animals in giving birth. Send for free circular to

WM. DULIN, Avoca, Pottawatomie Co., Iowa.



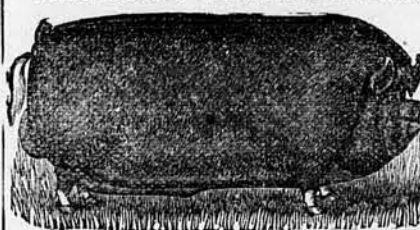
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I have thirty breeding sows, all matured animals and of the very best strains of blood. I am using three splendid imported boars headed by the splendid prize-winner Plantagenet 2219, winner of five first prizes and gold medal at the leading shows in Canada in 1881. I am now prepared to fill orders for pigs of either sex, not akin, or for matured animals. Price reasonable. Satisfaction guaranteed. Send for catalogue and price list, free. S. McCULLUGH, Ottawa, Kansas.

WELLINGTON HERD ENGLISH BERKSHIRES.



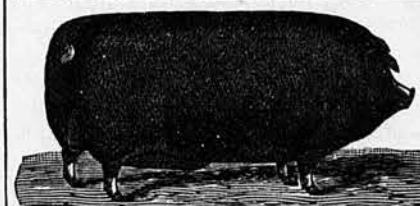
The Wellington Herd of well-bred and imported Berkshires is headed by HOPEFUL JOE 4889. The herd consists of 16 matured brood sows of the best families. This herd has no superior for size and quality, and the very best strains of Berkshire blood. Stock all recorded in A. B. R. Correspondence and inspection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

Elk Valley Herd of Recorded Poland-Chinas.



BRED BY J. WRIGHT ELK CITY, KAS.

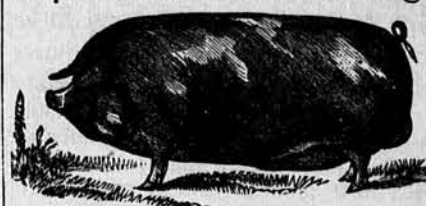
My stock was selected from the best strains in Illinois, Indiana and Ohio. Young stock for sale; also high-class Poultry. Send for catalogue and prices. JOHN WRIGHT, Elk City, Kas.



RANKIN BALDRIDGE, Parsons, Kansas,

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

Improved Poland-China Hogs



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

Hogs of Quick Growth,

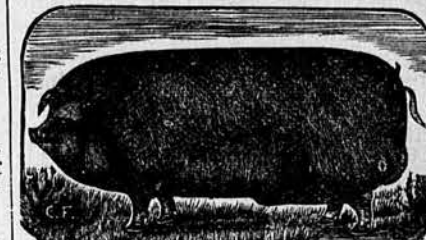
Easily fattened and early matured, showing a great improvement in form and style, especially in the head and ears.

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

S. V. WALTON & SON,

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

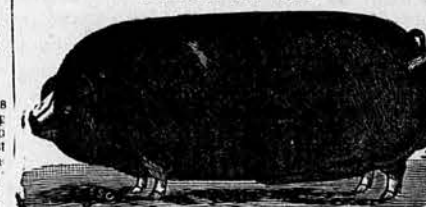
Residence, 7 miles west of Wellington, near Mayfield.



ROME PARK STOCK FARM, located seven miles south of Wellington, Sumner Co., Kansas. Rome depot adjoining farm. I have 35 breeding sows—Poland-China and Large English Berkshire swine. Also 230 high grade Short-horn cattle. Stock recorded in Ohio and American Records. The animals of this herd were and are prize-winners and descendants of prize-winners, selected with care from the notable herds in the different states without regard to price. The best lot of sows to be seen. Am using six boars—Cornishell 24, Kansas Queen, Kansas Pride, Cora's Victor, Ohio King, Hubbard's Choice,—sweepstakes. Orders booked for Spring Pigs. Address

T. A. HUBBARD, Wellington, Kansas.

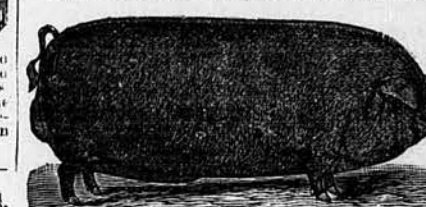
Poland-China and Berkshire HOGS.



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

RANDOLPH & RANDOLPH, Emporia, Lyon Co., Kansas.

MEADOW BROOK HERD

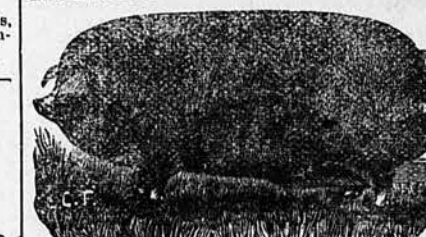


OF POLAND-CHINA SWINE.

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

JELLEY & FILEY, Proprietors, KINGMAN, KANSAS.

Acme Herd of Poland Chinas



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

STEWART & BOYLE, Wichita, Kansas.

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

Growing Wheat Cheaply.

In the opinion of the *American Cultivator*, for some years to come "it will be a necessity for those American farmers who produce wheat to do so as cheaply as possible. Quite likely this will shut out from wheat production many of those who cultivate high-priced lands with dear labor. Eastern farmers are in competition with wheat-growers in the West, who have equally fertile soil, and the cost of whose acres does not exceed the annual interest which Eastern farmers are compelled to pay for their land. American farmers are also in competition with wheat-growers in India and other foreign countries, where laborers are satisfied with ten to fifteen cents per day, instead of amounts varying from ten to twenty times that sum, which we are forced to pay farm laborers in this country. It is plain to the observant mind that good farming is required to overcome such disadvantages as these. It is yet an open question, to be decided in the future, whether good farming alone will prove sufficient.

"The average yield of wheat in this country per acre must be very largely increased from the present output. Through heavy manuring and clean culture, English farmers have succeeded in raising the average crop of wheat from twelve bushels per acre to twenty-nine. That we can do the same has been proven by individual examples of large yields. We have authentic records of even larger yields of wheat than are recorded in England. Not many years ago a leading nursery firm in New York State harvested 810 bushels of wheat from five acres. Such a crop as this paid them well at the harvest, though their chief object in sowing the wheat, to secure a clover seeding, was defeated by the enormous growth of straw. The second year's crop on the same land produced forty-five bushels of wheat per acre. At the time of these heavy crops wheat was selling at about \$1.25 per bushel. Yet for farmers who only have use for land for ordinary crops, forty-five bushels of wheat per acre will pay, even at the present low price.

"The evil and danger to be feared from low prices for farmers' products are that they will be made excuses for poorer farming rather than the incentive to better culture. With food products the farmer can no more make prices higher than by taking thought he can add a cubit to his stature. He can, however, so far as the prices are concerned, secure practically the same result by increasing his crops. In this direction, at least, low prices should incite the farmer's effort. If he can grow ten to twenty bushels more per acre from the same land, he is on the road to prosperity, regardless of the price wheat may command in the market. Low prices for food products cannot long continue without inducing correspondingly low prices for labor, and for all that the farmer has to buy. When prices of farm products constantly decline, the farmer who has produced largely of them loses heavily, because he has grown his crops on the basis of high prices and at too great a cost. Instead of stopping work altogether in times of depression, the enterprising farmer will determine to keep up at least the former scale of production. He can do it more cheaply because prices are low, and this fact alone will insure him a living profit in the conduct of his farm. The period of low prices often obliges many farmers to suspend operations in certain directions, hence prices are more than likely to advance. For all those who have the ready means, the attempt to pro-

duce more in seasons when prices are lowest is undoubtedly a desirable policy.

"Larger crops must, however, be secured on diminished areas of land. The time for increased production with profit, by spreading over broad acres of poorly-tilled and unmanured land, has passed away, and fortunately can never return. The waste of seed grain is prodigious on illy-cultivated land which, even with favorable seasons, can produce only half a crop. According to the estimates of the Agricultural Bureau the seed wheat required is generally put down at one and three-fourths bushels per acre, yet many farmers sow two bushels, or even more, per acre, and at the harvest often secure less than fifteen bushels. In bad years, oftentimes the amount of good seed wheat sown is not even returned to the planter. The losses from these failures are among the chief reasons why the growing of wheat is not generally profitable.

"The complaint is frequently made that farming does not pay. This is certainly true of poor farming, and in the natural order of events must ever be so; if not it would be the exception to the result of all other poor work that is done in the world. Good farming almost always pays, and whatever the prices for his products, the farmer who aims to grow the largest crops is more certain of success than the producers in other vocations. There is never any cessation of demand for his food products, as men must eat, whatever luxuries they may deny themselves. When wheat declines to one dollar per bushel let the enterprising farmer's aim be to produce it at ninety cents; if the grain falls to eighty cents, produce it at seventy if possible. Whoever can produce most cheaply will secure the control of the world's market for wheat probably for many years to come. The present is a critical time for wheat-producers everywhere, and those who can stand the present pressure are not likely to encounter anything more severe. Let it be understood by farmers that the way out of the difficulties lies in better methods of farming, and our era of low prices will carry some compensation."

Effect of a Wheat Surplus.

The great business sensation of the year in two hemispheres and three continents is the low price of wheat, the great cash crop of the farmers of the West, England and the Punjab. Wheat has not in fourteen years before sold so cheaply in Chicago as lately. It has not been so cheap in England for 100 years. Speculators who bought wheat in June on the alluring predictions of the clique, who promised with the help of the banks to put up the price, have by this time lost on all they have held not less than 55 cents a bushel, including all carrying charges. All the statisticians, political economists and betters are trying to cipher out the speed and direction of the current in the breadstuffs market, and bankers and business men are at fault in their calculations for the future until they can see clearly whether the new prices are mere flotsam on an ebb tide, to be succeeded by a returning tide of old-fashioned prices, or the register of a permanently lower level.

The surplus is the great bugbear. Believing that there is "too much wheat," sellers rush into the market to compete with each other in offering buyers larger and larger bushels for smaller and smaller dollars. This stampede towards the bottom is as sure, according to all principles of human nature, to carry the crowd too far in that direction as the stampede towards the top is to carry them too high. In

both movements the gregarious herd lose sight of the compensatory forces that are set in action to counteract the extreme tendencies which they are following out. The high prices into which the markets rush on account of a slight shortage create surplus by the economy in consumption which they compel; the low prices that are caused by "too much wheat" encourage the consumption that eats up all there is and cries for more.

Those who are trying to disentangle the lasting facts of the wheat situation from the babel of bull and bear outcries on the floors of the exchanges, and the mutually destructive figures of experts, have a difficult task.

The *San Francisco Chronicle*, which is a close observer of the wheat situation, as befits a journal in a State the wheat crop of which is worth a good many millions more than its gold yield, declares that wheat is selling 20 per cent. below the fair average cost of production. The causes of the prevailing low prices, it thinks, are temporary, and it enumerates them as being: (1) The general collapse of wheat speculators; (2) the monetary crisis; and (3) the heavy sales by farmers customary at this season. On the other hand, Mr. William M. Grosvenor, the well-known statistician of New York, figures out that the surplus remaining in this country July 1 was 75,554,195 bushels as against 65,877,155 remaining on hand a year previously. "Present indications," he declares, "are that the abundant supplies on both sides of the ocean will cause very low prices this fall." In his opinion the "obvious cause of the unnaturally low prices of wheat all over the world is the extraordinary increase in railroad and ship-building within the last few years. Railroads in India and here have multiplied wheat-growing acres. The cheap ships of these days have brought the most distant acres into competition."

A broader survey of the causes of low wheat we find in a circular sent out to his customers a few days ago by one of the most experienced brokers on the Board of Trade. This observer points out that the Keene and other corners taught the foreign buyers to pursue a hand-to-mouth policy. They found that to lay in heavy supplies according to their old way was unnecessary; that with electric cables and steam transportation wheat in the elevator at Chicago was as much at their command as if they held it in the warehouses at home. Hence, American capital must carry the American surplus. Again, the invention of the twine-binder has made wheat growing possible on a larger scale and has cheapened its production possibly as much as five cents a bushel. Then, the costs that intervene in the transfer of the wheat between the producer and the consumer are so great that the tendency to leave it in the hands of the farmer until it is wanted is constantly increasing. These costs are summed up in this circular as follows: The railroads charge on an average 30 cents per bushel to carry wheat from the producer to the seaboard, the elevators charge 15 cents per bushel, the insurance companies 2 cents and the bankers 6 cents per bushel—in all 53 cents for holding grain over one crop.—*Chicago Tribune*.

A Michigan farmer says he can make more money out of apples at twenty-five cents a bushel than out of wheat at one dollar. Good apples never retail in the market as low as twenty-five cents; they are seldom sold at less than forty cents a bushel. At this rate they are worth double the value of wheat, acre by acre, one year with another.

Soiling Dairy Cows.

A few weeks since, the writer found among his fellow-passengers on an Erie railway train a farmer from the dairy region of New York. In the course of conversation the farmer remarked: "I have two farms of a little over 100 acres each. One of them I live on, and the other, a few miles distant, I let out to a tenant to work upon shares. I put half of my dairy herd upon the tenant farm, and of course I didn't take pains to pick out all the best cows to send there, though I tried to be reasonably fair with the tenant. Well, sir, I was surprised to find at the end of last season that my tenant, with an equal number of cows, had sent to the cheese factory a good deal more milk than I had, and at the same time had raised more acres of potatoes and grain of all kinds."

"How did he do it?" was asked. "By soiling the cows. He kept them in the barn every day from the middle of the forenoon till late in the afternoon, and gave them green food. He had a little patch of winter rye to begin on, then he cut a piece of clover, and when that was gone, some oats that he sowed early in spring. By that time his fodder corn was big enough to begin on. After the cows were milked in the morning he turned them out into a brush lot on the hill, and let them run until about 10 o'clock, when they all came up of their own accord, and filed into the stable. Each one knew her own stall, and went straight into it. Toward noon, the farmer or one of his boys would drive into the barn with a load of green stuff and throw it into the mangers to the right and left. Then, all through the heat of the day, while my cows on the home farm were roaming over the parched pastures, or fighting flies under a tree, those with my tenant were standing in the shady, partly darkened barn, filling themselves with green feed or chewing their cuds. In the afternoon they had another run until after supper."

"Why did you not adopt the same practice?" was asked. "Well, you see, I didn't believe in it at first. But the tenant was a pretty bright fellow, and had worked for me several years, so I thought I would let him run the tenant farm in his own way, without any dictation."

"You practice soiling on the home farm, now, probably?" "You bet!" was the sententious if not very scholarly reply. "It seems to be pretty well established that soiling pays on your high-priced land in this and other Atlantic States, but our Western farmers are not sure that it will do as well where land is comparatively cheap and labor scarce," we remarked.

"Now, see here," said our new friend, "if we find it profitable on heavy clay soils, among stumps, and in some places stones, why shouldn't it pay on the prairies, where you can run a sulky plow through every foot of ground, and never strike an obstruction. Why, I read in one of the papers last spring, a letter from Hiram Smith, of Wisconsin, who said he was gradually breaking up his grass land and adopting soiling. When a dairy farmer like him adopts soiling other Western men won't be slow to follow. Well, here we are at Binghamton, where I leave the train. Good bye."

A correspondent of the *Indiana Farmer*, who keeps five good grade Jersey cows, says that the investment makes him more than any other on his farm, and he always gets the top price for his butter.

Twenty-five cents will secure the KANSAS FARMER till December 31, next.

The Busy Bee.

Stingless Bees of Cuba.

During our stay on the Island of Cuba we employed much time investigating its honey flora and the quality of honey produced by each variety.

On one occasion we were examining the flowers of a Royal palm which, standing at the foot of a rather steep hill and ourself at an elevation, brought the circle of flowers within twenty feet of us, we could, with our powerful field glass, bring the bees, so to speak, so near that the characteristics of the different kinds were easily discovered. There were wasps, yellow-jackets, bumble-bees and Italians; but what particularly attracted our attention was a little insect which, to our recollection, was exactly like the stingless bees of South America, which we had seen on one or two occasions several years ago. that we at once surmised they were identical.

After a good deal of inquiry we finally learned that our surmises were correct, and that a colony of these delightful little insects was in possession of a native living several miles away in the dense forest, engaged, in a primitive way, in the production of charcoal.

Mr. Pedro Casanova and myself at once set out on horseback, and arrived at the cabin of the Cuban, and just as the sun was going down, and to our delight, found the object of our search. The little beauties were located in the section of a hollow log about six inches in diameter and two feet long, suspended by a rope on the side-wall of the cabin in a horizontal position.

A little round hole, hardly a quarter of an inch in diameter, in the center of one end of the log, formed the only place of exit or entrance; the other end was closed with what seemed to be a conglomeration of pollen, wax, resin and some other moist and sticky material.

Looking into the entrance hole, all we could discover was the little white fuzzy head of one of these insects peering out at us in a cautious, half-cowardly manner. The last of the foragers were just returning, and it was amusing to see how swiftly, yet surely, they would always dart from the air directly into the little entrance-hole, without ever once missing, or having to crawl in, like our ordinary bees.

In all their movements they are as swift as lightning, and we had great difficulty in catching one, and more in keeping him after being caught.

The other end of this log hive was filled with a plug, which being withdrawn, the lady of the house took a sharp-pointed stick and reaching into the center of the hive perforated several of the large honey bags, then holding a glass tumbler under and slightly elevating the other end of the hive, the honey ran in a stream and soon nearly filled the tumbler with a very delicious, but rather thin honey.

This honey is supposed by the natives to possess medicinal virtues, and is sold at a high price—something like the "bumble-bee honey" in the city, with this difference: that the former is the real honey, produced by the stingless bees, while the latter, so far as the bumble-bee is concerned in its production, is a myth; but so far as either variety possessing any medicinal superiority over ordinary honey, it must reside entirely with the faith of the patient.

We at once purchased this hive and took it on our shoulder, remounted the horse and carried it safely back to the Casanova apiary.

Here we fitted up a nice little Bamboo log for a hive and commenced the work of drumming out the little pets, but, to

our astonishment, they would not "drum worth a cent." We then tried smoke, with no better success. Finally we procured a rip-saw, and by being very cautious, we succeeded in splitting the log from end to end. We then took out the nest, pollen, honey, bees and all and fitted it into our pretty bamboo, left it for three weeks until the bees had it all fastened and fixed in, then brought it home to New York safe and sound; but alas! forgetting to wrap up the hive one cold night, the little inmates chilled and died.

Many have been the speculations indulged in by the would-be wise in regard to these bees, nearly all of which are mistaken notions. The idea that there is any danger in handling them, bare-faced and bare-handed is untrue.

They will not mix with any varieties of our true honey bees, and they are unprofitable except as objects of curiosity.

A fair sized colony is composed of about from one thousand to fifteen hundred bees, occupying a round space of perhaps eighteen inches long and four inches in diameter. About five inches from the entrance are the brood combs, which are suspended from the upper part of the roof of the hollow space in parallel rows and about four combs. The combs are nearly round, not quite so thick as ordinary brood comb and not more than three inches in diameter. The sacks containing honey and pollen look very much alike and do not resemble cells in any sense; they are somewhat irregular in shape, being an inch long and three-fourths of an inch in diameter, holding about two tablespoonfuls of honey each. They are of a dark color and lie on top, bottom and sides; packed like so many bags of grain; three-fourths of them filled with pollen and the balance with honey.

In shape these bees are much like the bumble-bee, and in color like the yellow-jacket, but they are not more than one-fifth the size of the bumble-bee and perhaps the body is longer in proportion than his big cousin. The queen is really beautiful, and differs in shape from the workers in the same way ordinary queens differ from the workers, but these bees are much more vigorous and can cling to objects with greater tenacity than any insect we have ever seen.—*A. J. King, in Bee-Keepers' Magazine.*

THE STRAY LIST.

Strays for week ending Sept. 10, '84

Rawlins county—Cyrus Anderson, clerk.
COW—Taken up by James M. Knight, 2 miles north of Atwood, October 20, 1883, one roan cow about 8 years old, and calf; valued at \$30.
COW—By same, one roan and white cow, about 8 years old, and calf; valued at \$30.
COW—By same, one light red cow, about 8 years old, and calf; valued at \$25.
COW—By same, one dark red cow, about 3 years old; valued at \$25.
HEIFER—By same, one roan or gray heifer, 1 year old; valued at \$20.
STEER—By same, one spotted steer, 1 year old; valued at \$20.

Woodson county—J. M. Jewett, clerk.
PONY—Taken up by D. C. Work, in Liberty tp., August 12, 1884, one light sorrel 7-year-old pony mare, 14½ hands high, about 8 years old, branded B H on left shoulder, 3 and 8 on left hip with a circle under each eye, white spot in left flank, saddle marked; valued at \$25.
PONY—By same, one bay Texas pony mare, 15 hands high, about 5 years old, star in forehead, crop off right ear, branded H O T on right hip, and on left shoulder with an oblong link, saddle marked; valued at \$35.

Wyandotte county—Wm. E. Connelley, clerk.
HORSE—Taken up by John E. Matney, of Shawnee, August 18, 1884, one brown horse, 5 or 6 years old, no marks or brands; valued at \$30.

Shawnee county—Chas. F. Spencer, clerk.
PONY—Taken up by David Thompson, in Mission tp., August 13, 1884, one brown pony mare, supposed to be 12 years old, branded with W on left shoulder; valued at \$30.
MULE—By same, one brown mare mule, medium size, supposed to be 8 years old; valued at \$100.

Reno county—W. R. Marshall, clerk.
OX—Taken up by William Holmes, in Hayes tp., August 19, 1884, one red ox, 8 on right side and d on left; valued at \$30.
OX—By same, one brindle ox, 8 on right side and d on left; valued at \$30.

Jefferson county—J. R. Best, clerk.
HORSE—Taken up by E. M. Hutchens, in Delaware tp., August 4, 1884, one dark iron gray horse, 4 years old, 16½ hands high, hind feet white, outside of right hind leg white to hock joint, some very small white spots close to the eye-lids, hind feet and left front foot shod, harness marks, no other marks or brands; valued at \$100.

Allen county—R. W. Duffy, clerk.
COW—Taken up by J. T. Barron, of Elmwood tp., August 4, 1884, one cow, branded I. on left hip, swallow-fork in left ear; valued at \$25.

Strays for week ending Sept. 17, '84.

Edwards county—W. I. Nichols, clerk.
HORSE—Taken up by L. Gunn, in Brown tp., August 20, 1884, one gray horse, 8 years old, no marks or brands; valued at \$50.
HORSE—By same, one sorrel horse, 7 years old, 7 on left hip; valued at \$35.
HORSE—By same, one sorrel horse, 10 years old, C. C. on right shoulder, so on right hip; valued at \$35.
HORSE—By same, one roan horse, 6 years old, t on left shoulder, xxx on left hip; valued at \$40.

Leavenworth county—J. W. Niehaus, clerk.
HORSE—Taken up by T. E. A. Daniels, of Kickapoo tp., August 18, 1884, one brown horse 16½ hands high, 7 years old, a little white on left hind foot, a lump and sore at pastern joint of right hind leg; valued at \$50.

Wyandotte county—Wm. V. Connelley, clerk.
HORSE—Taken up by Lee Mize, of Delaware tp., August 21, 1884, one bay horse, about 12 years old, 14 hands high, shod all around, crooked a little behind, white spots on back like saddle marks, white collar spot on neck; valued at \$25.

Butler county—James Fisher, clerk.
SHOATS—Taken up by D. M. Carr, in Augusta tp., September 4, 1884, four black shoats (pigs), 3 months old, worth \$2.50 each; total \$10.
SHOATS—By same, two black shoats, 4 months old, worth \$2.50 each; total \$5.
SOW—By same, one sow, 1 year old; valued at \$12.50.

Strays for week ending Sept. 24, '84

Lyon county—Roland Lakin, clerk.
MARE—Taken up by J. W. Brown in Jackson tp., July 17, 1884, one dark brown mare, 7 years old, 15 hands high, small white stripe in face, heavy mane and tail, shod in front, few white hairs on right shoulder; valued at \$80.
H. RSE—Taken up by Orasmus Douglass, in Flinnders tp., August 1, 1884, one bay horse 8 or 9 years old, 15 hands high, star in forehead, dint under left ear, black mane and tail, paces under the saddle; valued at \$75.

**HO. SE—Taken up by J. L. Bain in Americus tp., July 28, 1884, one 4-year-old roan horse, both hind feet white, rather lengthy animal, weighs about 1100 lbs, no marks or brands visible; valued at \$75.
MARE—Taken up by J. A. Simpson, in Pike tp., one 4-year-old bay mare, two white spots on each side, collar marks blazed face, unusual amount of white in both eyes, wheeled in left shoulder; valued at \$35.**

HEIFER—Taken up by Nancy Carey, in Reading tp., one red 2-year-old heifer, white on belly, hole in right ear, some brand on back; valued at \$15.

Pottawatomie county—J. W. Zimmerman, clk.
PONY—Taken up by W. W. Liederick, in Clear Creek tp., August 15, 1884, one bay horse pony, weighs about 650 lbs, both ears slit, star in forehead, both hind feet white, no marks or brands; valued at \$15.
HOGS—Taken up by T. J. Christfield, in Lincoln tp., September 1, 1884, seven hogs, red with black spots weigh about 150 lbs. each; valued at \$40.

Crawford County—Geo. E. Cole, county clerk.
STEER—Taken up by Milton Harris, in Lincoln tp., August 27, 1884, one roan 2-year-old steer, branded n. on left hip; valued at \$30.

Kingman county—Chas. Rickman, clerk.
MARE—Taken up by Richard R. Milligan, in Kingman tp., one sorrel mare 14½ hands high, 5 on left hip and 6 on right shoulder, branded 9 on right hip and 6 above U on left hip; valued at \$35.
MARE—By same, one bay mare, 14½ hands high, black mane and tail, branded O on left hip and G on right hip and U on back part of right hip; valued at \$40.

Marion County—W. H. Hamilton, clerk.
COLT—Taken up by Geo. Coy, living in Durham Pa., tp. of Hillboro, one iron gray stud colt, branded 1 on right shoulder, 2 years old; valued at \$5.
COLT—By same, one iron gray stud colt, branded 1 on right shoulder, 2 years old; valued at \$50.
COLT—By same, one iron gray mare colt, branded 1 on right shoulder, 2 years old; valued at \$30.
COLT—By same, one brown mare colt, 2 years old, branded 1 on right shoulder; valued at \$30.
COLT—By same, one sorrel stud colt, 2 years old, branded 1 on right shoulder; valued at \$10.

Wabaunsee County—H. G. Licht, Clerk.
MULE—Taken up by James M. Phillips, in Newbury tp., September 13, 1884, one brown mare mule, 16 hands high, hind feet white, left front foot crooked, white spot on stifle of left hind leg and white collar and bridle marks; valued at \$30.

KANSAS FARMERS Mutual Fire Insurance Company, ABILENE, : KANSAS.

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C. H. LEBOLD, Vice President.
W. A. MORTON, Secretary.

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Great sale of Short horn Cattle at Oakwood Farm, 2½ miles southeast of Wichita, Kansas, on Thursday, October 9th, 1884. I will sell about 45 head of Thoroughbred Short-horns (all recorded) and 10 High-Grade Cows, consisting of Rose of Sharon's Bertha Sir wherrys, Marya, Goodnesses, Rubys, Dulcibelias, Arabellas, and as a fine individual as can be found in the West. The Cows and Heifers have most of them been bred to my grand bull Aldridge Rose of Sharon 4972 and Mayflower's Red Rose, a fine young Rose of Sharon or Red Rose Bull, that will be included in the sale with some 16 others nicely bred and large enough for service.
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Persons coming from a distance to purchase cattle, we will load them on the cars free of cost.
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Also, two Imported Galloways Cows bred to an Imported Bull, for sale or exchange for Short horns.
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In the Dairy.

Skim Cheese-Making in Denmark.

To all dairy proprietors (says Mr. Ryder, U. S. Consul at Copenhagen, in his report) it is a well-known fact that, while butter is an article at all times eagerly sought after and easily disposed of, skimmed-milk cheese, on the other hand, is hard to sell. Many methods have been tried, in its manufacture, in the attempts to bring this description of cheese more into repute, but, unfortunately, so far without much success. The following mode of procedure would, however, appear to have met with much approval in many quarters: As soon as the milk is separated from the cream by the centrifuge it is taken, fresh and sweet, for cheesing, which, in a great degree contributes toward the attainment of favorable results. There has then to be added a sufficient quantity of rennet, so that the milk can be curdled in the course of thirty minutes at a temperature of 82 to 86 deg. F. It is also of importance that the temperature should be carefully watched, and that just the right quantity of rennet is added, so that the cheesing shall be completed in the thirty minutes, for if the commencement is faulty so surely will the result be of an unfavorable nature.

So soon as the milk is well curdled, it is then cut up with the cheese knife in a circular form, and with the aid of two cheese forks the pulp is broken up until it is sub-divided into small, irregular pieces, which will be effected in from four to five minutes. The pulp is then left quiescent for about fifteen minutes, during which period as much whey as possible is run off. The cheese mass is then rapidly stirred about for another five minutes at a temperature of 82 deg. F. During the heating in the cauldron this should be kept over the fire, but in such a manner that the temperature is never allowed to rise or fall more than 4 deg. F. at the utmost—namely, from 86 to 82 deg. F. With this mode of treatment the cheese pulp has the appearance of clean snowy down, and it may be removed after lying over for another five minutes. When more rennet is added, or the pulp allowed to lie over for a longer period, the cheese will become harder and more coarse. The cheese pulp is then placed upon the table in large molds, and is carefully distributed into these. These molds are subsequently replaced by others of proper size, which have a breadth of 23½ inches and depth of 4 inches. The cheese is then pressed slowly and, at the commencement, very lightly, with a screw, but later on greater pressure may be made by placing heavier weights upon it. During the course of this work, the dairy-maid should on no account absent herself from the cheese-press, for the cheese being in a soft state its position may require to be frequently changed. After the lapse of ten to fifteen minutes the cheese is taken up and turned, and the cloth drawn more tightly together, and it is then put into the press to be treated in the ordinary manner. The cheeses must be turned frequently and the whey entirely squeezed out, which is a point of much importance. Thus, for example, if the cheese be first taken out of the press at noon-day, by 5 o'clock in the afternoon it should have been turned five times, and each time encircled with a fresh cloth, namely, at 12 o'clock, 1, 2, half-past 3, and at 5. In the evening at 9 o'clock, and again next morning at 6, the cheese must be wrapped in fresh cloths, and at 9 to 10 o'clock it may be placed in the press without a cloth; but in a short time with a mold covering, so that its exterior may be perfectly smooth and even.

The cheeses are afterwards laid down

without any covering into the salt pickle, where they should be left for at least three, and at most, six days. The brine should be very strong, and should be kept of uniform strength, so that the pickle need not be drawn off, but may be carried over to another salting-tub, and there again brought up to the required strength. If the brine is not of sufficient strength, the cheese becomes sticky and does not acquire a good rind, and the effect of the brine on the cheese pulp is not sufficiently strong. The pickle should have the effect of binding the pulp together, so that the poorer substances which it contains become harmless, and a firm rind for the protection of the cheese is formed.

All cheeses become slightly swelled in the stage of pickling, but when, after the lapse a few days, they have become soft and mellow, they will receive a good shape, and will have neither cracks nor blisters when salted daily for about fourteen days in a damp place, where the temperature can be raised to 59 deg. F. The cheese should therefore be laid upon dry shelves in a humid chamber with a temperature of 63 to 65 deg. F., and there daily dried, turned and salted. For the ensuing four weeks they should be dried, turned and salted every second or third day, and in the last four weeks this should be done once a week, when the cheese will be ripe and in fit condition for keeping so that they may be sent to the warmest climates. If the cheeses have not been disposed of by the time they are three months old, they should be kept on dry shelves, and in a room that is not too humid. Here they should be dried, and turned every eighth day, but they should never be allowed to lie edge-ways, as this tends to damage the interior of the cheese. Great care should be taken that the cheese is turned daily during the time it remains in the brine, otherwise it is liable to bulge out on the one side more than the other. They must never be allowed one on top of the other in the pickle, but should be covered by it.

Cloths should not be used on the cheese; they only do damage. The size of the pickling tubs must be regulated by the number of cheeses made daily. A tub with lid, calculated for eight cheeses, will cost about \$9, and such sized tub will be required when the daily make is two cheeses. On an average, from 100 lbs. of milk, 3½ lbs. of fine butter, and 7 lbs. of cheese will be obtained. The following striking experiments, which have been made, are at the same time worthy of mention. When the cheeses were taken out of the pickle, after the lapse of two or three weeks, they were put for about fourteen days into a room, without being salted. The room was kept heated by steam to 72 deg. F., so that the cheeses were made to sweat freely, thereby causing a deposit of a large quantity of impure matter, which was wiped off at intervals. The cheeses treated in this way, as compared with those made in the ordinary manner, showing so great a difference in respect to the state of the inner pulp as would scarcely be imagined. The cheese-pulp was soft and pliant, and seemed to be richer than the other cheeses. As soon as this experience has been obtained, a room for the reception of 300 cheeses was arranged, with powerful steam, and another of similar dimensions, with less powerful steam, so that the same cheeses might gradually receive a lower temperature and less moisture.

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In reply to the query, "What quantity of milk should a cow give to be considered profitable?" a well-known dairyman answers, 4,500 pounds; 2,800 pounds for the first 100 days, 1,000 pounds in the

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The Business Outlook.

The following is from the business circular of Henry Clews & Co., of New York, and contains a good deal of sound sense so far as wheat is concerned:

"The stock market tends to lower prices, owing to the lack of outside demand and but a meagre support from the cliques. The latter have doubtless unloaded largely of late, and are not particularly desirous of buying back at the present range of prices, so are willing to let the market drift, which, together with the weight of recent scales of long stocks, easily force down prices; besides which, the continued squabbling amongst the various railroads is disturbing to confidence, and these dissensions are likely to continue as long as there is such a grappling as at the present among themselves for each other's business. The only improvement which suggests itself to us as likely to occur may come by an advance in wheat to a price that will be an inducement to the producer to send it forward for sale. This will then stop the effort of the trunk lines to steal each other's business by giving them all enough of their own. At present prices the farmers will certainly hold their wheat back, and in the meantime railroad earnings in consequence will make a sorry showing as compared with other years, when it was hurried forward in bulk. For the present we advise only buying stocks on important breaks to sell out on rallies, or to sell short on top of rallies.

"The misstatements regarding the yield of wheat in the world are becoming a feature worthy of condemnation. Enthusiasts at home are free in their statements of a 550,000,000 crop, and yet Mr. Dodge, the Government statistician, who is a recognized and unbiased authority, says 'it is probable, from the reported condition of the crop already harvested and threshed, that the aggregate will vary little from 500,000,000 bushels. The reports of much higher figures are sensational and misleading, utterly unworthy of credence.' Regarding the European yield, the same untrue statements are current. Ignoring entirely an average crop yield in a country, they enter into comparisons with last year as showing an increased yield for this. The product of last year was considerably below the average, and the yield in many countries exceptionally small, yet in 1882 it was a fair average yield, so the comparisons of this year should be made with the latter and not with the former. Taking the case of Hungary, the yield, as stated by the Vienna Congress of 1882, was 157—with 100 representing an average crop—while in 1883 it was 100, and in 1884 104. In Russia larger differences are apparent; in 1882 the yield was 119, in 1883 it was 80, and in 1884 104. Now, any fair-minded man can see how unreasonable it is to compare the crop yields of Europe of 1884 with those of 1883. An important item to consider in forming a judgment as to the relative merits of the wheat is the exports from America, for the eight weeks of this year from Atlantic ports, which have averaged 2,600,000 bushels a week, while in 1883 for the corresponding period the average was only 1,800,000 bushels. Taking the total exports from Atlantic ports and California for 1884, they aggregate 25,000,000 bushels.

"The causes of the present low prices of wheat are largely the product of imagination and false statements, especially of the former. It seems to have become the habit to report enormous crop yields throughout the world, and the falsehood has been so constantly repeated that they who say it and they who hear it actually believe it. Those

causes which have secured the decline remain paramount. We have been fooled by the competition from Australia and India, and when the truth becomes known it will be to prove that these countries have been enabled to undersell America by the sacrifice of business principles and at great risks, in order to establish themselves as successful competitors. A glance at the finances of Australia, with its enormous increase in its public debt, the decrease in its income, the insolvent state of many of its merchants and poverty of its peasantry, are the elements of the Australian commercial situation that are the result of the policy to 'beat America.' The Oriental bank has brought insolvency upon itself in its efforts to encourage and maintain excessive farming in this unfair competition; and while there is an exportable surplus from India which should enter the field of competition in the markets of the world, an attempt to undersell or coerce America will result in serious disaster to all concerned."

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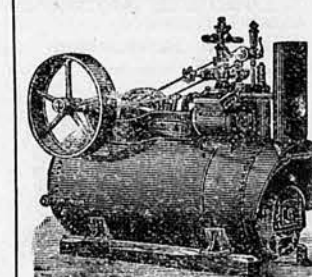
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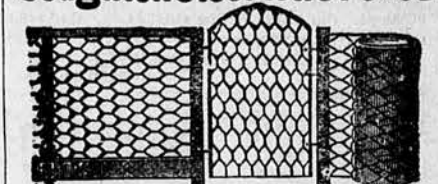
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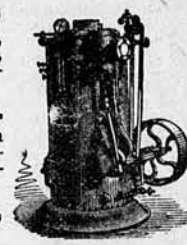
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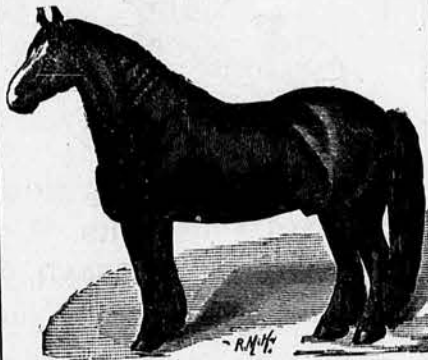
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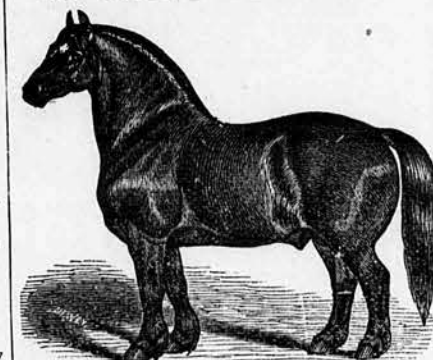
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Will sell ONE HUNDRED HEAD OF WELL BRED SHORT HORN CATTLE, consisting of Bulls, Cows and Heifers. The offerings will be fair and honest specimens of the Short-horn breed, both in pedigree and individual worth, and will represent all the popular families and tribes, including some fine specimens of Cruickshank, Bates and Booth-bred and topped animals. No unworthy animal, if known, will be offered or sold. All the offerings included in our catalogue will be true to pedigree—will be recorded or eligible to record, will be sound, and the females warranted to have been regular breeders in the past.

A breeding list will be furnished on the day of sale.

TERMS:—Cash, or acceptable bankable paper.

Catalogues can be had on application to W. L. HARDING, Secretary, Kansas City, Mo., after October 1st.

Cattle can be seen in stalls at Fat Stock Show grounds after October 25.

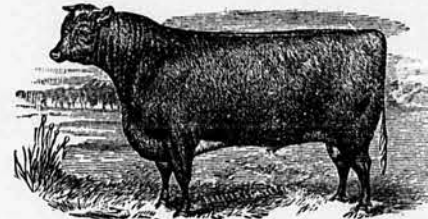
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Great Short-horn Sale!

—AT—

FORT SCOTT,
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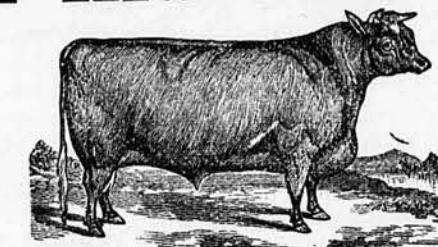
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This will be no culling sale, but all animals offered will be good useful cattle, well and purely bred, many of which are first-class show cattle. Sale positive, regardless of weather, as it will be held under cover.

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