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Agricultural Matters.

Corn Culture.

EDITOR KANSAS FARMER:—Having noted all that has been said concerning the cultivation of corn, both listed and check-rowed, I still think some ideas have not been presented. I give the following as far superior, in my opinion, as the best method of cultivating listed corn: For first cultivation use the common two-horse cultivator, with guards on, using a very narrow shovel next to the corn. Let this narrow shovel run deep, loosing up a bed for the young corn roots, the outside shovel raised so as nearly to cut enough of the ridge to destroy the weeds that usually grow from the side of the ridge. For subsequent cultivation use the same cultivator, with or without the narrow shovels and guards, as will give the best results. I would not let a man harrow listed corn for me if it cost me nothing. For cultivating corn put in on plowed ground with a check-rower, a harrowing for first cultivation is excellent, or use cultivator same as for the listed corn. For second and third cultivations use cultivator as commonly used. We come now to the last cultivation, or laying the corn by, as it is commonly called. This last cultivation makes or destroys the corn. If the corn roots are disturbed the corn is injured. And I might say here five out of six farmers injure the corn the last plowing. I will describe, as well as I can, how to make an implement to lay corn by with that will clean the corn and never disturb a corn root. Take two pieces of share steel twenty inches long, split each in two pieces, making four pieces for four shares. Each piece will be twenty inches long and three inches wide, which we divide so as to give eight inches for stem and twelve inches for share; but for very wide planted corn the shares should be fourteen inches. To make the stem measure back from one end of the twenty-inch plate eight inches, and one inch from the edge, and then make the plate; next take a mitre square and get the angle of the share to the bar of a common two-horse plow; place the square on the plate you have marked and mark to angle on the plate, leaving the outer edge of the long end of the plate the longer. Now cut out

this one-inch strip eight inches long, and turn up the remaining two inches, perpendicular to the plate, for a stem to the share. The share is then to be drawn out to a fine sharp edge. The shares must be made in pairs rights and lefts. These shares can be attached to the beams of a common cultivator, but to do so the movable iron that the shovels are fastened to must be taken off and holes made in the share stems corresponding to the holes in the beams, and then the shares bolted on, but in this case the beams have to be widened out to near twenty inches. It is far better to have new beams for the share plow and just bolt them on in place of the common beams when you wish to change. Care must be used to get the shares to run smooth and level when at work. The shares must be oval on top and concave beneath so they will draw down a little when running, or else they will slide along on top of the ground.

Should any of your numerous readers desire to try one of this kind of cultivators, and would prefer, if he will communicate with W. C. Geise, of Cottonwood Falls, Chase county, Kas., he can have a set made and sent him easier than he can explain to a local smith how to make them; yet any good smith should be able to make them from the description. These shares are death to sunflowers and cocklebur, and can by putting on a one-horse plow be used after the corn has properly been "laid by." Had we cultivators with high wheels and use once as corn was tassel it would be all the better. I firmly believe that corn planted on plowed ground of northern seed, twice cultivated with the common cultivator and twice with the shares, would make a fair crop our driest years.

W. S. ROMIGH.

Cottonwood Falls, Kas.

Keeping Roots.

Succulent roots, as turnips, beets, carrots and parsnips, require two essentials for keeping through winter, a cool temperature, and a sufficiently moist surrounding to prevent withering or drying up. Warmth and moisture acting together produce rot; warmth and a dry air cause speedy shrivelling. Roots which are not injured by freezing when compactly surrounded with earth, may be left in the ground all winter where they grew; such, for instance, as the parsnip, which is all the better in quality for the freezing which it gets. The carrot will sometimes pass the winter in the same way, but more frequently it is rotted. But this treatment will not answer if the roots are dug and then buried in earth and afterwards frozen. They must remain where they grew; and as they have gradually enlarged in growth, they have crowded and pressed the earth outward, and thus left no interstices. An unbroken face of earth surrounds them. Even potatoes may be frozen without much harm if thus left and thawed in the soil where the tubers grew, but any crevices or interstices in the soil will spoil them.

These facts teach some useful practices in storing roots for winter. Such as turnips and parsnips, which shrivel easily, must be well and compactly surrounded with a porous, moist substance, as fine or pulverized moss, slightly damp sawdust or peat. Those which do not require moisture, such as potatoes, will keep well if only always cool (not cold). On the other hand, winter fruit, like Baldwin, Greening and Russet apples, may be packed in dry bran or dry forest leaves, which will partly protect them from cold currents of air and prevent rotting or wilting.

The same general principle will apply to the roots of nursery trees. Those which remain in the ground through

winter have the roots and the soil in which they grew thoroughly frozen, but no harm happens to them if they thaw in the ground. But if frozen after digging, and thawed in contact with the air, they will as certainly perish. And they will be greatly injured, if not killed, if, when heeled in, large interstices are left in contact with the roots. Finely pulverized earth should be placed in close contact with them.—*Albany Cultivator.*

A Sixty-Acre Farm.

The following was read at the West Plains (Mo.) Farmers' Institute, a few weeks ago, by Mr. Madral, of Howell county:

How to farm successfully is a question that is being considered by every energetic farmer of our State, and today many who are still pursuing the old method of hog and hominy farming have long since been made to realize that corn crops alone will not pay the expenses of the farm. It seems to be an evident fact that land yearly planted to corn soon begins to show a gradual decrease of its yield, thereby giving due warning to the husbandman that an entire failure is near at hand. And not only is this the case when our land is cultivated in corn, but continual cultivation of other grain crops show a decrease in the yield of the crop, and we find the grain to be of an inferior quality. And this is not only so, but we soon discover that the productive qualities of our soils are so diminished that other crops do not grow so readily upon the same, but show signs of feebleness. I verily believe this to be one cause of the failure both in our grass and clover yields in many portions of our State; and should we sow grass on land that has been overtaxed as above stated, we need not expect very flattering results.

Is there no means of improving our soils and increasing the yield of our crops? I think the remedy consists in a rotation of crops and the proper application of barn yard manure. We need to plant our land to different crops and we should also have a knowledge of the various crops as well as the kind of soil that is required to produce a bountiful yield of the same.

A man with a small farm of sixty acres should sow eight acres to clover, eight acres to timothy, eight acres to red top, making twenty-four acres of meadow. Plant eight acres to corn, eight acres to wheat, eight acres to oats, making twenty-four acres to grain, with twelve acres left for orchard, vegetables and small fruits, which should be the most elevated part of the farm, and if handled in the right manner will soon prove a great benefit to the farmer in meeting his obligations as well as supplying the pantry with dainties suitable for a king's table.

Then, as a common rule for farming, I would recommend the following:

Follow corn with oats, oats with clover, clover with wheat, wheat with timothy or red top, and timothy and red top with corn. When your crop rotation plan is in working order, begin the erection of a barn large enough for storage of the farm crops, and to shelter one or two good farm teams, twenty or thirty head of cattle, one hundred sheep, and a few hogs of good quality. Then care for your stock, save the manure and apply it properly on the land that you desire to plant in corn the coming season. On this point depends, to a great extent, your success. See that the weak places in your field are enriched, so the crop will be even throughout. Then we may expect a much greater yield as the fertilizing agent from the bloom will be distributed more equally to the young shoots. As I am one of small experience and have not had the means at hand to experiment with, I was compelled to gather the contents of this paper from close observation and study in connection with what little practical experience I have obtained in following the daily occupation of a farm life.

Farming for Money

A great many young men leave the drudgery, privations and isolation of the farm for the city to engage in what is by them, and unfortunately by a large portion of the world, considered more respectable employment. They falsely imagine that there are better ways to make a living, to make money and to rise to eminence in the world. It is true that there are frequent cases where the farmer boy has gained honor and distinction. They can be named in all departments of the government, and all branches of the arts, science and industries. They make a noise in the world. And yet there is not one boy in 100 who leaves the farm in disgust who is ever heard of again beyond the neighborhood where he drags out his life. But the same talent, energy and industry in seeking knowledge of the farm, would more likely bring him into public favor, and to be more frequently called to fill the highest positions of honor and profit than to be a merchant, a doctor, or a land agent. None of those classes of men have ever been President, while about one-half of all of the Presidents were farmers.

Very careful statistics have been collected, and it is positively stated that not over one merchant in ten who pursues the business for a series of years, ever attains to wealth, or even preserves his financial credit. There is a far better state of affairs among farmers. Men who have run farms on careful and practical principles, seldom fail, and if one will make careful inquiry he will find there are more farmers who accumulate from \$50,000 to \$100,000 worth of property than do any other class. Take for instance the one hundred or so of farmers of Iowa who annually assemble at the Fine Stock Breeders' Association, and we doubt, if any other industry or profession, if called together in State convention without any intention of making a display of individual wealth, would compare with the members of the association named. Nor would any other convention excel in the number of able or worthy men, fit to fill any office in the government. It would probably astonish some if they were to investigate and make a fair estimate of the financial standing of the farmers' last convention in Iowa. Besides they are all a happy, contented set of good men. They have no fearful looking for a dismissal from office, nor are they continually in a stew about the danger of losing public confidence, public patronage or run of custom.

But our long experience in the world, and by our close observation of the rise and fall of men, we are prepared to say that any smart and intelligent man and woman who start out in early life on a comparatively small farm, and settle down contented in their position and in their enterprise for life, and who carry on their farm on business principles, who study the wants of the times, the demands of the markets, who pay as they go, who are economical, not necessarily penurious, are more certain to accumulate a comfortable fortune by the time they are fifty than any other class of men and women who are striving to become wealthy by other lines of industry.

We dare the successful contradiction of these facts and this position. And it is well for that bright farmer's son to consider well where he casts his destiny.

—Iowa State Register.

There is no better cow feed than oats, whole, ground or crushed, says the *American Dairyman*, but whether or not you can afford to raise them for the cows is a matter for you alone to decide. This will, of course, depend upon your soil and climate and somewhat on the variety that you sow.

The Stock Interest.

THOROUGHbred STOCK SALES.

Dates claimed only for sales which are advertised, or are to be advertised, in this paper.

MAY 29—Hon. H. M. Valle, Short-horns, Independence, Mo.

Colic in Horses.

It is with horses in many things as with men. The digestive apparatus in both is quite similar. Some are troubled more than others with indigestion; and any sudden or severe shock to the system may disturb the digestive organs and bring on colic. If a man eats too much green food or unripe fruit it will affect his digestion and give him gripes. Let a horse that is kept on dry feed fill himself with green clover and the chances are he will have colic. Cattle often bloat up and die under such circumstances. Let a horse get very dry and take a large amount of cold water into his stomach and it may bring on colic, especially if he is not exercised after drinking and was warm at the time. Getting suddenly chilled and taking cold, thus closing the action of the skin and throwing all its works of purification upon the bowels, may cause indigestion and colic. It is particularly liable to if the horse has weak digestion and is predisposed to colic. Too much dry feed, allowing the bowels to become constipated, is a frequent source of colic. In such a case, injections of tepid water, to set the bowels in motion, will give relief. But the better way is to see that the horse has every now and then a ration of succulent food to keep the bowels loose. Overwork and overheating, as well as overeating after a long fast, are both liable to bring on colic. These are all causes that common sense and a little thought should avoid. But, as a rule, little or no attention is paid to any of these things, and when the horse gets sick the wonder is what has caused the sickness. Take thought for your horse as you would for yourself; but if you are one of those who take no thought of their own health, of course this injunction will not apply. But you should be careful with your faithful horse, however much you may neglect your own condition.—*Practical Farmer.*

About Sheep Dips.

A correspondent of *Sheep Breeder and Wool Grower*, discussing sheep dips, objects to the use of lime and sulphur. He says:

"A sheepman may think, and think truly, that it is a cure for scab. It may kill the wool as well as the scab, but that has nothing to do with him. Wools are not classified and bought on their merits, and unless he uses the lime too strong, and makes the wool quite rotten, he the grower will get full price for it. This is too true. But how does this matter appear from another and which I may call a patriotic point? The damage which the wool clip of this country annually sustains by being limed is second only to the ravages made by the scab. It is this annual application of thousands of tons of lime to the wool of the country that makes the cloth which is manufactured from it the badly wearing material that it notoriously is. Imported woollen fabrics, let them come from whatever country they may, wear better than American homespun. You cannot attribute the cause to peculiarities of climate, for Russia (with its 60,000,000 of sheep) is at least as cold, and Australia as hot. Neither is it the mode of manufacture. Good enough cloth can be made from the Ohio and Eastern wools, which are never touched with caustic lime. It is

the mixing with these superior staples, of the half-rotten limed wool which comes from west of the Missouri, that gives the low average quality to American cloth, as compared with English goods.

"Lime and sulphur is not an American institution. Its efficacy as a scab cure was known long before the first sheep crossed the Missouri. It was not only known but used in other countries, but its baneful effects upon the wool being recognized it never, anywhere, attained to general use. In some countries, who take pride in their wool, lime and sulphur as a dip is positively prohibited. It is only in this country, in which, as compared with other countries, the wool-growing industry may be almost said to be unsuccessful, that the use of lime and sulphur ever became general.

"It is not only from this national point of view that this dip is pernicious, but its use, instead of being a saving to sheepmen themselves, is a loss after the very first step. The first cost is cheaper than that of any other dip, but it is this very cheapness which 'baits' the unwary into the trap. You have to add to this first cost a lot of other little costs, and then you have to add all these little costs together. As compared with the Cooper powder, for instance, you require more than three times the bulk of lime and sulphur—involving three times the freight. Then, while you are weighing or measuring out, mixing and boiling, you might dip your sheep with a ready-made dip. After all, this labor does cost something, and so even does the fuel. If you are starting, so also does the building of your fire-place and your boiler cost something. Now if you add, conscientiously, all these little items together, you have already spent as much as would buy a ready-to-hand dip. The trouble I will throw in, for perhaps dipping sheep may be a pleasure. But this is not all, nor even half, the cost of lime and sulphur. Lime not only takes the life out of your wool—that may not matter, for, as we have seen, you may be able to get the same price for rotten wool as for a sound fiber—but lime also injures the skin, thus retarding subsequent growth of wool. In this way, it throws lambs back two or three months.

"It will thus be seen that it is extremely doubtful whether the whole cost of dipping with lime and sulphur is cheaper than that of a ready-made dip. If it is, it cannot possibly be more than half a cent per head cheaper. But this is a poor asset against an injury to the skin that may easily diminish the clip by half a pound of wool per fleece or more."

The Selection of a Stock Bull.

We have been told so many times by parties who could and should know better, "I want to get a good grade bull, can't afford a thoroughbred, have good grade cows, and after awhile will get a better one," etc., that it seems farmers and dairymen are blind to their interests, for the bull, to a great extent, is the making of the herd. It is the experience of every one who has given the matter any thought the world over, and now, when the best bulls can be bought so cheap, it will be wise to buy only the best.

If a breeder is determined to keep up a uniform standard of excellence in his herd, and, if possible, still further improve it, no more important subject can occupy his attention than the selection of a stock bull.

Many a moderate herd has been greatly improved and increased in value by the use of a real good bull, and many a good herd has been spoiled and reduced in value by a moderate one.

In selecting a bull, we have, first, in-

dividual merit to consider, and then the pedigree, but no amount of the latter will compensate for deficiency in the former.

He must be true to the best type of his particular breed—sound and robust in constitution and well-grown for his age. By well grown I don't mean high on the leg, but wide, deep, and long, standing on short, well-set legs. Particular attention should be paid to his hooks, for many a good bull is rendered useless by bad hooks. He should have a good muscular (flesh) development in the right places. Straight top and bottom line, with broad, deep chest and good fore ribs. His eyes and general conduct should denote good temper, and the skin be mellow and moderately thick—avoid thin-skinned ones. See that he walks well, gay, and like a gentleman, and, if he is old enough, see what his stock is like, and, if possible, have a look at his sire and dam—in fact, all his family connections that are in the herd.

The next thing is pedigree. Not only see that it contains no impurity, but that the recorded ancestors were, as far as known, good animals; if prize-winners, all the better. Find out if you can, whether they were regular good breeders, and lived to a good old age, for nothing is more hereditary.

If everything is satisfactory, don't begrudge the price, and if after a trial his stock is satisfactory, don't be tempted by any price to part with him.—*Jersey Bulletin.*

How to Raise Pigs.

The pig crop is an important one on the farm. How best to succeed in raising-pigs can be gained by careful experience, and by reading the successful practice of others. The writer's experience taught him that it required more constant care, and intelligent observation, to raise a good crop of pigs, than for any other branch of business on the farm. And it is useless to read the plans and practices of others, if you do not propose to sacrifice any of your ease and comfort—if you do not propose to wake up and throw off your lethargy and indifference. But we give the advice of Dr. G. H. Grimmell, of Jefferson, Iowa, whom we know is successful.

First, quietness about their quarters, as few visitors as possible outside of persons in charge, feed for dam for first few days nothing but a little bran and water, a nice clean bed of hay, not too much so as to heat or entangle pigs therein, but sufficient for comfort, with good sunlight on warm days, and good ventilation, clean troughs and good hygienic surroundings, with a good grass lot to run in and out, pen to be occupied by dam, have pens and lots so as to only admit those of the same age to the same run.

Increase the sow's rations as the pigs increase in age, by giving ground oats, bran and a small portion of oil cake, till the sow supplies milk for the litter, never feeding any sour swill to sow, as that will impair the young pigs' digestive organs of the stomach, and you will have diarrhea, white scours as it is called, from the deranged condition of the fermentation of the sour swill, through the sow's milk.

When the pigs are large enough, I commence to encourage them by feeding in a separate trough from the dam, sweet milk, soaked corn in small quantities, and oats, and as soon as they will take good hold of same, I give them a liberal supply of ground oats, bran, oil cake and soaked corn, never losing a minute to see if they are just loose enough to be good, hearty eaters, and at six weeks old, by that time I have them learned to do without the dam, which I

turn out and leave them their old quarters to run in and out at will, then I feed them just what they will eat clean from one feeding till the next, and increase on feed as their appetite increases and digest the same, never allowing their feed to become sour, mixing my swill fresh morning and evening, which they relish with an appetite fit for a king, always keeping appetite good, bowels regular, clean quarters, and above all allow no constipation in your pigs.—*Des Moines Register.*

Feeding Early Lambs.

The young lambs will begin to eat wheat bran when a week or ten days old. The most successful sheep-breeders always arrange the pens so that the lambs can go into a separate inclosure and eat by themselves. One of the sides of the inclosure for the lambs should incline inwards at an angle of 45 deg., and at the bottom of this should be placed the trough in which the lambs are fed their bran and meal. When eating, their heads will almost touch the side and they cannot step into the trough and muss it. When arranged in this way the food and trough will always be clean. A lamb will not eat from a trough where its feet have been, and an old sheep does not like to. There cannot be too much care to keep sweet and clean all troughs and racks in which sheep feed. The food left over should always be removed and a fresh start be made at each feeding. This is a necessity with lambs, for all the forage, as they will not eat the hay they have breathed over. Sheep are also very dainty in this respect. It does not make so much difference about the bran in the trough; indeed some flockmasters leave this part of the food in the troughs from day to day. The little lambs will soon begin to eat turnips chopped up fine and mingled with the bran. When they are two weeks old linseed meal may be mixed with the bran, one part of linseed meal to three parts of bran, and the lambs will thrive on it wonderfully fast. It is better not to feed any oats until they are a month old, and then the oats should be added at the rate of one part only, making the chief food bran. The bran makes muscle and bone, and this is what is wanted at first. The linseed meal does the same thing, but also adds heat and fat-forming material, and also has the effect to prevent constipation, which is so injurious to lambs and sheep. Oats are a food in the same line; they make bodily growth and vigor and also add fat enough. Turnips are a well-balanced food and help to digest the whole. If possible the lambs should have nice green clover hay in a rack in their inclosure where they can help themselves. A little should be put in at a time. The ewes should be fed to make milk. They could have a little corn, with three times as much bran by weight, and about as much linseed meal. They will be largely benefited by a feeding of turnips. There is no stock so interesting and responsive to suitable food and care as lambs. No class of animals will pay better for liberal feeding or reach a condition to market sooner. Under all circumstances they should be kept dry and warm and be provided with water. Clover hay is always the best. Timothy hay is not a proper food for sheep and especially for lambs. It is too hard and indigestible and will sometimes clog or become massed in the stomachs of the lambs, and kill them. It is more dangerous in proportion as it is woody. Rye or old meadow hay is next in value to clover. The lambs should have their salt box as well as the ewes. Early lambs always sell at a profit and no meat can be more easily produced. There is a growing demand for good mutton and lamb, and the wonder is that more farmers do not avail themselves of the opportunities they may have in this business of early and profitable returns and of making rich manure. The farmers in the old States should reach out in this direction with much energy and determination. Their markets are near by, their lands need recuperation and they are looking for new and more paying efforts. Why not turn more to mutton sheep and lambs?—*F. D. Curtis, in American Agriculturist.*

In the Dairy.

THE CONSTITUTION OF MILK,

And Some of the Conditions Which Affect the Separation of Cream.

Extracts from Bulletin No. 18 of the Wisconsin Experiment Station, prepared by Prof. S. M. Babcock.

(Continued from last week.)

INFLUENCE OF TEMPERATURE.

It is a well-established fact, except with very shallow setting where the fat globules have but a short distance to move and will reach the surface under quite unfavorable circumstance, that a low temperature is essential to the thorough separation of cream. To explain this point several hypotheses have been advanced which have no valid foundation. It has been said that because water increases in density as the temperature falls, reaching its maximum at about 40 deg. F., there will be a greater difference between the specific gravity of the milk serum and the fat at this temperature than at any other, and consequently the sooner milk is cooled to this point the better. The real fact is that butter fat contracts much more rapidly than the milk serum and consequently the cooler milk is the less is the difference in the specific gravity of the fat and the serum. Not only is this true, but the viscosity of the serum increases very rapidly with the fall of temperature, so that from all points of view the physical conditions at low temperatures are opposed to rapid and perfect creaming.

The late Prof. Arnold, in his book on American Dairying, has recognized this fact and endeavored to explain the influence of low temperature as follows: I quote Prof. Arnold's own words.

"Water is a better conductor of heat than fat; hence when the temperature of milk varies, either up or down, the water in the milk feels the effect of heat or cold sooner than the fat in the cream does, therefore the cream is always a little behind the water in swelling with heat or shrinking with cold, thus diminishing the difference between the specific gravity of the milk and cream when the temperature is rising, and increasing it when the temperature is falling."

This conclusion has been accepted by nearly all dairymen and dairy writers in this country; nevertheless, it appears to me to be fallacious, for though it is true that water is a better conductor of heat than fat, the small size of the fat globules, their diameter being about one-fifth-thousandth of an inch, or about one twenty-fifth the thickness of the paper on which this is printed, renders it impossible that, under any circumstances, there can be more than a small fraction of a degree difference between the temperature of the fat and that of the milk serum. Moreover within the limits of temperature practical for creaming (90 deg. F. to 40 deg. F.) the coefficient of expansion of butter fat is more than three times as great as that of water, so that in order to maintain the same relative difference in their specific gravities, when the temperature is falling, the milk serum must cool more than three times as rapidly as the fat. In other words, when the milk serum has cooled from 90 deg. F. to 40 deg. F. or through 50 deg. F. the fat globules should have lost less than 17 deg. F. and should still have a temperature of over 73 deg. F., a difference between the temperature of the fat and serum of more than 33 deg. F. Such a condition is manifestly impossible, but any less difference than this would cause the fat to become relatively heavier than at first and would operate against the creaming. On the other

hand, when the temperature rises the difference between the specific gravity of the fat and the milk serum is always increasing so that the tendency for the cream to separate is greater the higher the temperature. Not only is there a greater difference in the specific gravity of the serum and the fat at high temperatures, but the viscosity of the cream is less. Consequently so far as the physical effect of the temperature is concerned a high temperature is much more favorable to creaming than a low one. Not only is this true theoretically, but it is actually the case with artificial emulsions which have a homogeneous serum, as such always cream better at high temperatures than at low ones, and better with rising temperatures than with falling temperatures. Even with milk when a centrifugal is used for creaming, a high temperature is essential for the best results, and below 60 deg. F. the creaming is slow and unsatisfactory; in practice the best results are obtained above 90 deg. F. There is another effect of change of temperature whether rising or falling, which probably operates against an efficient creaming and that is, the convection currents that are induced by the change, as these currents carry with them many of the smaller fat globules and prevent their accumulation at the surface.

INFLUENCE OF SIZE OF CAN ON CREAMING.

If, as is often stated, the advantage derived from cold setting is due entirely to the rapidity with which the milk is cooled to about 40 deg. F. a decided advantage should be derived from the use of cans having a small diameter or of cans of such shape that a relatively large surface is exposed to the ice water or the cold air. To test this point a number of experiments have been made by setting milk in cans, the diameter of which varied from one inch to the largest size of Cooley can, which is about eight and one-half inches in diameter. The cans were all filled to a depth of eighteen inches and placed in ice water for the same length of time. They were skimmed by drawing three-fourths of the milk from the bottom of the can. The skim-milk was analyzed with the results given below:

PERCENTAGES OF FAT IN SKIM-MILK FROM DIFFERENT SIZED CANS.

Diameter of can.	1 in.	2 in.	3 in.	5 in.	8½ in.
1st trial fat per cent	.85	.84	.87	.88	.81
2d trial .....	.48	.80	.83	.88	.82
3d trial 5 hours .....	.70	.70	.70	.75	.75
Average of first two	.66	.82	.80	.88	.87

These results show apparently no difference in the efficiency of the creaming between tubes two inches and eight and one-half inches in diameter, as they are all within the limits of error of analysis. The can eight and one-half inches in diameter contained more than eighteen times as much milk as did the one two inches in diameter, and must have been much longer in cooling to 40 deg. F. A can eight inches in diameter filled with water at 90 deg. F. and immersed in water at 38 deg. F. required more than five times as long to cool to 50 deg. F. as did water in a two-inch can under the same conditions. If then the rapid cooling was the chief factor which affected the creaming the small cans should have creamed better than the large ones. The contrary is the case, for upon the large cans the cream line was more sharply marked and the volume of the cream was less; this was true in each trial and if it had been practical to remove all the skim-milk without disturbing the cream there is little doubt that there would have been a showing in favor of the large can. Evidently then there are

other influences besides a rapid change in temperature that affect the creaming.

DELAYED SETTING.

How then can the practical advantages which have been obtained in the systems of cold setting be accounted for? I think I may safely say, in answer to this question, that it is not due to any physical effect of a falling temperature as has been claimed, but to some changes in the properties of milk which take place readily in the warm milk, but which are prevented or greatly retarded by cold. There is little doubt that some change occurs and that it is retarded by cold, because milk that is allowed to stand for a time before it is placed in the ice never creams as thoroughly as that which is set immediately after it is drawn. If change of temperature were the only factor in this kind of creaming, and no change in the properties of the milk occurred on standing, there should be the same facility of creaming with milk that has stood for a time and then been warmed to blood heat before setting, as with milk set immediately after milking. Numerous experiments have demonstrated that such is not the case and that any delay whatever in the setting is detrimental to the creaming. Of course milk that has been cooled may cream better after being warmed, because the physical conditions are improved, but the same degree of creaming is never reached in that way as by setting directly. Experiments conducted by Prof. Henry show that as great a loss was incurred by delayed setting, when the milk was warmed just before being placed in the water as when set without warming. A great number of other tests might be cited which indicate that delay in setting milk has more influence in preventing the creaming than has a change of temperature, but space will not permit their presentation here.

Regarding the nature of the change which occurs in milk, Fleischman thinks that the viscosity of the milk serum is least immediately after milking, and that it increases constantly from this time until the milk is coagulated, but a large number of determinations have been made at this Station during the last year of the viscosity of milk immediately after milking and at intervals afterwards, for twenty-four hours, which show that this factor varies but little during this time, certainly not enough to make a perceptible difference in the creaming. Besides, the viscosity may be greatly increased and still have perfect creaming, in a short time, if other changes are prevented. For instance, if about 1-10 per cent. of caustic soda be added to milk the viscosity of the serum will be much greater than in the original milk and still the creaming will be much more rapid and more complete in the sample to which soda is added. Moreover, artificial emulsions in which the serum is much more viscous than that of milk almost always cream more readily than milk.

My opinion is that the disadvantage which arises from delay in setting milk is caused almost entirely by changes incident to the coagulation of the fibrin of the milk, and I will endeavor to show how such changes may be best avoided, and how far the systems of creaming in general use conform to the necessary conditions. We have seen that the coagulation of fibrin begins at the surface and in contact with the sides of the vessel, that it is hastened by contact with any rough surface, by agitation and by exposure to air; and that it is retarded by cold and by certain chemicals.

(To be continued.)

Rheumatism



FOR SALE.
NO USE TO
OWNER.

"Having been troubled with rheumatism at the knee and foot for five years, I was almost unable to get around, and was very often confined to my bed for weeks at a time. I used only one bottle of Paine's Celery Compound, and was perfectly cured. I can now jump around, and feel as lively as a boy." FRANK CAROLI, Eureka, Nevada.

Paine's Celery Compound

has performed other cures as marvelous as this—copies of letters sent to any address. Pleasant to take, does not disturb but aids digestion, and entirely vegetable, a child can use it. It cures even those whom doctors call incurable. What's the use of suffering with rheumatism? \$1.00. Six for \$5.00. Druggists. WELLS, RICHARDSON & CO., Burlington, Vt.

Two Cows.

Perhaps the difference which is always known to exist between the special-purpose and the no purpose animal of any kind is most strikingly shown when the daily handling of each makes intimate comparison possible. Of the two cows in mind, one was a high-grade Jersey that had a better record than two pounds of butter per day on grass. She was kind, well trained, and gentle; an easy milker and a good feeder that put the fat of the food where it belonged—in the milk pail. She milked from calf to calf, and couldn't be dried up; and, what is very important to any handler of animals, she was very intelligent.

To the man who depends in any way upon his animal for his livelihood, intelligence in them has a money value. An intelligent Jersey is easily trained to good habits, and easily kept away from bad ones.

The other cow was a scrub, with perhaps a small tincture of blue blood in her veins, but hardly enough to entitle her to rank as a grade. A good milker so far as mere quantity goes, and, like all good milkers, a very nervous animal. She had intelligence enough to eat her bran when she saw it, but could hardly be taught to go in at the same stable door each time to get it. She broke a number of halters in being trained to confinement, and yet requires a new and strong head-gear or she is soon without any. She leads like a steer and jumps like a jack-rabbit, and yet she is very kind, and gentle enough to be haltered in open pasture. She simply don't know any better, and has not intelligence enough to learn. She gives more milk than the Jersey, but it costs more work to get it, and it is hardly worth half as much, from a butter standpoint. Good feed to the Jersey brings a greater quantity and a greater richness to the milk; good feed to the scrub increases the quantity, but it still reflects the color of the sky. The Jersey cost only \$10 more than the scrub, but was worth twice that to the man whose time has any value.—Secretary Graham, in *Industrialist*.

A Modest, Sensitive Woman often shrinks from consulting a physician about functional derangement, and prefers to suffer in silence. This may be a mistaken feeling, but it is one which is largely prevalent. To all such women we should say that one of the most skillful physicians of the day, who has had a vast experience in curing diseases peculiar to women, has prepared a remedy which is of inestimable aid to them. We refer to Dr. Pierce's Favorite Prescription. This is the only remedy for woman's peculiar weaknesses and ailments, sold by druggists, under a positive guarantee from the manufacturers, that it will give satisfaction in every case or money refunded. See guarantee printed on bottle wrapper.

Correspondence.

Sheep-Raising in Ellsworth County.

EDITOR KANSAS FARMER:—From 278 sheep, a mixed flock of large-graded Merinos, we have sold \$4,133.00 worth of sheep and wool, and have 200 more sheep this spring than we started with four years ago. Our sheep average over ten pounds per head. Our third clip of wool was sold to net us less than 11 cents per pound. The tariff question helped us out of \$800 profit, and yet we can show a bigger per cent. on the investment than any other kind of farming and stock-raising in Kansas. We average 98 per cent. of lambs raised. Practical sheepmen can make plenty of money in middle and western Kansas raising good sheep. Experimenters with poor sheep can sink money in sheep. I have traveled west the past winter, but found no summer grass equal to western Kansas for sheep. Our winters are the only drawback, and yet I look on the sheep business as the best business in Kansas on cheap land only adapted to sheep-raising. I investigated the prospects of farming in eastern Kansas last fall, and find our sheep-raising two dollars to their one, and much easier done.

D. W. TINKHAM & SON.

Brookville, Kas.

Water Pipes and Corn Cribs.

EDITOR KANSAS FARMER:—Very often one wants to know how to lay a water pipe at a regular grade, for it is liable to fill up with sediment if it has low places. I have tried the following with good results: When you have dug your ditch nearly the depth you think low enough, take three pieces of board about five feet long, stand one at the upper end in the ditch and one at the lower end, sight from one to the other while the digger carries the third piece, standing it up frequently as he moves along in the ditch; the person at the lower end by looking over the three boards can tell the digger when he is low enough. If you do not get your ditch quite right, by moving the board along on top of the pipe will, if you are careful, make an even grade from one end to the other, and any one with good eyes can do it.

Years ago I recommended that when a good corn crib was built to make it by putting the boards on perpendicular and as tight as for a barn, for in this country it does not pay to pay a high price for lumber to use only a little while in the year, when by the addition of a few dollars you can have it so you can use it for small grain or shell corn. Five dollars more on a crib that will hold a thousand bushels of ear corn will generally make it so it will hold most anything and keep the rain out too. The usual way of building corn cribs is not much better than none when it rains and the wind blows, and it always does blow in Kansas.

Vining, Clay Co., Kas. E. W. BROWN.

Silo and Ensilage.

EDITOR KANSAS FARMER:—I think we have here the only silo in the State. A farmer here built one last fall and filled it with cut corn and has fed it this winter to his cattle. Through a delay in the railroad company the cutter did not arrive quite soon enough to get the corn when in the best condition, being a little too ripe and dry to make the best of feed. It was made of common rough lumber and tarred paper used as a lining to make it tight. It was all closed up when the cutter was started, except the hole through which the elevator runs to carry the cut corn, and care was taken to tramp carefully and as evenly as possible, but was not weighted. After being filled it was closed up and only opened occasionally to examine. It got rather hot in a short time after being put in, but gradually cooled off and kept in a very good condition. The quality was not as good as it would have been had the corn been put in a week or ten days sooner. The other half of the building—it was large so that if the experiment proved a success a larger silo could be made—was filled later on with cut fodder corn that had been cut in the fall and properly cured and then hauled in and run through a cutting box. In both cases all the corn on the stalks was left on, and in both cases the corn was com-

mon field corn planted and raised in hills. The cattle were kept under a good shelter, arranged with stanchions and made comfortable in every way, and during the winter the ensilage was fed out to them. They would eat the ensilage in preference to either the cut corn or good hay, and kept in fully as good condition. In feeding, the ensilage was put in a hand-cart and hauled to their feeding places.

The trial made is satisfactory. This year a crop of ensilage corn is planted for the special purpose of filling the silo, the results of last year's work being sufficiently satisfactory to induce a further trial, and with everything at hand the work will be done in better season.

N. J. SHEPHERD.

Eidon, Miller Co., Mo.

Letter From McPherson County.

EDITOR KANSAS FARMER:—Why don't some of our Farmers' Alliance friends from this county write for the best farmers' paper in the State? I believe that Conway can boast of one of the strongest if not the largest sub-alliance in the State. It organized a little over a month ago with a membership of twenty-five; it now numbers seventy-two, and over thirty applications await action. Eight delegates were sent from here yesterday to McPherson to help organize a county alliance, seventy-two delegates being present, which represents a membership in the county of over 700. Organization was perfected, but I did not learn the names of the officers.

By the way, I saw the other day what was presumably an alliance ballot box which was at once novel and highly appropriate. It consisted of an empty school crayon box, with a partition in the middle, crosswise, a sliding lid with a notch at one end. One-half of the box was filled with large flat kernels of white corn with a little scattering of black beans. The lid could be slid until the notch formed a hole just over the empty half of the box, the edge of the lid flush with the partition and—well the rest you must imagine, as, not being a member myself, I can "further say naught."

We have had several very fine rains lately, but we needed them, Lord knows. The chinch bugs have been on the war-path since early spring and have damaged wheat in places considerably, but the wet weather we are now having will, I think, make it rally again. Oats are doing nicely, but some fields are quite weedy. Lots of corn was planted very early in this county this year, much of it in March, which is growing quite slowly on account of the cool, wet weather. About half of the corn in this part of the county is listed, many preferring that method, claiming they can put out more corn in less time. As to fruit, the late frosts damaged a great deal of it, especially grapes. Apple and cherries are not hurt. Plums there will be none. Strawberries are all right. Farmers generally are hopeful since we have had such bountiful rains, but many of them had the "blues" pretty bad about two weeks ago. Grass is growing excellent and stock is doing very nicely.

I am glad that farmers were again recognized and were able to choose one of themselves as successor to Mr. Ryan in Congress.

Conway, McPherson Co., Kas. V. G.

Farm Hands--A Warning.

EDITOR KANSAS FARMER:—I would like to be permitted to say a few words about one of the grave mistakes made by so many farmers of the present day—one which is seldom if ever thought of by many well-to-do tillers of the soil, when if they only knew the evils arising from, and the sorrow and regret it causes in after life in their boys, they would hasten to do something that would, in a measure at least, remedy the evil.

I refer to the indiscriminate employment of farm help. There is a class of men that makes a business of working on the farm through the farming season and spending the winter months in some town or city, resorting to the vilest slums and gambling dens, saloons and houses of ill repute which abound in almost every village, town and city of our land, to emerge again in the spring and "hire out" to some farmer.

Perhaps this farmer has a family of bright, innocent boys growing up around him. They are eager to learn of the ways of the world outside their own home. The "hired

man" is a willing teacher, and unless the "home" influences are very strong, the work of poisoning the minds and souls of our future men goes on, for it is easier to learn evil than good. Oh! that the father could see the evil and ruin that is being wrought upon his boy. Oh! that I could but impress upon my farmer friends that have growing boys, the great, the terrible danger that threatens those innocent lives.

Some claim that the public schools do much towards polluting the minds of many of our young people, by contact with vicious associates therein, but I know it to be a positive fact that the contaminating influence of an immoral hired man can and does do more evil among the boys on the farm than the varied and ever-changing influences of school life.

Farmers who employ help should inquire into the character of those whom they contemplate hiring, and have a strict understanding with all employes that there was to be absolutely no profane or obscene language used upon the premises, and promptly discharge any man who disregards the rule. But, some will say, we can't afford to discharge a man in the busy season just because he uses profane language. I say most emphatically that you can afford it. Better by far lose your crop than lose your boy. Farmers and your wives, think of this matter. Can you afford to throw such stumbling blocks in the way of your children?

W.

Hiawatha, Brown Co., Kas.

Building Silos--A Suggestion.

EDITOR KANSAS FARMER:—How to build a silo cheapest and best is a question of considerable importance to the average close-run Kansas farmer. My suggestion is that the octagonal form be adopted in all cases when the silo is to be a separate building. The joists composing the frame would be placed horizontally, lapped or crossed, and spiked at the angles, set nearer together at the bottom than at the top of the building; the spaces between widening in proportion as the pressure would diminish going upward. For a given amount of space the joists would be much shorter, and the strain upon each piece and its liability to give way correspondingly less. The outside covering and inside lining would be put on perpendicularly.

A silo 20x20 feet would contain 400 square feet, floor measurement, less the thickness of its walls. It would measure 80 feet around on the outside. Its sills would be 20 feet long and its studding would be 16 to 20 feet long, and as each would reach from sill to plate spacing according to pressure is impossible.

An octagonal silo with the same outside measurement will contain 520 square feet less the thickness of walls, making a gain of 120 square feet and I don't know how many tons capacity. Excepting for the roof no joist longer than 12 feet would be required, and the strain between joints would be less than 10 feet, making the use of considerably narrower joists entirely safe. There would be an avoidance of loss by damaged silage in the angles of a square-cornered building. Another thing to be thought of is the greater safety in wind storms in summer when the silo is likely to be empty. The number and obtuseness of its angles and the relative smallness of its flat surfaces, would greatly diminish the pressure of the wind upon its frame work; and with judicious bracing it could be made much stronger than any other practicable form.

A still greater difference of cost in favor of the octagonal form appears when compared with a long and narrow building. Your correspondents are respectfully requested to criticize and state objections that may be apparent to them.

P. C. BRANCH.

Sterling, Rice Co., Kas., May 15, 1889.

Objections to the Alliance.

EDITOR KANSAS FARMER:—It is surprising and remarkable that whenever any organization for the benefit of the farming community is brought into operation, it has many enemies to contend with from the very midst of the class who are to reap the good which it is prominent in bringing forward. It is no exception as regards the Farmers' Alliance. Outsiders from all points are holding back and making all the

discouraging remarks which their spiteful spirits can prompt, at the same time reaping the very good which has already resulted from the order. For instance, we hear one say, "I can buy my implements for a trifle more than the members of the alliance, and save the trouble of sending away for them." It would be half a day's work to convince that man that if the alliance had not been formed he would have paid more for his implements this season than at any previous time. It was that order which caused the prices to be lowered by purchasing from points where they could be fairly dealt with, and consequently the high-priced middleman is forced to reduce his price in order to dispose of his stock.

Another says, "It is useless; you can never make it work. Look at the grange. It all burst up, and so will your alliance." We might here mention that if the grange contained many such enthusiastic members as that person, we are not at all surprised at its falling to work. But the alliance is in no respect like the grange, which permits the farmers' very worst enemies to become members. None but farmers and those interested in the welfare of farmers are permitted to enter the membership of the alliance. Therefore we can work in security for our mutual benefit without fearing that some scheme is being worked up in opposition to our prosperity.

But the most absurd of all remarks is to the effect that by-and-by the affair will all go under and that the big men of the clique will get away with all our funds. No man, after investigating the financial part of the order, would make such a statement as that. First—Who are the big men of the clique? Second—What funds are they to get away with? A correspondent writes a certain journal in Topeka stating that he has carefully investigated, from every standpoint, the farmers' movements in regard to the alliance, and then informs us that we select for officers to fill the monied positions, lawyers, editors and doctors. He has drawn too much on his imagination in saying that he has investigated the matter, for if he had done so he would have been convinced that there are no monied positions in connection with the alliance; and further, that editors and lawyers are not permitted to become members.

In another place he states that he honestly believes if the farmers could form themselves into an organization and keep out street-corner farmers and Jacks of all trades, it would be a great benefit to them.

The farmers mean business this time and do not propose to be scared out of a good work. By the aid of the alliance we can do much to intercept the rings and corners which capitalists form in our markets, and also to uphold the press which devotes so much energy to our general good.

A SUBSCRIBER.

The Burnt Corn Cure.

EDITOR KANSAS FARMER:—For a number of years the story of the "Burnt Distillery" and consequent burnt corn being eaten by hogs dying of cholera, effecting an almost instantaneous cure, has been going the rounds of the press. Hog cholera needs no description among the farmers who have suffered by its ravages. There are many remedies for its earliest stages but none for its advanced ones. What will cure one bunch of hogs affected in a certain way would be as stop before a dyspeptic if given to a bunch affected differently. The medicine would not only be thrown away but time wasted at the expense of the lives of several hogs. Then again, the same bunch of hogs may be affected in a half dozen different ways, requiring as many different modes of treatment. If you would call a veterinarian into your yard, if his head was level and his heart honest, he would not give the same treatment to a number of hogs wholly differently affected. He would probably find one hog purging, another vomiting, another with muscles drawn so tightly that it seemed almost impossible for him to move an inch, and when an attempt was made every muscle in his body would quiver and fall to the ground, or if lying down, unable to get up. Another's muscles would be so relaxed that whether standing or walking he would seem to be on the verge of dissolution. The difficulty with one seems to be in his lungs, another in the stomach, still another in the head. Blood will run from the nose

of one, the eye of another and ears of still another, while from another all of these at the same time. But few will eat and if fed will not relish even milk, while all will gorge of the filthiest pool of water in the yard in preference to the best of slops from the kitchen or dairy.

No, sir; tell your correspondent that Dr. Haas' cholera cure, if the same as sent out by him a few years ago, is a humbug, pure and simple. There may be some compounds that will cure the disease in some of its forms, but none in all of them, and the man must be credulous if he believes them. Better use every sanitary precaution against the disease. Feed but little stimulating food until ready to "feed off." Furnish them plenty of pure cold well water and salt and shade, with dry quarters and plenty of range, with change of pastures and feed lots, and you have gone a great way to avoid the disease.

If the disease should make its appearance, the rule of taking out the sick ones must be reversed by removing the well ones to a good distance from the old lot. Should any of the hogs thus divided be taken sick the well ones should again be cut out and removed to clean quarters. Another great precaution against this (so-called) disease is that of seeing that all the food taken into the stomach is properly masticated. To do this the food must either be put in a digestible shape or the teeth of your hogs kept in shape for masticating it. My practice is to trim and mark the pigs about ten days before weaning time, at which time I knock out the upper and lower tusks which so often interfere with each other in chewing their food, which results in sore jaws, eyes and ears and soreness throughout the head, can't eat, grow thin, hair soon lies the wrong way and ninety-nine men out of every hundred would say that it was cholera. Pigs thus treated grow up not only free from the above ailments, but have clean heads and trim jaws, and if the balance of the body is built up right, will bring the top price when marketed. Males used until ten or twelve months old, thus treated when young, will avoid the 80 per cent. discount taken from the producer, while the meat is sold for the same price to the consumer.

Cheney, Kas. HENRY COMSTOCK.

Farmers' Alliance Notes.

Barnard Times: The farmers of Ottawa county held an indignation meeting a few days ago and solemnly agreed to use no twine that cost over 15 cents per pound. The trusts must go.

The counties of Shawnee, Jefferson and Jackson have formed a district alliance which meets every two weeks at Meriden, Kas. At their next meeting it is proposed to organize an alliance exchange.

Stevens county has formed a new organization called the Farmers' League, which holds regular meetings the first Saturday of each month. Its objects are, the development of the resources of their county and the promotion of friendship, benevolence and charity.

A friend from Moundridge, Kansas, reports that McPherson county is well organized into alliances, and we have a county alliance with the best talent in this part of the State at its head. Everything here is full of life and rush and bustle since the recent heavy rains, which assure an abundant crop.

Mulvane Record: It is now proposed to manufacture binding twine in the Illinois penitentiary and sell the same to the farmers of the State at a reduced price. It can be made at the cost of 11½ cents per pound, and a plant that will employ seventy-five convicts will produce one-third enough to supply the State.

National Economist: The Texas trust law has proved its efficiency already. At a meeting held by the International Association, at New Orleans, the representatives of the Texas roads decided that the pool was contrary to the provisions of the law, and that their connection with it laid them liable to the severe penalties prescribed. They, therefore, withdrew, and the railroad pool in Texas is *non est*.

The Georgia Alliance has contracted with mills for 2,000,000 yards of cotton bagging, to be delivered the 1st of August. The bagging is to be not less than thirty-seven inches wide and to average twelve ounces

to the yard. The manufacturers agree to take cotton so covered at 10 cents additional per hundred pounds to cover the cost of weight in tight covering. The bagging will be made by the Lane mills, New Orleans, and West Point mills, Georgia.

The Topeka *Jeffersonian*: It is estimated that it will require 20,000 tons of twine to bind the harvest of 1889. If the price is forced up to 20 cents a pound it will take \$20,000,000 to put it into the farmers' hands. If made 25 cents a pound it will take \$25,000,000. This compared with 1888, when the twine was 12½ to 15 cents a pound, shows profit to the syndicate or association of from \$7,000,000 to \$13,000,000 in the next five months which must eventually come out of the farmers.

W. W. Hudkins, Rock Creek, Kas., in renewing his subscription, states: "You are one of the strong allies of the farmers' alliance. It will be my pleasure to work and exert my strongest influence to secure your paper as the official organ of our order in the State of Kansas. I think the farmers' alliance has come to stay, at any rate it has a large following and the people are fully ripe for action, and with the KANSAS FARMER to back us we would feel that our strength was largely increased."

The Sumner County Alliance, formed at Wellington, Kas., represented eighteen alliances and a membership of 700 members. W. J. Chapman, Oxford, is President, Wm. Russell, Mulvane, Secretary, and C. Tilberry, South Haven, Business Agent. The county alliance decided that unless they could buy twine reasonable to do without altogether. It was the sentiment of those present not to buy binders of establishments having agents in the field and making the cost of machines that much more to the buyer.

Troy Chief: It should be known by persons who are in the habit of taking chattel mortgages as security, that the last legislature passed a law prohibiting the mortgaging of any personal property that is exempt from seizure by law, unless both husband and wife consent to and sign the mortgage. The law exempts certain family property from attachment and execution, and this new law prohibits the husband from mortgaging it without his wife's knowledge. The law goes into effect as soon as the statute book is published, which will be soon.

Solomon Sentinel: Kansas towns have been somewhat deserted for the past week or two, the farmers find more important business at home than any they can have in the city. For if men who till the soil were to go on a strike, the business of the merchant, the manufacturer and the railroad company would soon be short of business. Whether the returns they receive for labor expended be little or abundant, the farmers plod daily along their weary way, grateful when night comes and they can get refreshing sleep. The farmers' absence betokens to us that they are doing their part to make a grand harvest in the near future.

John N. Palmer, chairman of Executive committee Kansas Farmers' State Alliances, Creswell, Kansas, writes: "I organized an alliance at Lost Springs, Marion county, May 10, A. R. Partridge, Secretary; at Lincolnville, May 11, R. H. Bradely, Secretary; and had requests from three other points which I shall visit soon. I would say to the people of Kansas that where there is an alliance in a county and they have no organizer to organize other alliances, by addressing me, recommending a suitable member for that position, I will appoint them an organizer, and where there is no organization in the county, by writing me if they desire to organize, they will be supplied in some manner. A meeting will no doubt soon take place to arrange a union of the two alliances in the State. Give the trusts which are so hurting the farmers a few more blows between the eyes."

Consumption Surely Cured.

To the Editor:—Please inform your readers that I have a positive remedy for Consumption. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. SLOCUM, M. C., 181 Pearl St., N. Y.

WEATHER PREDICTIONS.

The year has expired for which we agreed to edit the Meteorological Department of the KANSAS FARMER. We shall not continue that department, as it takes more time than we can spare. In order to make our predictions of value to the reader it takes a much larger amount of time in calculating than in writing, and hereafter the result of all our calculations will be in our books, of which the "Annual for 1890" is advertised in another column. But we do not intend this article as a valedictory, as we shall occasionally contribute articles for the columns of the KANSAS FARMER.

Our articles in this paper for the past few months have outlined very clearly what the weather will be during the rest of this year; and we cannot now too strongly urge farmers to follow the advice heretofore given, and that given in our "Tables" for 1889, especially that as to putting in corn with the lister as fast as wheat and oats are cut, in all counties where the "Tables" show that the summer and early autumn rains will be sufficient.

To select what is known as "Drouthy Kansas" for a wet season while other Northern States are suffering with drouth was a bold thing to do. Who would ever have thought of "guessing" that way, and if any one had ventured to make such a guess he would likely have done it at a time when it would not have been verified. But our prediction made last summer is being strictly verified. This gives the Kansas farmers a rare opportunity, one that they cannot expect to enjoy every year, and they should make the most of it; but please don't conclude that it is evidence of shrewdness to kill the goose that lays the golden egg.

There is as much money made on a farm or in other business in judicious planning as by hard work; and the value of our predictions consists in their being made for a long time in advance, so that farmers can study over them "between naps" and form correct plans for a year ahead. If this planning is done now for 1890, next season can be made a profitable one in most places; but without it farmers will follow the usual routine, and will make a miserable and entire failure in quite a large number of States. C. C. BLAKE.

Gossip About Stock.

That genial fine stock breeder, John Lewis, of Miami, Mo., claims public sale dates of October 8 for Short-horns and October 9 for Poland-Chinas.

The weekly transfers of registered Holstein-Friesian cattle show a goodly share for Kansas, and those for the past week are mainly the transfers from James Black to Henson & Rathbone, Council Grove, Kas.

Dairy cattle are in great demand in Kansas, owing to the establishment of so many creameries and cheese factories in every part of the State. Scarcely a county in the State but what has one or more creameries, most of which seem to be doing a fair business.

Mrs. V. W. Griblin, Virgil, Kas., who received the prize setting of S. C. White Leghorn eggs from S. G. B. Ward, Hiawatha, writes that they were received in perfect condition and hatched fourteen fine chicks. She gladly recommends Mr. Ward to purchasers.

Maryville, Mo., has become one of the great centers for Poland-China breeders, and this week we have one of the most enterprising represented in our advertising columns. We refer to the adv. of W. T. Doyle, Maryville, Mo. Write him for what you want.

From many portions of the State we receive reports of numerous sales of horses, and hundreds of cars of horses are shipped East. Buyers from Boston have been especially numerous during the winter and spring and pay good prices. Farmers who have horses to sell this year are coinng money. Good horses are always in demand and bring fair prices.

Every reader of this paper, as well as every breeder of the West, always associates the name of N. H. Gentry, of Sedalia, Mo., with that of breeding gilt-edge Berkshire swine, as he is recognized as one of the foremost breeders of prize-winning Berkshires in America. His new advertisement appears this week. Breeders will be interested in

reading the list of prizes won in 1888 at the State Fairs of Missouri, Nebraska, Kansas, Illinois, and at St. Louis. It speaks volumes as to the merits of his herd.

Paola Times: Paola is becoming one of the best horse markets in the State. We are never without a buyer, and frequently have several at the same time. A great many farmers who formerly dealt exclusively in hogs and cattle are now turning their attention to horses, and are making it a success. All the best strains are represented, from the light trim racer to the mammoth draft. Farmers are rapidly awakening to the fact that it requires very little more care to raise a good horse than a poor one, and are profiting by it.

Publishers' Paragraphs.

When writing to or calling upon advertisers of the KANSAS FARMER, always mention this paper; as it will be a mutual advantage.

Have you tried our cheap advertizing column on page 20? It does more business than the same amount expended for advertizing in any other medium.

The Ottawa County Agricultural Institute announce the dates for their next fair to be held at Minneapolis, October 9-11. Big premiums are offered for best displays of farm products.

One of our old subscribers writes: "I like the KANSAS FARMER, I think it the wheel of agricultural progression hubbed upon energy, spoked with capacity and ironed with capital. Roll it along."

Among the Topeka advertisements may be found the card of Chas. Bennett, a practical and experienced optician. He carries a full line of optical goods. Examination of eyes for glasses made free.

By special arrangement the KANSAS FARMER is clubbed together with the *Skordemann*, published at St. Peter, Minn., being the only Swedish agricultural journal in America; both papers for only \$1.50 per year in advance.

We want every representative breeder of live stock or poultry in Kansas to be represented in the Breeder's Directory, KANSAS FARMER. It will pay the breeders, besides do more for the improvement of live stock in Kansas than any other one thing.

We regret to learn that Col. W. S. White, of Sabetha, the pioneer Short-horn breeder, who has done more perhaps than any other one man for the improvement of live stock in that part of Kansas, is now embarrassed financially. We hope he will come out all right and continue the good missionary work, so well begun.

The Topeka Daily *Capital* puts it this way: "The farmers whose harvesters have been used for hen roosts for the past year should begin polishing up these machines preparatory for business. It may be hard on the hens to compel them to roost on the fence and corn planters but they will have to stand it. This glorious wheat crop must be harvested."

Inquiries Answered.

LAW POINT—Please let me know through the columns of the FARMER if a man who buys a mare after she has been bred will have to pay for the service of the horse under the usual contract of the horse to insure a colt?

—No. The buyer does not have to pay for the service of the horse unless it is so agreed at time of sale.

THE ALLIANCE.—If our correspondent will examine the "Alliance Notes" in the KANSAS FARMER from week to week, he will learn the names of Alliance officers and their addresses. The last few numbers have contained a good deal of information of this character.

FORESTRY STATION.—There has been a change of superintendents. Hon. Martin Allen was appointed some weeks ago. Address him at Hays City, and the letters will be forwarded to him. We do not expect any trouble now; the first two years everything was new about the station, and there was not money enough appropriated to pay all running expenses.

The Persian name of Americans is Yange Djon-yn, which means a dweller of the New World.

I will mail a valuable present to any minister, teacher or friend of education on receipt of address. THOS. J. BRYANT, St. Joseph, Mo.

The Home Circle.

To Correspondents.

The matter for the Home Circle is selected Wednesday of the week before the paper is printed. Manuscript received after that, almost invariably goes over to the next week, unless it is very short and very good. Correspondents will govern themselves accordingly.

Decay the Breath of Life

Destruction and death are apparent, they greet us on every hand; There is no immutable substance in air, in sea or in land. Death, ruin, decay, will confront us—Oh! where shall we find rest and peace? And strangest of all, this destruction seems somehow to hint at increase.

The beautiful flower of the springtime brings something that whispers of love: Corollas are bowers of wedlock, true wedlock, that's sanctioned above; And stamens and pistils, uniting, decay for the offspring to come. And the flowers from the ashes up-springing a new tint and fragrance have won.

The fire that burns over our cities, and leaves only iron and stone, Becomes but a process creative and burns into turret and dome; And the flames kindle feelings half dormant and sympathy wakes from her sleep. And brothers unheard of respond to the call and tenderly dry eyes that weep.

But above all these fields so material we trace the same principle higher— Into the realm of the spirit which expands through destruction and fire. Old customs, old forms and old errors are moss-grown and hidden by rust. And the soul's larger growth demands just the food that springs from their ashes and dust.

Do you mourn that the new feet are stronger, and carry the faith far beyond The old theological trifles that you have been resting upon? And, if bolder grown, it should scale the high fence and see field man never had trod— Then welcome the sight and sing loud for joy, for it tells us of progress toward God.

—Eliza A. Martin, in Boston Transcript.

Blest power of sunshine! genial day! What balm, what life, are in thy ray! To feel thee is such real bliss, That had the world no joy but this, To sit in sunshine calm and sweet, It were a world too exquisite For man to leave it for the gloom, The deep, cold shadow of the tomb.

—Moore.

Turn, turn, my wheel! Turn round and round, Without a pause, without a sound; So spins the flying world away! This clay, well mixed with marl and sand, Follows the motion of my hand; For some must follow, and some command, Though all are made of clay!

—Longfellow.

It is the secret sympathy, The silver link, the silken tie, Which heart to heart, and mind to mind, In body and in soul can bind.

—Sir Walter Scott.

SAMOAN BEAUTIES.

The Rule of the Village Queen, Their Attire and Their Graceful Dances.

The women still love to dress a la mother Eve, in nothing but the natural products of the native bush. Around their throats they wind necklaces formed of a dry scarlet berry or shells sowed upon a narrow strip of cloth. Sometimes a fringe made from the rib bones of a fish is attached to a necklace, and often a spiral boar's tusk forms a handsome though barbaric ornament. Like their civilized sisters, the Samoan belles will endure any amount of pain and discomfort in order to be in the fashion, but, unlike them, they enjoy leap year privileges all the time and exercise the right of choice, for time or for eternity, with perfect freedom from a suspicion of unmaidenliness.

The Samoan women, as a rule, are good looking, but every village boasts its "beauty." "Tampo" is the Samoan name given to the village queen. Generally she is the ruling chief's own daughter or one adopted by him. She is at all times a girl of high rank in the place itself, or in that of her parentage. From the first day of her installment to the day of her departure, marriage, elopement or dethronement for bad behavior (which in quite recent times was effected with a club), she is virtually the queen of the place. It is she who receives strangers on arrival in her town, makes kava for them, and personally sees to their comfort and entertainment. Never from one year's end to the other, is she permitted to be out of sight of her attendants. When abroad she is invariably accompanied by as many of her youthful companions as are available for the service. They follow her in single file wherever she

goes. She heads all processions, and visits and takes the leading part in all "swas," or native dances.

Her attire on gala days is of the gayest description that her town can afford, and everything is ungrudgingly sacrificed that can add to the glorification of her personal appearance. It is she, on these occasions, who has mainly to uphold the prestige of the town. It is only when dressing for any ceremony that she appears to have no will of her own. On such occasions, a long time before the commencement of the ceremonial, the old women take entire possession of her. On them devolves the exercise of the mysteries of the Samoan boudoir. Everything is done for the proud damsel, who stands patiently suffering any amount of coercion, one tithe of which she would not permit for a second were it not part of her duty as the beauty of her town. She is first taken in hand by two or three of her attendants, who briskly shampoo her all over with sweet-scented oil until her warm colored skin shines like satin. Another will energetically brush her jet-black locks, and afterward plait or otherwise arrange them in the manner that the combined wisdom of the old people, assisted by the suggestions of twenty or thirty of her youthful companions will dictate. She will then be ready to entertain "the stranger" and prepare for him the kava.

Above all things the native women excel in the art of dancing and posturing. The most popular dance among them is the "Siya," which is performed by four or five maidens to the accompaniment of a tuneless song and drumming on the tom-tom. It consists of posturing and movements of the body and hands, which are made in unison and in time with the music. Some of the figures are executed while standing erect upon the feet, but in most of them the dancers sit cross-legged upon strips of matting spread upon the ground. The postures are many and varied. Sometimes the right hand rests upon the neighbor's left shoulder, and left hand upon the dancer's knee, and sometimes this motion is reversed. One position is with the right hand spread upon the ground in front, and the fingers of the left hand touching the biceps of the dancer's right arm. Another is a more thoughtful attitude. The right hand supports the left elbow, while the left cheek rests upon the index finger of the left hand. Of all the graceful Samoan dancers none can compare with the daughter of Patua, one of Mataafa's most prominent chieftains. Her movements are so exquisitely graceful and full of such dreamlike motion that Europeans and natives alike have combined in naming her "The Dream."—*Sacramento Report.*

Don't Toss the Baby.

The throwing a baby into the air and catching him again is always a risky practice, certain though the tosser may be of his quickness of eye and sureness of hand. A sudden and unexpected movement of the child in his mid-air flight may result in a cruel fall.

A gay young father snatched up his baby boy one morning and tossed him to the ceiling. Twice the little fellow went safely into the waiting arms. The third time the excited child gave a spring of delight as his father's hands released him, plunged forward and, pitching over the father's shoulder, fell head downward to the floor. When the poor baby came out of the stupor in which he lay for hours, it was found that, although no bones had been broken, the brain had sustained an injury that would in all probability render the child an imbecile.

Another baby snatched from the floor and tossed into the air received a fatal wound in the top of the head from the pointed ornament of a chandelier. Still another child slipped between her father's hands as he caught at her in her downward flight, and although his frenzied grasp on the baby's arm saved her from falling to the ground, it wrenched the muscles and sinews so cruelly that the girl's arm was shrunken and practically useless to her all her life. These are extreme cases, but the fact of their occurring at all should be enough to warn one from the habit of relinquishing one's hold on a child when tossing it.—*Harper's Bazar.*

BRECHAM'S PILLS cure nervous and bilious ill.

Etiquette of the Railway Car.

One of the most fruitful themes of contention in railway carriages undoubtedly arises from the tendency of travelers to occupy more seats than rightfully belong to them. On this point, however, the law is very clear. Each person has a right to one seat—that is, to one-half of the double seat with which our cars are usually furnished, and no more. Where the car is not fully occupied, a passenger may, of course, fill up the vacant half of his seat with packages, and may naturally consider that he should not be disturbed until the car begins to fill up, but he must remember that he has no real title to more than half of the settee. The disobliging spirit which many persons show when they are politely asked to remove their bundles is often very annoying to the new-comer, who feels that he has paid for a seat and has a right to occupy one. Still more unreasonable are the people who turn over a seat and expect to occupy four places for two or three passengers when the rest of the car is full. They thus compel later comers to take their choice between standing up and enduring the double discomfort of riding backwards and of intruding themselves into a group of friends,—into a sort of private box as it were. A quarrel arose out of just this state of things in a railroad car near Boston, some twenty years ago, and the unpleasant result of it was that one man lost his temper and struck another in the face, for which offense he passed three months in the State prison.

Although new comers who take unoccupied seats have right and justice on their side, they are certainly bound to treat those already in possession with civility. No one should sit down beside another person in a railroad car without first asking courteously if the empty seat be engaged, or without allowing the first occupant an opportunity to remove his or her parcels. Few things are more irritating to a lady than the behavior of a man who plants himself abruptly in the seat beside her—perhaps sitting on her bundles or her dress—without a word of preface or apology. Where a seat has been reserved in order to make a resting-place for bundles or for the feet of travelers on the opposite seat, a new comer, if he can find no other unoccupied place in the car, would certainly be justified in restoring the seat to its natural position, and taking possession of it, after asking politely if it were engaged. It is customary to respect the rights of an absent passenger, who leaves his valise or umbrella to guard his seat, but, *per contra*, it is neither fair nor just that a man should expect to occupy two seats on a crowded train—one in the smoking-car and one in the ordinary car. Thus, a gentleman who observed that a seat reserved by a valise remained empty for quite a length of time would be justified in taking possession of it (the seat, not the valise), but it would be polite for him to offer to vacate it when the first occupant returned, and he would certainly offer to do so when he perceived that the latter was acting as an escort to a lady sitting in a neighboring seat.—*Good Housekeeping.*

Mrs Logan's Scheme.

An excellent project, said to be devised by Mrs. Logan, is thus described by the *Minneapolis Tribune*:

In Germany there is a custom which sounds as if it were a survival from the middle ages, when the boys were sent to the great families to be trained as pages, and girls learned to spin, sew, embroider, brew and bake under the supervision of the chatelaine of the castle. This custom, in its modern form, is to send girls, after they have finished school, to live a year in the household of some noted housewife, who teaches them all the accomplishments which it is held fitting a hausmutter should acquire. Many women in Germany who are left widowed and in need of money, keep their homes in this way. They take as inmates young ladies who are given a year of training in housekeeping. They are taught all the mysteries of washing paint so that it will not peel; of sweeping carpets so that the nap is not taken away with the dust. They learn how floors should be waxed to look like glass and old mahogany polished to resemble a mirror; how silver should be cleaned and china and glass properly washed; what will soonest cleanse

and brighten mirrors and windows; how lamps are kept in order and what is the secret of the satin gloss of properly laundered linen. They learn how to market, to choose the best meat, fish and vegetables, and how they should be cooked to be tender and well flavored. Their pastry falls into flakes at a touch, their bread and rolls are light and sweet. They know how to can, preserve and bottle all sorts of fruits and just how tables should be set, dinners served and wines cooled. They know the art of bed-making, dusting, packing, arranging closets and regulating servants' work, and they are taught all the important rudiments of needlework. At the end of the year they are fitted to run a house economically, liberally and with oiled wheels, warranted not to squeak. This is the system Mrs. Logan is making a study, and her idea is to found just such a home in this country where girls can take a post-graduate course of a year, learning all these very important accomplishments, which would go far to negating in many homes the suggestion that marriage is a failure. She thinks, it is said, of founding the home in Chicago, and has already some twenty young women promised her to begin with. She does not promise to make the year all work and no play. The home is to be a big, handsome house, fitted with every comfort, supplied with books and music, and the girls are to find that part of the curriculum is in learning through practical experiments how to entertain in every fashion. Mrs. Logan is a woman of great energy and executive ability, and if she undertakes this project she may be trusted to carry it out with beneficial results.

Girls for Doing Housework.

The people of New England not many years ago were "wiser in their generation." They designated the female who was employed to do housework as a "help," though she discharged the same duties as the "hired girl" in the Western village or the "domestic servant" in any of our large cities. "Help" sounds much better than "hired girl" or any kind of "servant." It implies an associate and suggests some sort of equality. The inference is that a helper is somewhat inferior to the person she assists, but a reasonable explanation of this is afforded by the circumstance of youth and inexperience, conditions that are very flattering to a young woman. The word "help" or "helper" does not suggest positive inferiority, but intimates that the person to whom the term is applied is fairly capable, trustworthy and is in the way of advancement. A bad word or phrase often does a good deal of mischief. When this is the case it is best to allow it to become obsolete. Many a good woman has lost her "help" by referring to her as her servant. Most persons are servants one way or another, but no one likes to be called so.

The question of how to obtain and keep reliable, efficient and capable girls for doing housework, like the poor, is always with us. The demand for such girls constantly increases. The supply in city and country is never equal to the demand. In turn, American, English, Irish, German and Scandinavian girls have shown a disinclination to engage in domestic service partly on account of the unfortunate name. No intelligence office is needed for supplying "salesladies," dressmakers, milliners, stenographers or typewriters. It is seldom necessary to advertise for any of them. They do their own advertising and make personal application for positions.—*Chicago Times.*

Plain Chicken Soup.—Cut up the chicken, and break all the bones; put it in a gallon of cold water, and let it simmer for five hours, skimming it well. The last hour add to cook with the soup, a cupful of rice and a sprig of parsley. When done let the kettle remain quiet a few minutes on the kitchen table, then skim off every particle of fat with a spoon. Then pour all on a sieve placed over some deep dish. Take out all the bones, pieces of meat and parsley, press the rice through a sieve; now mix the rice, by stirring in with the soup, until it resembles a smooth puree. Salt and pepper, if liked.

Fret not your life away because your hair is gray, while young, as you can stop all grayness and can beautify the hair with Hall's Hair Renewer and be happy.

The Young Folks.

The Rooster Bold.

One day, into a parlor strolled
A rooster from the barnyard fold.
He strutted here, he strutted there;
Examined sofa, table, chair.
At length he in the corner spied
A great tall thing, all dark and wide.
What it could be he could not tell,
The glass reflected him so well.
He thought a rooster sure was there,
And for a fight he did prepare.
He plumed his feathers, stretched his neck,
And at the glass began to peck.
He saw the other do the same—
"Hal hal!" he thought, "is that your game?
I'll fool you by a counter-charge."
He crept behind the book-case large—
"The other rooster gone away?
In barnyard sports that's not fair play."
Again he crept around in front
And at the glass he quickly jumped—
The other rooster jumped as well—
He bumped the glass and almost fell.
He shook himself, his wings he flapped,
Again the battle-ground he mapped.
So cautiously he stepped around
And at the glass again did bound.
Astonishment he plainly showed,
His pinions flapped, and loudly crowed.
The other rooster mocked him still—
His rival gladly he would kill!
So stealing round, he vainly tried
To see where chanticleer did hide;
For every time he left the glass
His rival left, but did not pass
Where he could fight it out with him,
And sink his spurs, so long and grim,
Deep in his brain and kill him there
For mocking him he dared to dare.
So at the glass he dashed and fought,
For all his fighting came to naught.
Perplexed and stupefied, he glared
At his reflection there, and stared—
The other bird stood still as well.
"What do you mean, you boasting swell?"
Again he made the weary round,
So cautiously, without a sound.
Full fifty times around he went,
And even then was not content—
The bird would always disappear,
Yet in the glass he found him there.
His patience, strength and even pluck
At last gave way to such ill luck,
With deep disgust a look he cast
At his reflection as he passed;
A look of hate, and scorn, and pride,
As out-of-doors he quickly hid,
All tired and weary with chagrin,
With that bad fight, that had not been.

—Alice K. Cooley, in Rural Press.

THE PRESIDENT RECEIVING HIS CALLERS.

Suppose we go up to the White House this pretty spring morning and see how the executive end of the government of this great Republic is carried on. The doors of the mansion stand wide open, birds are singing in the trees in the yard and a perfume of flowers is exhaled from the big conservatory. Inside there is not much brightness, except the smile occasionally seen on the face of the successful aspirant for appointment to a place in the employment of Uncle Sam. All the downstairs rooms are closed except the east room, and through that vast and beautiful apartment a dozen visitors are walking. At the foot of the staircase leading to the executive offices above, stands Sergt. Dinsmore, a man with a keen eye in his head and a vigilance that has won him fame.

At the top of the stairs in a gloomy corridor that runs from end to end of the old house, where the gas must be kept burning all day, we find a group of men. They are fumbling in their pockets for cards, scribbling on the backs thereof and whispering to the short, swarthy man who stands guard at the door and arranges the cards in a neat little packet on his desk. This is Doorkeeper Loeffler, who has stood guard at the door of the President's room since the days of Andrew Johnson. If there is any man of political activity in this country who does not know Loeffler, he must be willing to confess himself unknown. Twenty years ago the 4th day of last month Loeffler took up his station at this desk, and here he has remained, day after day, to this hour. The faces and manners of Grant, Hayes, Garfield, Arthur and Cleveland are as familiar to him as the countenances of his wife and children. Hundreds of times a day, and every day, he walks into the President's private office. The Cabinet room is as an open book to him. Has he seen and heard many things of which the world never knew a syllable? Does he carry a thousand little and a few big secrets in his breast? Of course he does. But his lips are sealed, and the secrets he knows will be carried to his grave.

At once we discover that there are two classes of callers here. There are goats and there are sheep. A man steps up, presents a card and is promptly shown into a reception room twenty feet from the door which leads to the Presidential sanctum.

"You will have to wait a little while," says Doorkeeper Loeffler. Another man steps up, no better looking, of no more draught or sail than his predecessor, so far as appearances go. Mr. Loeffler jumps from his seat, opens the door which leads to the President's room, bows politely and the stranger enters with his head high in the air. Who is he? A member of Congress. From 10 to 12 o'clock Senators and Representatives in Congress have the right of way. All others must present cards and await their turn or the President's pleasure.

Thus the winnowing of the wheat from the chaff goes steadily on. One man comes in, presents a card and is shown into the Cabinet room, which serves as an ante-room for the library, wherein the President receives his visitors. Doorkeeper Loeffler looks at him intently for the space of thirty seconds, and says to himself: "I'll know you the next time you come." And the chances are fifty to one that he will. This new comer is a member of the new Congress, and this is his first visit to the White House. Every two years a new Congress comes in, with from 100 to 150 strange faces. These the doorkeeper must learn, for it is considered very unprofessional in a Cerberus not to recognize instantly the elect. Experience is a fine school, and from long practice Mr. Loeffler is able to fix a new face in his mind on seeing it but once. No member of Congress was ever required to present his card or speak his name to Loeffler a second time. Not only must he remember the faces of members of Congress and other persons entitled to consideration, but he must not forget the rank of those who have been members of the House or Senate, but who are now in private life. At the White House an "ex" has no formal rights. He must take his place with the common herd. Often a former Congressman or Senator forgets that his official wings have been clipped, and through the force of habit presents himself for admission just as he used to do. This brings to the doorkeeper one of the saddest duties of his position. It is a duty which must be performed with tact and good address, and even then is painful to both persons chiefly concerned.

We now find men waiting in three ante-rooms. In the public room a score of private citizens sit uneasily upon lounges and big chairs, watching each other and waiting impatiently for the appearance of Simmons, the fat-calved man who acts as the President's messenger. In the Cabinet room are a dozen more fortunate players at the game of politics, the Congressional elect who have so easily reached the room next to the throne. In the large apartment occupied by Private Secretary Halford are fifteen or twenty men waiting for a word with Mr. Halford or hoping to secure his good offices in taking them to the Presidential presence. Here again we may see a strange variety of place seekers and their peculiarities. The timid man leads Mr. Halford into one corner of the room and whispers in his ear. The bold man pulls his packet of petitions from his pocket and blurts out in such loud voice that all in the room overheard him distinctly: "I want the postoffice at my town and I want you to take me in to see the President." Fifty times a day the Private Secretary is called upon to tell men that they must take their business to the Secretary of the Treasury, the Postmaster General or other head of department.

The Private Secretary is a hard-working man. Since the 4th of March Mr. Halford and all his assistants have worked from 9 in the morning till 12 or 1 at night. Their chief task is replying to letters. Seven hundred letters a day is the present average at the White House. Two-thirds of these are missives which should not have been sent to the President at all, but to one or other of the departments. There seems to be a general impression throughout the country that all a man has to do in order to get something which he wants is to write to the President of the United States. "And the worst of it is," says Secretary Halford, "that though we have twice as much work here as we can do in reasonable hours, Congress has given us no latitude. We can't employ extra help, nor can we use the appropriation in the way to bring best results. The law provides for two Executive Clerks at \$2,000 each. If it would appropriate \$4,000, and let the President or

myself expend it at our discretion, we could hire four good stenographers and typewriter operators for that sum, and thus find some relief. We can't pay our over-worked men any extra sum and this is the only department of the government in which there is no contingent fund or some latitude which the head may avail himself of in emergencies."

Reflecting that life in the White House may not be paradise, after all, we pass through the Cabinet room, where quaint old portraits hang on the walls and some queer specimens of statesmen sit on the red leather chairs and step into the sanctum sanctorum—the presence of the chief magistrate. To our surprise we here find other persons awaiting an audience. Ranged round near the walls of the large oval and handsome library are chairs and couches, nearly all of them occupied. Here is President Harrison talking to caller after caller, unattended by clerk or guard. The sovereign of the nation is alone in a room with a dozen persons not one of whom may be personally known to him. The first thought that comes into one's mind is the extreme simplicity of this American court. The humblest citizen, claiming to have some business with the President, needs but to exercise a little patience and he will get an audience. He does not have to be introduced by a dignitary, or vouched for by any one. Simply on his credentials as a citizen, he is accorded the privilege of holding private converse with the most powerful man of the nation.

The President stands at or near the end of a large, flat desk which is by a window overlooking the Potomac. A huge bouquet of fresh and fragrant flowers is on his desk. As we enter the President is leaning against this heavy table with head slightly bowed and fingers of both hands toying somewhat nervously with the fob of his watch chain. He is dressed very plainly. His coat is a black Prince Albert, but on account of the shortness and fullness of the figure looks at first glance like a cutaway, so completely is the waistcoat exposed to view. Our view is a silhouette, and the plumpness of the President's stomach, the extra shortness of his legs and neck, the bulging of his brow, are all brought into strong light. Presently he turns half round and toys with an eraser which lies on his desk, and we notice that his legs are just a trifle curved from the feet to the thighs, being widest apart at the knees. He has been impatiently listening to what his caller had to say—probably a story now retold for the twentieth time—and now he makes reply. He is apparently in earnest, for he gesticulates first with one hand and then with the other and finally with both hands as if he were making a public address. But there is no temper or feeling in it, for as soon as he has said his say he grasps the caller's hand, and with a shake that is quick and strong, almost military in the sweep of the arm, bids the man good day.

Now the President takes a few steps down the room and reaches out his hand. Without having looked to see he knows there will be another hand there to meet his own. He is not disappointed, for as soon as the first caller was dismissed, two or three of the waiting ones had jumped to their feet and advanced to the center of the room. His new visitor the President draws to the corner of the desk and himself takes up his old position, leaning against it, toying once more with the fob of his watch chain. A quarter hour of watching shows us this is the President's habit, for he rarely varies the movement and only once in a great while sits down. During four or five hours a day the greeting of callers is the President's task. It is hard work, trying not only to the nervous forces but to the physical man. No wonder little fine



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wrinkles, as yet unperceived by the public, but by no means unnoticed by Mrs. H. Harrison and the President's intimate friends, are coming into his face.—Robert Graves, in *Topeka Capital*.

There is a German newspaper published at Jerusalem, and it says that the city is growing in size and population at a remarkable rate, which is surprising, because neither its situation nor its trade is favorable to a rapid increase. The Jews take the lead in building, followed by the Russians and Germans. The Greeks and Armenians are also busy building cafes, bazaars and shops.

On the day of the Boulanger election a Paris paper employed 250 special reporters, each of whom it supplied with a cab, and thirty bicyclists to bring in the returns.

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The Wabash railroad was sold last week for \$15,550,000.

A large sugar mill is to be erected at Attica, Harper county. The projectors expect it to be the largest sugar plant in the State.

The Michigan Legislature is divided on the proposition to extend municipal suffrage to women. The House passed the bill, the Senate defeated it.

Chinch bugs are reported in several counties of this State, and they have done a good deal of injury to oats and wheat. Recent rains set them back some, but to what extent our June reports will show.

Mr. E. W. Brown, a successful farmer of Clay county, says that soaked corn and grass are the cheapest articles of food for making pork that he knows of. Fed together they produce better results than if fed separately, and the corn ought to be as sweet as the grass.

Rawlins county reports the wheat acreage this year to be 19,850, against 8,821 acres last year. The rye crop numbers 8,059 acres, against 4,214 acres last year. There were 51,819 acres in corn last year, which will be increased this year to more than 100,000 acres.

Reports of Kansas crops continue favorable, though we hear of chinch bug ravages in some quarters. A farmer in this (Shawnee) county expects to lose a thirty-acre field of oats, but Friday's rain may have settled the matter more favorably than he thought a week ago.

A bill which passed the Missouri Legislature a few days ago provides for State inspection of grain. St. Louis grain merchants do not look favorably upon the measure, claiming it will work injury to the grain trade of the city. By the bill only elevators having a capacity over 25,000 bushels are regarded as public elevators and the smaller ones can conduct their business as they please. One of the most objectionable features advanced by St. Louis grain merchants is that grain mixing will be freely indulged in. The bill provides for the appointment of a State grain inspector and takes that work out of the hands of grain men entirely.

WHY FARMERS ARE POOR.

The Kansas City *Live Stock Indicator* has begun a discussion of the query written above, and submits the following questions to direct the lines of inquiry:

1. Are the farmers in your community as prosperous as they have ever been?
2. If so, to what do they chiefly owe their prosperity? If not, what has been the chief reason of the change? (Leave out of consideration such temporary causes as a bad crop year and consider the social and political causes.)
3. Do the farmers take less or more interest than formerly in economic discussions?
4. What effect does the tariff have on their condition?
5. Will a bushel of wheat or a barrel of corn buy as many necessities of life as it did thirty years ago?
6. Have they gained or lost social dignity, as compared with other classes, such as merchants and mechanics?
7. Do farmers' sons show any less willingness than formerly to become farmers? If so, why?

The editor suggests that "a postal card closely written on will contain all that is necessary." As the matter looks to us, a few words—just four—are enough to cover the whole ground as to such farmers as are poor, for a very large proportion of them are not poor. Farmers are doing quite as well as other persons who are no better situated. There has not been much money-making anywhere or by any class of people the last five years. Farmers have been systematically bled by corporations and gamblers, but they are no worse off in that respect than working people of all classes. Prices of articles in common use, as coal, sugar, coffee, oil, etc., affect all classes of consumers alike, whether they raise wheat or build houses.

The four words which are taken as expressing the situation and as answering the questions fully are—debt and poor crops. But we did not set out to take part in the discussion. The *Indicator's* text "why farmers are poor," assumes a proposition that farmers are poor; the first question submitted, however, is an inquiry as to whether farmers are prosperous as usual, and if so, the second question aims to ascertain to what they chiefly owe their prosperity, and in considering these questions, such matters "as a bad crop year" must be left wholly out of view. Why short crops has nothing to do with the situation is not clear, especially when the effect of "the tariff" is to be studied.

We are pleased to see our excellent neighbor going into economic discussions; it will do good. We will watch the discussion with interest. And will not the editor himself favor us with an occasional dip of his pen on these important questions?

ABOUT IDLE PEOPLE.

In last week's *Industrialist*, Prof. White, of the State Agricultural college, discussed "The Unemployed," assuming that "perhaps a majority" of persons who are unemployed are idle "from choice." That can hardly be true. It is common for persons who are comfortably situated or at least have regular employment, to believe that idle persons are mostly worthless and too lazy to work, but it is a harsh judgment. There are vagrants and vagabonds, toughs and beggars and tramps far too many, yet it is not at all certain that the unemployed poor are largely made up of such. Let an advertisement appear calling for hands in any department from engineers and draftsmen to day and hour laborers, and applicants are at the office door before breakfast. Only recently the Elevated Railroad company in New York city advertised for 200 men, and over 8,000 applied. The southwestern railroad strike two years ago, the New York street railway strike and the Chicago and Madison strikes one year ago, and the recent Minneapolis strike, besides many other similar instances, show that there are thousands of idle men ready

to rush for work at a moment's notice. Let a Western town advertise a "boom," and every train will bring unemployed workers in search for employment. There is probably not one town of considerable importance in the country that could not furnish a regiment of working men ready to turn their hands to any kind of work that offers. In the smaller places the situation is much better, for men are nearer the farms where there is something for willing hands to do. In large cities, the number of wage workers grows larger every year; speaking generally, that is true of the whole country, for men and money are capitalizing (if the term is good) and large establishments are swallowing small ones, rich men driving poor ones out of business, and there is nothing left but to hire out.

No, no. Where one vagrant appears among the unemployed, there are as we believe the facts prove, five honest willing men who are idle only because they cannot find anything to do. The fact is full of warning. A good man out of work from necessity is an object of interest as well as sympathy. There ought not to be one case of the kind anywhere. There is enough for us all to do if the work were only distributed properly. A poor man is a soldier without arms. We sometimes wonder at the moral courage and intellectual stamina of men out of work on the verge of starvation, and there are many such—some in every town of 10,000 inhabitants and upward.

A WORD FOR SHEEP HUSBANDRY.

A letter which the reader will find in another column of this week's *FARMER* written about sheep-raising in Ellsworth county, is well worth reading and studying, not because it is in line with the teaching of this paper, but because it shows plainly and briefly what has been done in Kansas during a period of great depression in all departments of agriculture. Sheep husbandry in Kansas was a prosperous business up to 1884, when our farmers had more than a million sheep. That year the decline began, and that year our Ellsworth correspondent started with a small flock of sheep, and hard as the times have been since, he has made more than 100 per cent. profit on his investment in sales of sheep and wool, and has a large increase in the number of his flock.

Every careful farmer can do so as well as this man has done. Sheep are easily raised. They are tender and need attention, but the care is of that character which every prudent man would want to give to any part of his business. Sheep need dry quarters, so do horses and cattle and hogs and poultry and men; sheep need protection from storms and inclement weather, so do all domestic animals as well as men and women; sheep need a variety of good food, so do all manner of beasts about the farm. Briefly, sheep need such care as every good farmer bestows upon every living thing which he keeps about him. And then, sheep turn off a double profit every year, as many as hogs do, usually, and twice as many as cattle and horses. One crop of lambs, one crop of wool every year. Good sheep will average ten pounds of wool in the grease annually, and that, here in Kansas, is worth, even now, \$1.50. Add to that an average of 50 cents a head for increase, and we have \$2 a year profit for every full-grown sheep. We estimate 50 per cent. increase in lambs yearly as a fair average. This with the wool amounts to a larger margin of profit than any other class of live stock will return.

Our estimate is probably higher than average results justify. Let us cut the

figures in two in the middle; put the wool clip at five pounds per sheep, and the average annual increase of flock at 30 per cent.; that would give a profit of at least 50 per cent. in money value every year on the sheep alone, and if we take into the account the cost of keep, value of land, interest on capital—all incidental outlays—still we shall have an actual net profit of 25 per cent. on the capital invested.

Let every farmer in Kansas who has any sheep knowledge, or who wants to learn how to handle sheep, procure a small flock; do it now, while sheep are low, and make sheep husbandry part of his regular business. We do not advise every farmer to raise sheep, because there are some men who will not succeed with sheep, and such will become discouraged. A man who does not like horses is not fit to have them, and so of other animals. To succeed with sheep the farmer must have an inclination that way; he must want to succeed and his desire must be strong enough to insure proper care and attention to the business. Start with a small flock of good sheep, take good care of them and you will be rewarded, some thirty, some sixty, and some a hundred fold.

Our Weather Department Discontinued.

The *KANSAS FARMER* one year ago, about the first of the month, opened a Weather Department, with Prof. C. C. Blake as editor. It was to be continued one year. The time having expired the department is discontinued.

The object was to afford opportunity to a large number of people without expense, to become acquainted with Mr. Blake's weather predictions. It was believed that one year was long enough to satisfy the people as to the general correctness of his predictions, and then, such as care enough about them to pay for them *direct* can do so by purchasing copies of his *ANNUAL*, and such as do not care to hear any more about the matter will be relieved.

Mr. Blake will, however, give us an occasional contribution, whenever he is moved to address our readers on some matter of special interest to farmers, and this, we know, will be quite agreeable to the friends he has made among the *FARMER's* patrons.

In this connection we desire to again express our belief in the principles of the system of weather calculation discovered by Prof. Blake. Though he has not yet wholly covered the field, he has, we believe, established a science, so that for large areas he can calculate accurately the general character of the weather for any given time. It is yet beyond him and beyond all men, to foreknow the weather and conditions for particular localities, because that is subject to local influences which have not yet been well understood. We expect to see Mr. Blake improve his methods as to these local influences from year to year until his predictions become universally recognized as most valuable aids to farmers and all persons in any way intimately connected with agricultural operations. Surely, when men can run a train of cars by electricity, it will not be denied them to learn what causes weather changes.

The American Association of Nurserymen will meet at Grand Pacific Hotel, Chicago, June 5 and 6. Information as to details will be furnished by the Secretary, Charles A. Green, Rochester, N. Y. Reduced railroad fare has been secured. Hotel, hall and exhibits all under one roof.

The new interest law takes effect May 25, the day when the statute board of laws of 1889 will be published.

TESTING SEEDS.

The editor of the *Farming World*, the leading agricultural paper of Scotland, offers these excellent suggestions about the testing of seeds:

Farmers, we are glad to be able to say, are, as a rule, more careful now than they were in former times as to the selection of the seed they are to sow. They are more fully alive to the importance of pedigree, both in the animal and vegetable world—and it is unquestionably of great importance in both. They have learned by experience that the produce of the crop may be vastly influenced by the character of the seed, just as the produce of the live stock of the farm vary with the character of the parents.

It is also learned that in selecting seeds it is not sufficient to choose that which looks well, seems true to its kind, and has a good reputation. All that is essential, but this further precaution should also in every instance be taken—the vitality, the germinating power of the seeds should be subjected to a practical test before the seed is admitted for the production of a crop. This applies to all kinds of seeds used upon the farm, whether home-grown or purchased.

How is this practical test of the vitality of seeds to be carried out? The matter is very simple. It requires no elaborate or costly appliances, no great skill, only intelligent care and precision. The testing of grain seeds may be done in various ways. One simple and reliable method is as follows: Count out 50 or 100 seeds, place these between two folds of damp blotting paper, lay this upon an ordinary meat (or a shallow soup) plate, place over this, face down, another similar plate—the object of having the blotting paper with the seeds placed between the two hollow plates being to provide a current of fresh air over the seeds. The plates may sit in any place in the farmer's parlor, where they will be safe from harm, but have a full and even supply of fresh air. No artificial heat need be applied, but the blotting paper should be damped every morning by sprinkling water on it by the hand. In six to eight days the reliable seeds will have germinated, and the farmer will thus be enabled to judge as to whether the vitality of the seed can be relied upon, and what quantity should be applied per acre.

Some use nicely-arranged testing appliances with artificial heat generally supplied by a spirit lamp. These bring out the results in a shorter time; but they are not any more, if indeed quite so, reliable as the test upon damp blotting paper in the ordinary temperature of a room. Others test grain seeds by sowing a sample in a well-exposed spot in the garden, and placing a piece of thin turf or canvas over the place where they are sown during night. A primitive plan practiced by old-school farmers in some districts in bygone times, was to test the seed on a damp piece of turf placed somewhere over the head of cattle in a close byre where the temperature is, of course, much higher than outside, early in the year, when seeds are usually tested.

Still another method of testing seeds is as follows: Take three flower-pot saucers (two of the same size, and the other a little smaller), put 100 seeds into the smaller saucer, set it into one of the larger saucers, in which there should be some water; insert the other saucer over the top, and set aside in the farmer's parlor in a place where the seeds will be safe from accident and yet be exposed to the fresh, warm air of the room. Sufficient moisture will soak through the inside saucer to keep the seeds damp but not wet.

Almost all kinds of farm seeds may

be tested by these means, the first and the last methods being perhaps the most simple and reliable. Grass seeds are not so easily germinated as grain, and will take three weeks or more to sprout.

Leguminous seeds, such as clover, turnips, etc., germinate quickly. By a very simple method the germination of these seeds may, in a few minutes, be ascertained to within 3 or 4 per cent. Roll 100 seeds into a piece of flannel, steep in boiling water for three or four minutes, and on opening the flannel all the reliable seeds will be much swollen, and actually germinated. For a hurried test this is an excellent plan. If desired, and time permit, a more searching trial may be made by some of the other methods described above.

SORGHUM IS NOT A FAILURE.

A friend sends us the following article which recently appeared in the *Chicago Industrial and Commercial Gazette*:

SORGHUM A FAILURE.

The Agricultural Department has been for several years trying to create two new staple crops in this country—sorghum sugar and silk. The sorghum experiments have been for five or six years carried on by Prof. Wiley, who has made himself the object of cordial detestation in Kansas, where the people are simply crazy on the subject, by reporting year after year that, while occasional lots of the cane have been worked up into sugar profitably, no profitable manufacture of sorghum has been accomplished on any large scale either by the government or by private parties. His report of a year ago cited the experience of each individual effort in this direction, and showed that not one of them had continued more than two or three years except where a subsidy had been granted. Prof. Wiley's last three reports, in spite of indignant demands from the people of Kansas that he should be removed, showed that, while sugar might be made in paying quantities from small selected lots of cane, no field crop of cane had been harvested which could be depended on to yield enough sugar to pay for taking it out. After crushing the cane for two or three years as the ordinary cane is crushed, it was concluded that this method was not adapted to sorghum, and the diffusion process, which is successfully employed in the manufacture of beet sugar, was tried. By this process the cane is sliced and steamed. The experiment gave somewhat better results than the crushing had done, but still not enough sugar could be extracted from large lots of cane to make the experiments successful.

The experiments this year will be in the direction of producing a new variety of cane. The department has for this work for the next year an appropriation of \$85,000, and the greater part of this money will be spent in making sugar from the existing varieties of cane, but Prof. Wiley has little hope of getting any better results than have hitherto been obtained. The most hopeful part of the work is that which will be new this year. Fifteen thousand dollars will be set apart for the expenses of laboratory experiments here and the efforts to get up a new kind of cane. This latter work will be done on the farm of the Maryland Agricultural Station, and possibly at one or two other points. The best known varieties of cane will be artificially crossed by the botanist of the department, and it is hoped in this way to secure a kind of cane that will always contain enough sugar to make its manufacture profitable. The department will probably not personally conduct any more experiments with existing kinds of cane, but, in compliance with the obvious wishes of Congress, about \$70,000 will be disbursed in the subsidies to manufacturers of sorghum to encourage them to keep their establishments open and continue their experiments. The concerns to be aided have not been decided on, but probably the one at Rio Grande, N. J., one in Illinois, two or three in Kansas, and one in Iowa will be assisted, in spite of the fact that the people in the department believe Iowa too far north to make the raising of the cane for sugar practicable.

It is strange that men who pretend to be leaders of public opinion and to inform the people on current topics do not take pains to inform themselves accurately before publishing as true statements which if false or misleading cannot fail to do harm. Prof. Wiley was not an enthusiast on sorghum. He was convinced against his will. His last report shows clearly that he is now satisfied that sorghum will yield sugar in paying quantities, and the reports of the Fort Scott and Topeka works proves conclusively that sorghum sugar making, even now, is a money-making business. Those two factories worked without any government supervision; Fort Scott made a good profit, while Topeka came out even though the machinery, which was all new, was not in place until the season was about one-fourth gone.

There have been no failures—not one—at any of the factories in the last two years where the work was done accord-

ing to tested methods. Every recent failure could have been avoided by prudence in management. Nobody longer doubts the certainty of making sugar from sorghum but persons who never had faith in it and do not know anything about it. Is it to be supposed that as good a business man as W. S. Parkinson would spend time and money and energy in a business that he himself had seen fail? Sorghum is not a failure.

Personalities in Correspondence.

It is an established rule with the *KANSAS FARMER* management that unfriendly personalities will not be admitted to our columns when written by correspondents. It is not argument to say that a man is a blockhead, an ignoramus, an idiot, or a fool. And besides it is evidence of ill-will and bad blood on the part of the writers. If what the other side says is not, in and of itself, not worth noticing, let it remain unnoticed; if it is worth noticing, do it without saying anything about the author unless it be to speak well of him.

It is sometimes a temptation to hold a man up before the world and expose his manners, and sometimes it is a just and righteous proceeding, but it can be done in ninety cases out of every hundred by showing the character of what was said or done, without saying a word of a personal nature against the offender. Deal with the thing spoken, and let the speaker alone.

What Becomes of all the Sugar and Honey.

In the United States the consumption of sugar per head of the population was twenty-nine pounds in 1869; thirty-nine in 1879; forty-eight in 1883, and fifty-four in 1887. In England the consumption of sugar was thirty-two pounds per head in 1853; forty-one and a half in 1867; sixty-two in 1876. For several countries the consumption is placed as follows: United Kingdom, 63 pounds; France, 25 pounds; Germany, 18 pounds; Denmark, 23 pounds; Holland, 25 pounds; Austro-Hungary, 15 pounds; Italy, 6 pounds; Spain, 7 pounds; United States, 54 pounds; Canada, 51 pounds. Australia is put at eighty-six pounds per capita and Venezuela at one hundred and eighty, a figure that seems incredible. In all countries the average consumption annually increases. Sugar is becoming as much a necessity of life as bread. What wise cultivation has done for beet sugar it may do for the sugar cane and sorghum. Mr. Darwin puts on record the statement that the beet in France has yielded almost exactly double the quantity of sugar that it formerly supplied, and this has been effected by the most careful and systematic selection. The specific gravity of the roots being regularly tested and the best roots saved for seed.

The annual honey product is about 28,000,000 pounds, or half a pound a piece to the population. In 1880 Tennessee made 2,131,000 pounds; New York 2,089,000; Ohio 1,627,000; North Carolina 1,591,000; Kentucky 1,500,565, and seven other States—Arkansas, Georgia, Illinois, Iowa, Michigan, Pennsylvania and Virginia—produced more than one million pounds each; altogether in the States named, more than one-half the entire product of the country.—*American Agriculturist*.

The Entire Motive Force of the World.

From a note published by the Bureau of Statistics in Berlin the following very interesting figures are taken:

Four-fifths of the engines now working in the world have been constructed during the last five lustra (twenty-five years).

France has actually 49,590 stationary

or locomotive boilers, 7,000 locomotives, and 1,850 beats' boilers; Germany has 59,000 boilers, 10,000 locomotives, and 1,700 ships' boilers; Austria, 12,000 boilers, and 2,800 locomotives.

The force equivalent to the working steam engines represents in the United States 7,500,000 horse power, in England 7,000,000 horse power, in Germany 4,500,000, in France 3,000,000, in Austria 1,500,000. In these the motive power of the locomotives is not included, whose number in all the world amounts to 105,000, and represent a total of 3,000,000 horse power. Adding this amount to the other figures, we obtain the total of 46,000,000 horse power.

A steam horse power is equal to three actual horses' power; a living horse is equal to seven men. The steam engines to-day represent in the world approximately the work of a thousand millions of men, or more than double the working population of the earth, whose total population amounts to 1,455,923,000 inhabitants. Steam, therefore, has trebled men's working power, enabling him to economize his physical strength while attending to his intellectual development.

The tendency of the profit sharing plan is not only to make more careful and industrious workmen, but to keep them free from all labor organization entanglements. They see that they are receiving for their work all they are entitled to, and have no occasion to mix with outside organizations that promise to redress grievances that they do not know anything about. Whether profit sharing is to be the great remedy for labor troubles, remains to be seen. As against the misleading and dangerous teachings of professional labor agitators these experiments made by the employers may induce the intelligent workman to consider which party has his welfare most at heart.—*Industrial Record*.

It is reported that a scheme is perfected for long distance telephoning which contemplates the connection by telephone of St. Paul, Minneapolis, Omaha, St. Louis and Kansas City with each other, and with the East through Chicago. It was for this purpose the Bell Telephone company recently increased its capital stock. Chicago and Milwaukee are now being brought into connection, the East is already provided and the rest of the circuit, which will be for business only, will be in working order as soon as possible.

Hon. Wm. Sims, late Secretary of the State Board of Agriculture, was recently appointed State Agent for Kansas of the National Department of Agriculture. No better selection could have been made. Major Sims is a first-class man every way. The *KANSAS FARMER* would like to see him Governor of the State.

Dr. A. M. Eidson, whom many of our readers remember as a correspondent of the *KANSAS FARMER* some years ago, has charge of the Medical Institute at Trinidad, Colo. He was in Topeka last week among old friends, and told them that he knows of no place better than Kansas.

The new statute book containing the laws enacted by the last Legislature will be issued the 25th inst. In order that there may be no misunderstanding, and that it may be definitely known first when the new laws are in force, the Governor has designated May 25 as the day.

Earnings of Western railroads have not been as large this spring as they were last. Late reports of the Santa Fe and Union Pacific show a heavy falling off.

Horticulture.

Cultivation of Small Fruits.

LABOR IN STRAWBERRY-RAISING.

The reason why so few farmers grow a sufficient supply of small fruits can be found in two causes—the purchase of untried novelties and neglect to give proper cultivation. Nearly every farmer I have ever met has at some time bought berry plants and taken care of them while the novelty lasted, and then give them over to the weeds to be run out and disappear. Where there is some one whose business it is to make and keep the garden clean, the cultivation of a small strawberry patch is simply an addition to the work, being no more difficult than the transplanting and hoeing of ordinary vegetables, and really less bothersome than the growing of celery, onions or carrots, as the plants when planted are large and slightly and ready for immediate hoeing. When the size of the plantation is unduly increased so as to require help much beyond the ordinary garden work, then the period of neglect is sure to come, sooner or later, and the strawberry patch become a mass of weeds. Whether the runners are clipped or not, there is, after the 4th of July, a constant watchfulness necessary, and a large amount of work to keep them clean. Where a person is situated like Mr. Terry, and makes their cultivation a pastime and amusement, visiting it every day, sometimes several times a day, and jealously watching the appearance of every weed, the labor is not felt nor, I fear, reckoned at its full value.

To the ordinary farmer the period from the 1st of July to the 1st of October is a busy one, and during this period most strawberry patches get the better of their owners, and if the autumn is wet, go into the winter with a goodly sprinkling of dock, sorrel and white clover plants, which improve every bit of open weather to strengthen their position and enlarge their borders. The removal of these and other perennial weeds should be the very first work of spring. If the runners have been allowed to cover the ground, it will be a tedious job, and the owners will, in nine cases out of ten, give it up with the idea of not getting caught so again. This is poor policy, whether viewed as a matter of discipline or not, for the weeds make a wonderful growth between the opening of spring and the ripening of the fruit, and the flat, unpretending, little tufts of sorrel put forth an energy wonderful to see, and quite discouraging when the results of all this is compared with the luscious berries, half smothered and stunted, and wholly hid underneath.

It is commonly stated as an axiom in strawberry culture that it is cheaper to set a new plantation than to clean out an old one, but I am satisfied that if careful attention is given to them before bearing that the difference in favor of the new plantation is not so marked. The risk of starting a new plantation is considerable, saying nothing about the fact that many varieties do not do their best the first year. In all matted-row culture spring cultivation must be confined to the use of the hoe, and a special lookout must be kept for small tufts of the perennial grasses, such as blue grass, red top, etc. In rich ground a sickly-looking tuft of red top as big as the finger in March will often cover a foot square by the middle of July. Even in apparently clean plantations plants of white clover and other perennials will be found nestling close under the strawberry plants, lying low and abiding their time. Where considerable weeding is done in spring, and ground laid

bare, some sort of mulching will be necessary. Half-rotten short straw is the best, or where a power cutter is available, fresh straw cut into four-inch lengths is cleaner and better. If the mulching is deferred until grass is a foot high this can be mowed and applied in a green state, and makes a soft, delightful mulch, but the blossoms and just-setting fruit at this period make it a tedious, careful job. Sawdust is no better than sand, as it adheres to the fruit.

RASPBERRIES AND BLACKBERRIES.

Turning from the strawberry to its immediate successor we have a fruit that is preeminently adapted to the farmer's use. In a measure self-asserting and under favoring conditions good for a dozen years, the farmer can plant the Black-cap raspberry with considerable faith that he can keep it clean and receive an abundant annual reward, of a fruit that has the least waste of any fruit grown. The first work after once established is to take out the old wood, and in snowy and windy latitudes the most advanced cultivators do not take this out until after mid-winter. On any mild day in February or March, armed with thick gloves, the old canes can be broken out and laid in the space between the rows to be removed with a pitchfork. In cleaning out weeds and grass from the space, about two feet wide in the row cannot be reached with the cultivator. I have found that taking time by the forelock and doing it just as the frost is partly out is the most profitable way. The ground is soft and the weeds are not nearly so tenacious in their hold upon the soil as when allowed to make some headway in their summer's growth. The same is true of cultivation between the rows, and it is far better to do it at the time of early garden-making than later.

My plan is to clean out with the hoe such weeds as I know cannot be reached by anything else, and then plow with a light plow toward the plants, throwing the earth nearly to the stems. Then I go along the rows with the hoe again, and hoe the mellow soil into the balk between the plants wherever I think it necessary. Two weeks later I go through with a Planet, Jr., set wide, and by wearing buckskin gloves, I can stir the soil almost up to the stems. Cultivation is given thereafter as needed until the new growth and rooting of the tips make it impossible. In cultivating, a harness that will allow of the freest swinging and sideways crowding of the cultivator is desirable, and I find such to be a simple collar with hames and trace chains leading directly to the whiffletree, without back strap. By the way, one of my neighbors uses such harness for plowing. The chains hitch to the hames by hooks, and when quitting work are dropped upon the ground, still attached to the plow. The line is tied upon the hame, and upon reaching the stable the collar, without unbuckling the hames, is reversed and taken off with the bridle, leaving the horse to cool off and eat his dinner unfettered by a mass of sweaty leather.

Where a farmer or other raspberry-grower has an abundance of straw, it is a very nice way to mulch with seven or eight inches deep of straw, renewing each spring and not cultivating at all. A friend of mine, a large farmer, grew an acre in this way for ten years, simply pulling up such weeds as found their way through the straw, which were not many. A neighbor's two girls picked and marketed them for half, and as the berries—great, fat, overgrown Doolittles—sold readily at 10 cents per quart, it proved profitable for both parties. This was in the early days of the Doolittle, and I think that once he sold \$30 worth of plants, the tips root-

ing beneath the rotten straw. Red raspberries of the suckering varieties are quite troublesome as compared with tip-rooting ones, and the only way to deal with them is to treat the surplus suckers as weeds. The rows are generally kept too broad. Six inches is wide enough, as the berries will be enough larger to pay, and the bearing canes will lean out to either side, while the new growth grows erect in the middle, and does not impede picking as when in a hedge eighteen or twenty inches wide.

Blackberries, from their aggressive nature, are generally detested by farmers, but they are at the same time a very desirable fruit to have. They thrive almost anywhere, and a very good way to grow them is in little groups not more than six feet across with a clear space of four or five feet all around. Keep the spaces clear with a brush scythe, throw plenty of coarse straw manure among the plants in the spring, cut out the old canes and shorten the new ones at the same time, and if the winter is not so severe as to kill peaches the grower will be rewarded with an abundance of fruit from the middle of July until September 1, and thus round out three months of berrying.—L. B. Pierce, in *Country Gentleman*.

New Formulas of the Bordeaux Mixture.

The following formulas, given to one of our grape-growers by Dr. B. T. Galloway, United States Mycologist, have been quite extensively experimented with in France for mildew, and have given very satisfactory results. Dr. Galloway advises that we try them not only for mildew, but for rot also.

No. 1.—Sulphate of copper, 4 pounds; quick lime, 1½ pounds; water, 24 gallons.

No. 2.—Sulphate of copper, 2 pounds; quick lime, ½ pound; water, 24 gallons.

It has been found that the mixture does quite as well with the reduced amount of lime, and in two of the three places where experiments were conducted in France, these weaker mixtures did nearly as well as the old formulas which had as high as twelve pounds of sulphate of copper. In the third place, they gave even better results than the stronger formulas. It was especially remarked that the weaker solutions adhered better to the vine. M. Millardet, the French experimenter, recommends also a formula half way in strength between these two.

Strawberry Notes.

EDITOR KANSAS FARMER:—I have just been reading the letter from T. F. Sproul. He speaks only of the flavor of the Sharpless and does not state how much the plants yield. Raisers of the Sharpless seldom speak of the amount; they are useless in Kansas except in the eastern part. Anywhere west of the Blue river strawberries of any kind find a good market. Those who use a strongly staminate variety with the Crescent have no difficulty in raising a good crop of fine large berries, but the Crescents are very sour. We have the Monarch of the West, a large, light-colored berry, almost white on one side, which begins to ripen as early as May 17. Next to them we have Finch's Prolific, a strongly staminate variety, fruit large and very sweet. Beyond these are the Crescents, and again the Monarch, and thus repeating; each row is about a rod wide. Last year our plants yielded a peck to the rod with but very little cultivating. The plants that had been well hoed and cared for did three times as well. This year we have one-fourth of an acre occupied with plants, with good prospects for a crop. Last year, just after fruiting

High-Pressure

Living characterizes these modern days. The result is a fearful increase of Brain and Heart Diseases—General Debility, Insomnia, Paralysis, and Insanity. Chloral and Morphia augment the evil. The medicine best adapted to do permanent good is Ayer's Sarsaparilla. It purifies, enriches, and vitalizes the blood, and thus strengthens every function and faculty of the body.

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"For some time I have been troubled with heart disease. I never found anything to help me until I began using Ayer's Sarsaparilla. I have only used this medicine six months, but it has relieved me from my trouble, and enabled me to resume work."—J. P. Carzant, Perry, Ill.

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season, the hot winds prevented the plants from spreading as they generally do. Besides from having the right varieties of plants, the secret of raising a large yield of large berries is constant cultivating, hoeing and keeping weeds subdued from the time the fruit is gone till frost cuts them, covering lightly in winter with coarse straw. Bean straw has often been used on our vines with good results, and hoeing again in spring until the blossoms begin to open well. It is not the proper work for women and children, as some writers state, as strong men often complain that it is tiresome.

MRS. E. W. BROWN.

Vining, Clay Co., Kas.

An Illinois peach-grower says: The peach needs different treatment from some other fruits on account of bearing on the previous year's shoots; it needs more pruning than most other trees and it gets less. Prune so as to retain the small twigs in the center of the tree, which are so often crowded out and die. Prune so as to reduce the excessive growth of the ends of the limbs. Prune to let in the light of the sun into all parts of the tree. Then the tree will bear a heavier crop of fruit without breaking down, and the fruit will be larger and better colored. This pruning must be done yearly; omitting it occasionally will cause failure.

"The peerless empire of form and color, is found in Colorado," says a great artist. So are there many other wonderful effects. There is that grand triumph of engineering skill, the Bow-Knot Loop, famed all over the world; the pretty town of Graymont nestled against the base of Gray's Peak, the giant prince of the range; sunrise on Gray's Peak—a sight once witnessed never to be forgotten; Idaho Springs the beautiful, a restful spot blessed with the healing waters for all who come, within two hours ride of young levithian Denver; the storied gold camp of Georgetown perched in the upper air of the mountains, ever fresh and cool and clear—these are a few of the delightful spots in the "American Alps" reached by the Colorado Central Division of the Union Pacific railway in Colorado.



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The Poultry Yard.

The Chicken Yard.

To pickle eggs the *Scientific American* says:

"Having filled a clean keg or barrel with fresh eggs, cover them with a cold solution of salicylic acid water. The eggs must be kept down by a board float, on which rests a weight sufficient to hold it on top of the eggs, and the top covered over with a cloth to keep out the dust. If set in a cool place the eggs will keep fresh for months. To make the salicylic solution dissolve a tablespoonful of the acid to each gallon of water (dissolve the acid first in boiling water). In a clean, airy cellar one brine is sufficient for three months or more. The salicylic acid can be obtained for about \$2.50 to \$3 per pound."

The liming process, as practiced by P. H. Jacobs, a well-known writer on poultry matters, is the following: "Take twenty-four gallons of water, put in it twelve pounds unslaked lime and four pounds salt. Stir it well several times a day, then let it stand and settle until perfectly clear. Then draw off twenty gallons of the clear liquid. By putting a spigot in the barrel about four inches from the bottom, you can draw off the clear liquid and leave the settlings. Then take five ounces bicarbonate of soda, five ounces cream of tartar, five ounces saltpeter, five ounces powdered borax and one ounce powdered alum; mix and dissolve in a gallon of boiling water, which should be poured into your twenty gallons of lime water. This will fill a whisky barrel about half full and a barrel holds about 200 dozen eggs. Let the water stand one inch above the eggs. Cover with an old piece of carpet, put a bucketful of the settlings over it. Do not let the cloth hang over the barrel. As the water evaporates add more, as the eggs must be covered with the lime mixture."

Mandarin Ducks.

The Mandarin duck is one of the most beautiful birds that can be found, having a brilliancy of color and a richness of marking which is almost indescribable. It has become a great favorite of late years, especially with those who have small sheets of water. It is a native of the Celestial empire, and has been called the Chinese teal, being bred there with great care, and highly prized. Mr. Riley, Secretary of the Water Fowl Club, says that the Mandarin is very small, in fact, a toy. The general appearance of the body is short and plump, head almost round, bill small and short, but not very thick. It is very difficult to describe, on paper, the intricate and beautiful plumage of the drake. His bill in color is a light pinky red, with a tip; the eye deep red or black; on the pate a few long feathers form a crest, which is very prominent when the bird is angry or excited. These feathers, from the base of the bill, are a deep metallic green, shading into deep claret or chestnut down the back of the head. A band of lovely cream color strikes right across the cheek or face from the bill, extending a little way down the side of the neck. A few reddish feathers below this cream color form a kind of ruff in front of the neck. These are very peculiar and are not found on any of the other varieties. The breast is a rich, deep claret. Separating the breast from the body feathers are two bands of white edged with black, the sides of the body being a greenish-mauve color, shaded with delicate wavy lines of deep gray of a similar nature to the gray-lined water feathers of the Rouen drake. The under body is a very light or whitish gray, and the wing feathers

brown, edged with white. Another peculiarity of this variety is the furnishing of the wings, which bear a shell or shield-like appendage, tipped at the edges with pale green. The legs are of a rich pink color. All this gorgeous plumage is exchanged in summer for the more homely duck feathers. The plumage of the duck is of a more sober description, being simply a pencilling or mottling of brown, or rather a greenish brown, the bill and legs being the same as the drake. The young birds have a pale brown down, with white cheeks; there is a dark streak from back of eye to head; the bill is dusky yellow, the eye black; the feet and legs are ash color, and the breast and abdomen dirty white. The eggs are white, and incubation occupies twenty-six days.—*Stephen Beale (England), in Country Gentleman.*

Look With Poultry.

There are several people in New Jersey who have what is called "great luck" with chickens. Two of them, both women, have such different ways of managing, and such different results, that they are worth comparing. Both make their poultry pay them well, and have many eggs at the time when housekeepers and incubator owners will pay high prices. One is a capable little woman living on a small place. She raises fine spangled Hamburgs and sells them at capital prices. All the food for her fowls must be bought, but she supplies every need. Two warm puddings and a meal of grain those chickens have every day, besides meat, oyster shells and cabbages. She always tests the hatching eggs, and such success has she in raising the young stock that she thinks it is her fault when a thoroughly hatched, strong little chicken dies. The other is the wife of a farmer, who from fifty hens gets great baskets of eggs every week all winter. Her thrifty, handsome flock is of all sizes and colors. She gives her fowls no warm food, no lime, no green food, and no meat except when the ground is covered with snow. They can always find all the whole corn they want in the barn. In the early morning she gives them oats and wheat, both whole, and warm water to drink. These two ways have points in common on examination. The first henwife must give to her hens what the others find for themselves. In the rich plowed fields on the farm are lime, and insects, which, with their myriads of eggs, furnish animal food in plenty. Hay and cornstalks take the place of green food. Both flocks are kept in clean quarters, and with both there is careful breeding. Every feather is thought of importance in one, and in the other the owner breeds from the "best hens and the largest cocks." In these two cases "great luck" means wise feeding and thoughtful breeding.—*American Agriculturist.*

A colt sometimes suffers considerable pain from teething, says an exchange, in consequence of the resistance which the teeth encounter from unyielding gums. The pain does not arise, as some suppose, from the point of the tooth pressing upward against the gum, but from the downward pressure—the roots of the tooth compressing the dental nerve—consisting in detail irritation, which, if not relieved, deranges a part or whole of the nervous system. The remedy is a sharp gum lancet. Make an incision right down to the point of the tusk or tooth, and the animal generally experiences relief. If he labors under sympathetic fever, appears irritable and nervous, give him a drachm of asafoetida in thin gruel, keep the bowels soluble and let the diet be light.

Potato culture for the production of alcohol is rapidly extending in France. Germany distills 880,000 gallons annually of that "brandy," and sends oceans of it to France to be made into cognac, etc.

The Educated Farmer.

The time has come when, to be successful in life, a person must be educated. Natural tact is a great thing. Money is a great thing. Genius is a great thing. These are all good things and great helps to success, but far greater yet is education. As competition narrows down and the margin of action grows smaller, the better must a man be equipped for the battle of life, if he expects to be successful. This is as true of the farmer as it is of any one else. The time has passed for farmers to depend on muscle and hard labor alone. They must use their brains as well as their hands. They must do more thinking and planning if they desire to receive the best results.

The farmer who reads and studies is the one who works to a purpose, while the one who does not read is the one who makes his efforts at haphazard. The former is posted on the markets, and, from long study, is able to draw conclusions and form pretty correct ideas of what it will be to his interest to raise for those markets. He discovers that the wheat market is likely to have a downward tendency, from the fact that he is informed of a large area of wheat sown in the main wheat-producing States. Consequently, he very sensibly concludes, that for a profit he had better turn his attention to other crops. The uneducated farmer, on the other hand, knows nothing of markets, or of the outlook of crop production, and is as liable to produce a non-paying crop as any.

Then again, the educated farmer is always posted in everything pertaining to his business, and is ready to be the first to take advantage of a new and valuable discovery, and every year there are many valuable discoveries made in the agricultural world. These are cheaper and more convenient methods of performing farm labor, ways by which better returns are secured from the small amount of soil and work; new and more satisfactory methods of caring for stock and of feeding and pasturing the same; and many other discoveries, trifling and insignificant in themselves, but which, in the aggregate, amount to a great deal in the long run.

The uneducated farmer—the one who does not read—is the one who treats small matters as unworthy of any thought or attention, and who too often walks over dollars in a mad chase after phantom gold pieces. And yet, it is the small things most often that constitute the profit.

The educated farmer knows how to save. He understands the value of economy. He knows how to obtain the greatest results at

the least expense. He knows how to secure the greatest yield from a given amount of ground. He knows what crops to cultivate and when and where to market his products. He is posted in the new and best varieties of seeds, and also the best varieties of stock. He has the advantage of the experience of other men, because he reads. He does not depend altogether on his own observation and experience.

Farming is a science, and there are many new things to learn in it yet, and the best and cheapest way to learn those things is by study. Take agricultural papers, read in their columns the experiences and observation of others, and avail yourself of the many useful hints and suggestions, and thus keep up with the procession.—*Thomas P. Montfort, in Prairie Farmer.*



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Book Notices.

GRASSES AND FORAGE PLANTS.—This book treats of grasses and such plants as are used for food for animals, and is of very great value to the practical farmer and dairyman, as well as to the professional botanist. It is designed for practical use.—Lee & Shepard, Boston.

THE STATESMAN—for May contains a discussion of the Vice-Presidency, by Bishop Merrill; Woman Suffrage, third article, by Dr. Wheeler; The Vest-pocket Vote, by Chas. C. Bonney; Limited Liability Companies, by M. M. Dawson, and the usual editorials, "Resume of Events."

MILK COWS AND DAIRY FARMING.—This is a good dairy book, a revised edition. We called attention to it some time ago. It treats of dairy breeds of cattle, methods of breeding and management of dairy cows and dairies. It covers the whole field of dairying. It is prepared by Charles L. Flint, late Secretary of the Massachusetts State Board of Agriculture, and is published by Lee & Shepard, Boston, Mass. Price \$2.

HARPER'S MAGAZINE.—William Dean Howells will discuss in *Harper's Magazine* for June "the question of how much or how little the American novel ought to deal with certain facts of life, which are not usually talked of before young people, and especially young ladies." Among other things he says: "Most of these critics who demand 'passion' would seem to have no conception of any passion but one. Yet there are several other passions; the passion of grief, the passion of avarice, the passion of pity, the passion of ambition, the passion of hate, the passion of envy, the passion of devotion, the passion of friendship; and all these have a greater part in the drama of life than the passion of love, and infinitely greater than the passion of guilty love."

CHAUTAQUA.—The June number of the *Chautauquan* presents a wide variety of topics in its table of contents. William P. Trent, M. A., of the University of the South discusses "The Position of Women in Ancient Greece;" the ninth in the series of Greek biographical sketches by Thomas D. Seymour, M. A., of Yale University, has for its subject "Ptolemy Soter;" Russell Sturgis finishes his two-part paper on "The Archaeologist in Greece;" the choice "Sunday Readings" are of Bishop Vincent's selection; the Rev. J. G. Wood describes some "Odd Fishes;" Mrs. Fields considers the condition of "The Aged Poor" and proposes an admirable plan for benevolent societies to adopt, and there are several other articles of merit.

How to Make Cement Floors.

Prof. R. C. Carpenter, of the Michigan Agricultural college, thus describes the method of making a cement floor:

Such floors, when properly made, are very valuable for barns and outbuildings. In the first place, they are impervious to liquids, and will retain all the manurial matter that is placed on them. In the second place, rats and other vermin cannot burrow through them, and, so far as my experience goes, will not burrow under them to any great extent. Floors made with American cement will not generally be tough enough to withstand the treading of animals, and should be protected by a covering of boards. A covering of English Portland cement, about two inches in thickness, made by mixing three parts of sharp sand to one part of cement, with water just sufficient to dampen it, and thoroughly rammed in place, will stand treading of animals, but will, I think, in most places be more expensive than a board covering.

A foundation for such floors should first be made; this is done by laying a course of small stones from two to four inches in diameter. Ram these in place with a ram made of a block of wood about ten inches in diameter at the lower end, and two or three feet long. After this course of stones is in place, make a mortar by using one part by measure of quick-lime, one part of American cement, ten parts of sand and sufficient water to make it very thin. Pour this water as soon as mixed on the course of stones, and with a common hoe work the mortar into all the cracks. Sufficient mortar will be used when the cracks are full. After the first course is completed, a second one should be put on. This will make a total thickness of about six or eight inches.

If a floor is to be laid for a stable, joists of 2x4 scantling should be bedded in the upper course, and allowed to project about one-half inch above the course. Before the floor is laid a mortar made of one part quick-lime, one part American cement and six parts sharp sand, is spread over the surface and leveled off from joist to joist. The boards or planks for the floor should be laid at once while the mortar is soft. This last course of mortar may, with advantage, be replaced by a mortar made of hot coal tar and sand, mixed and applied while hot.

If the floor is not to be trodden on by animals, it will do to finish it with a coat of cement mortar, about one inch thick. The mortar for this finishing coat should be one part sand to one part cement and no lime. If a cement floor is needed for a stable, a covering of Portland cement mortar as described, should be placed upon the stones.

I have seen very good floors made by mixing hot coal tar with sand or stones instead of lime or cement, as described. This floor will give off its characteristic odor for a long time, however, and cannot be recommended when such odor is objectionable. The floors under the cattle stable and also the piggery at the Michigan Agricultural college were constructed substantially as described. All the surfaces of wood-work in contact with the mortar were first coated with hot coal tar. This work was done in 1871. In 1886 it became necessary to remove the piggery to a new site; the floor was well preserved, but the joists bedded in the mortar were badly rotted. The cattle stable floor is apparently in as good condition as when put down. No doubt the piggery floor would have lasted indefinitely, had the building not been moved.

I wish to say just a word regarding the use of cement and lime. Cement should be used as soon as mixed with water, as it very soon hardens or sets; this operation should not be disturbed, and if it takes place even in a small degree, before the mortar is deposited in its permanent place, it will never become as hard as though it had never been disturbed. Lime mortar is rather improved than injured by allowing it to remain a long time after being mixed. In this article I recommend the use of equal quantities of lime and cement, solely on the ground of economy. If the foundation is, however, in the water, the lime should be replaced by cement, but for all ordinary circumstances a mixture of half lime and cement gives better satisfaction than pure cement—such a compound forms a water lime that, although it will not set under water, still when once it is set will not be affected by water. For ordinary floors, I think it becomes in time harder than pure cement.

In sheep husbandry the realization of profits does not always depend on immediate results. The grading up of a common flock to the most profitable basis requires some time and means, but the end should be more carefully kept in view than immediate profit. The conspicuous pliability of sheep have enabled breeders, possessed of skill and enterprise, to produce varieties suited not alone to the pastoral herdsman, but to the average farmer as well. For the latter, whatever his conditions and locality, some varieties may be found from which he may confidently anticipate the maximum profit for such judicious grading, reasonable care and reasonable sustenance as he may accord them. In the first place the farmer should decide which he wants to breed for, wool or mutton, and make his purchases accordingly. There is no stock more easily and cheaply improved than the sheep, as a single ram is sufficient for quite a flock.

Farm Loans.

Loans on farms in eastern Kansas, at moderate rate of interest, and no commission. Where title is perfect and security satisfactory no person has ever had to wait a day for money. Special low rates on large loans. Purchase money mortgages bought.

T. E. BOWMAN & Co.,
Jones Building, 116 West Sixth street,
Topeka, Kas.

Bates Short-horn Bulls.

Ten Bates and Bates-topped Short-horn bulls for sale. Ready for use and fit to head herds or go into the show-ring.
G. W. GLICK, Atchison, Kas.

Weather-Crop Bulletin

of the Kansas Weather service, in co-operation with the United States Signal Service, for the week ending Saturday, May 13, 1889:

Precipitation.—The average rainfall for the State, this week, is 2.58—two inches and fifty-eight hundredths—being decidedly above the normal.

An excess occurs in Norton, Graham, Ellis, Rush, Stafford, Pratt, Comanche and in all counties east of them, culminating, in the north, in Geary and Pottawatomie, where six inches and over fell. In Haskell, Gray, Ness and Trego a deficiency occurs, while from the west of these counties the reports have not yet reached this office.

Sixty-three per cent. of the rain this week fell in the north half of the State, and 37 per cent. in the south half. Since this weekly service began, March, 1887, no week has equalled the present for amount of rainfall, though it was better distributed over the State during the week ending August 30, 1888.

Temperature and Sunshine.—While the week has been comparatively cloudy, yet the temperature has been slightly above the normal, except in the west, where it was slightly below. On the 17th it fell decidedly below over the whole State.

Results.—In the middle and eastern divisions the weather conditions have proved very favorable to all crops and all vegetation has made vigorous growth. While in localities, in the western division, the weather has proved unfavorable to special crops, the general expression is decidedly encouraging. The abundant rains in the northeast counties have materially enhanced crop prospects. The excessive rainfall in the northern, central and eastern counties has filled all streams. In the southern counties the continual deficiency in rainfall has affected the Arkansas river, and, coupling with the high winds, is proving unfavorable to corn, which is also being retarded by the cool cloudy weather in Trego and Gove. In the northeast, cut-worms are at work. The chinch bugs have been numerous, but the recent heavy rains have dampened their ardour. Wheat heading in central counties. Peach trees promising full crops. Cherries ripening in south. Clover harvest begun in Coffey.

T. B. JENNINGS,
Signal Corps, Ass't Director.

Patents.

The following list is reported through the official records for the week ending May 14, 1889, by Higdon & Higdon, Patent Lawyers, office rooms 55 and 56 Hall Building, Kansas City, Mo., and room 29 St. Cloud Building, Washington, D. C. By applying to them at either office a printed copy of any patent here named can be obtained for 25 cents.

MISSOURI.

- Rock drill.—Abraham J. Snyder, Iron Mountains.
- Printing device.—Stephen G. Adams, St. Louis.
- Shutter fastener.—Michael Fitzpatrick, St. Louis.
- Horse power.—John C. Pruet, El Dorado.
- Double cylinder direct acting engine.—William D. Hooker, St. Louis.
- Photographic apparatus.—Henry Kuhn, Kirkwood.
- Fruit picker.—William D. Draig, Holden.
- Sheaf or pulley for cable railways.—Thos. H. Burrledge, St. Louis.

KANSAS.

- Stirrer and pulverizer.—Irven C. Liggett, Warnerton.
- Suspension bridge.—Horace M. Kosier, Ridgeway.
- Box fastener.—John A. Strong, Cain.

A New York commercial agency under date of the 17th inst. says: "Business reports this week are rather less encouraging, in spite of most satisfactory crop prospects at the West and the encouragement thereby given to all branches of trade. At Omaha great improvement in crop prospects and activity in building are reported with money plentiful at lower rates, and at St. Paul no change in the favorable prospects, but at Kansas City trade and collections are only fairly satisfactory. At Milwaukee collections are not improved. At Detroit trade and collections are about fair with money easy with moderate demand, and at Cleveland while trade is a little larger than at this time last year and money is in active demand, the uncertainties of the iron manufacture affect the prospects. A decrease of about 1,000 tons weekly occurred during April in the output of charcoal iron fur-

naces and the reduction in Eastern prices has not improved the situation. Southern and Western iron is still crowded upon the market. At Cleveland there have been large sales of ore at unchanged prices, and dealers are refusing to sell pig iron at present prices, while works are pushed to their full capacity in boiler, ship-building and structural iron. But at Pittsburg iron is 25 cents lower, though mills are refusing orders at old rates for manufactured iron and merchant steel is in demand but at low figures. Coke is depressed. A compromise at 1 cent less wages for mining than strikers asked has restored about 3,000 miners to work. The window glass trade is better.

TO EASTERN TRAVELERS.

Every year we note an increasing travel from the West to the old and established business centers of the East. The Western country being almost strictly an exclusively agricultural country which is rapidly developing in wealth as its resources are developed more. As a result, from year to year the people of the West make many trips to Eastern cities on business and pleasure. In view of this we desire to give our readers the benefit of what the writer considers the best route to take for all points East of St. Louis, and that is the well-known "Pennsylvania Route," consisting of the old Vandalia, Pan Handle, P. C. & St. L. and Pennsylvania railroad, a consolidation of lines which reach all of the principal commercial centers, the best agricultural country and as many points of interest as may be seen on any line. In addition to these very important features of interest to the traveler, this route makes quick time between all points, running the most elegant vestibuled Pullman sleeping coaches and parlor cars to be found anywhere. St. Louis, Chicago, Terre Haute, South Bend, Indianapolis, Columbus, Cleveland, Pittsburg, Harrisburg, Baltimore, Washington, Philadelphia and New York are important cities to be found on the "Pennsylvania Route," besides many important manufacturing cities. The writer is prepared to verify their own advertisement which says: "The great Pennsylvania Route has attained a degree of perfection in railroad management which leaves it practically without a rival. Its rock-ballasted road-bed and standard steel track; its first-class passenger equipments; its system of thorough car service; its method of dispatching trains to insure prompt connections; its appliances for preventing accidents and securing the safety of its patrons; its handsome and commodious passenger stations; its complete facilities for providing comfort and good cheer for all classes of travelers; the thorough discipline of its employes and the admirable government and police of its transportation department are imitated all over the world and equaled nowhere. It is the shortest in distance between the great commercial centers of the East and West and the quick time made by its express trains is a special inducement offered to the business traveler. Its through car service commends the route to all travelers, especially families with children, and ladies without escort, to whose comfort and welfare particular care and attention are given." Chas. Conklin, box F, Kansas City, Mo., is the northwestern passenger agent of this famous line, and detailed information will be gladly furnished promptly upon request.

NEW ADVERTISEMENTS.

- Brownwood Appeal... Oklahoma Surpassed.
- Bennett, Chas. Practical Optician.
- Bowman & Co., T. E. Farm Loans.
- Davidson, L. J. White Leghorns.
- Doyle, W. T. Poland-China Swine.
- Fergus, J. B. For Sale.
- Glick, G. W. Bates Short-horn Bulls.
- Gentry, N. H. Berkshire Pigs.
- Garrett, W. H. No More Horns.
- Handel, Rich. Poultry Care.
- Harden, W. I. F. Harden Safety Fence & Advertising Board.
- Hoffman, Phillip. Butter and Cheese-maker Wanted.
- Lindley & Co., Wm. T. Brightline and Diabetes.
- Tweedie, Jas. Look Here!
- Wagener, E. A. Agents Wanted.
- Young, Jas. G. Patents.

Topeka Weather Report.

For week ending Saturday, May 12, 1889:

Date.	Thermometer.	Max.	Min.	Rainfall.
May 12	67.9	55.5	2.20
" 13	75.1	50.0	0.24
" 14	79.1	50.0	.....
" 15	85.9	65.5	.....
" 16	82.8	68.6	.....
" 17	75.2	48.5	1.06
" 18	72.4	48.4	0.18

The Veterinarian.

[This department of the KANSAS FARMER is in charge of Dr. F. H. Armstrong, V. S., Topeka, a graduate of Toronto Veterinary college, who will answer all inquiries addressed to the KANSAS FARMER concerning diseases or accidents to horses and cattle. For this there is no charge. Persons wishing to address him privately by mail on professional business will please enclose one dollar, to insure attention. Address F. H. Armstrong, V. S., No. 114 Fifth St. West, Topeka, Kas.]

I have a colt that was foaled blind. Can anything be done for it? If so what?

—Cannot do anything for it.

John E Olson, Jerome, Kansas.—Punctured foot. Remove the shoe, pare away the loose edges of the sole, and apply a warm poultice of ground flaxseed meal, for forty-eight hours. Then take equal parts of oil tar, tr. benzoin, and oil of turpentine, and apply on a piece of tow or oakum. After lameness ceases, apply a wide web shoe, fitted so as to allow packing underneath with same application.

F. H. C., Fairport, Kas.—Lymphangitis. Give a bran mash at night. The following morning give a ball made as follows: Pulverized barbadose aloes, 5 drachms; calomel, 1 drachm; powdered ginger, 2 drachms; muc. acacia sufficient to form a ball. Chill the water for twenty-four hours after giving ball, and give soft feed. No exercise until after purging ceases, after which give the following powders night and morning: Pulverized pot. nitratis, 3 ounces; colchicum root, 6 drachms. Mix; make 8 powders. Bathe the limb for an hour twice a day with hot water. Give gentle exercise.

Those so ready to say that farming does not pay should try another calling for a season or two and then foot up the result. The cities of the Northwest are full of men who left farms a few years ago to try city life; most of them brought a little property with them, who, now too poor to get back to farming, are living from hand to mouth by day labor or team labor, dependent upon others, and not knowing where the next week's supply of food and fuel will come from. If farming does not pay it is easier to put enough energy and brain work into it to make it pay than to enter upon the fierce struggle for life that is going on in all the cities. There are nine chances to win on a farm to one in a city.—Ex.

Horse Stables.

To have healthy and hearty horses due care must be taken to provide them with suitable stables. These should be warm, dry and well ventilated. If the roof is of straw let it be thatched so that it does not leak. No farmer can afford to have water leaking down upon his horses. Have first a roof that does not leak; next see that the sides of the stables are free from cracks, so that there will be no draft upon the horses. Have the ventilators so that they are under your control. After you have a good roof and tight sides, properly ventilated and lighted, it is proper to consider the floor of the stable. You can get no better one than earth. This will keep the feet of the horse in good condition, and needs only to be kept level by filling in the holes made by the stamping of the feet of the horses. If you have an earth floor be sure to keep it free from a ridge over which the horse must hang when he lies down. The next best floor is made of short blocks of wood, such as are used in paving city streets. If the stable is not put on the ground level, of course a floor will need to be of plank. Of whatever the stable floor is made have a drain. This will facilitate keeping the horses clean and the stable clean and healthy. Have the stalls wide enough to allow the horses to lie down comfortably. It is well to have the partitions high enough to prevent the horses reaching each other. Be sure to have no projections in the

stable upon which horses can hurt themselves in lying down or raising their heads. This will necessitate having the ceiling high enough to clear their heads when they jerk up suddenly. Have the feed-box and rack just high enough to allow the head to be in a natural position while eating. Have both these so arranged that there will be no waste of grain or hay. To save time in feeding have grain bin and hay handy to stable. When the stable is made comfortable, convenient and healthy, see that the surroundings are made the same. Don't have a great pile of manure just in front of the door. Have a small drain to carry the water from the stable, so that it may be approached handily, and at the same time more healthful, because free from stagnant water.—Agricultural Implementation and Hardware Trade.

OKLAHOMA.

Now that the millions of acres of this magnificent country are to be opened to settlement, thousands of anxious home-seekers are pressing toward the "Promised Land." Twelve o'clock, noon, of April 22, 1889, is the time named in the President's proclamation when they can cross the line into Oklahoma. All who intend going should inform themselves fully before starting, as to the easiest, quickest and best way to reach the country in time to secure their homesteads and to be on the ground ready for business at the earliest possible moment. Examine the official maps and make no mistake as to your route. The Atchison, Topeka & Santa Fe R. R. is absolutely the only railroad built and operated into and through Oklahoma. Two daily trains in each direction through the country. The U. S. Land Office for the eastern land district of Oklahoma is located at Guthrie, directly on the line of the Santa Fe. The U. S. Land Office for the western district is located at Kingfisher Stage Station, thirty miles west of Guthrie and off the line of any railroad. Kingfisher Stage Station is, therefore, most easily reached via the Santa Fe to Guthrie, thence by stage. This is forty miles less stage ride and twelve hours shorter time than via any other route to Kingfisher. The Santa Fe Route connects with the important lines from all parts of the country, and reaches Oklahoma direct from Chicago, Kansas City, Leavenworth, St. Joseph, Atchison, Topeka, Abilene, Salina, Concordia, Minneapolis (Kansas), McPherson, Newton, Wichita, Winfield, Wellington, Caldwell, Hutchinson, Great Bend, Larned, Dodge City, Denver, Colorado Springs, Pueblo, Trinidad, Las Vegas, Santa Fe, Albuquerque, Socorro, El Paso, Deming and Silver City. For complete and reliable information regarding rates, tickets and train service, call on ticket agents of Santa Fe Route, or address GEO. T. NICHOLSON, G. P. & T. A., A. T. & S. F. R. R., Topeka, Kansas.

P. S.—Ask for Oklahoma Folder containing land laws and correct sectional map of country.

The "Eli" Once More.

The Burlington Route (Hannibal & St. Joseph R. R.) once more leads all its competitors, in restoring the fast train service between Kansas City and Chicago. The train so well known a year ago as the "Eli," and so deservedly popular with the traveling public, has once more been put on. It is a solid vestibule train with sleepers, free chair cars and coaches, and makes the through run between the two cities in about fourteen hours. Leaving Kansas City in the evening the passenger takes supper on the dining car and arrives in Chicago for breakfast, and vice versa on his return. This is a great saving of time, and the Burlington's action in restoring this service meets with the hearty approval of all business men and the public generally. The Burlington's new St. Louis line increases in popularity every day, and now holds a high place in public favor. The Burlington runs on this line through Pullman Sleeping Cars of the latest improved design, and Reclining Chair Cars, seats in the latter being free of charge. We should also strongly advise any one going to Omaha, St. Paul, Minneapolis or the Northwest to take the daily forenoon train on the K. C., St. J. & C. B. R. R., which has a through Pullman Buffet Sleeping Car from Kansas City to St. Paul and Minneapolis and free Chair Car to Omaha, or take the evening train from Kansas City, which has a through Sleeper and Chair Car to Omaha. All of the above trains are in every way models of comfort and convenience. A. C. DAWES, General Pass. & Ticket Agent, St. Joseph, Mo.

Europe is all very well, but don't you think it is only fair as an American to know your own country thoroughly? Try the "American Alps" on the South Park Division of the Union Pacific in Colorado this summer. There's nothing like them in Switzerland.

TO MONTANA, OREGON AND WASHINGTON.

If you are going West, bear in mind the following facts: The Northern Pacific railroad owns and operates 987 miles, or 57 per cent. of the entire railroad mileage of Montana; spans the Territory with its main line from east to west; is the short line to Helena; the only Pullman and dining car line to Butte, and is the only line that reaches Miles City, Billings, Bozeman, Missoula, the Yellowstone National Park and, in fact, nine-tenths of the cities and points of interest in the Territory.

The Northern Pacific owns and operates 821 miles, or 52 per cent. of the railroad mileage of Washington, its main line extending from the Idaho line via Spokane Falls, Cheney, Sprague, Yakima and Ellensburg, through the center of the Territory to Tacoma and Seattle, and from Tacoma to Portland. No other transcontinental through rail line reaches any portion of Washington Territory. Ten days stop over privileges are given on Northern Pacific second-class tickets at Spokane Falls and all points west, thus affording intending settlers an excellent opportunity to see the entire Territory without incurring the expense of paying local fares from point to point.

The Northern Pacific is the shortest route from St. Paul to Tacoma by 207 miles; to Seattle by 177 miles, and to Portland by 324 miles—time correspondingly shorter, varying from one to two days, according to destination. No other line from St. Paul or Minneapolis runs through passenger cars of any kind into Idaho, Oregon or Washington.

In addition to being the only rail line to Spokane Falls, Tacoma and Seattle, the Northern Pacific reaches all the principal points in northern Minnesota and Dakota, Montana, Idaho, Oregon and Washington. Bear in mind that the Northern Pacific and Shasta line is the famous scenic route to all points in California.

Send for illustrated pamphlets, maps and books giving you valuable information in reference to the country traversed by this great line from St. Paul, Minneapolis, Duluth and Ashland to Portland, Oregon, and Tacoma and Seattle, Washington Territory, and enclose stamps for the new 1889 Rand-McNally County Map of Washington Territory, printed in colors.

Address your nearest ticket agent, or CHAS. S. FEZ, General Passenger and Ticket Agent, St. Paul, Minn.

OKLAHOMA--THE PROMISED LAND.

"On to Oklahoma!" is now the watchword of the thousands of home-seekers who have anxiously awaited the President's proclamation opening this vast and rich country to public settlement. Colonies are being formed in every State and Territory in the Union. The millions of acres may not furnish a homestead for all who come, but there will be thousands ready to relinquish their claims at a nominal figure. The intending settler should look the country over. Go via the GREAT ROCK ISLAND ROUTE, popularly known as the "People's Favorite" wherever it runs. KINGFISHER, the U. S. Land Office for Oklahoma, is the coming metropolis of the Indian Territory, and is located on the ROCK ISLAND ROUTE. A fast line of stages has been put on to Fort Reno, to connect with the trains of the Rock Island Territorial extension. This is the cheapest and best route and direct to the place you want to go. Through solid vestibule trains from Chicago via Kansas City and St. Joseph, also from Denver, Colorado Springs and Pueblo to the Territory, through the cities of Topeka, Hutchinson, Wichita, Wellington and Caldwell. It will be your advantage to locate on the People's Favorite railway. Look at the map. The Rock Island has excellent connections from all portions of the Union. For full information concerning Oklahoma, the land laws, and the best way to get into the country, address JOHN SEBASTIAN, G. T. & P. A. Chicago, Kansas & Nebraska Ry., Rock Island Route, Topeka, Kas.

Low Rates to Puget Sound Points.

The St. Joseph & Grand Island and Union Pacific railroads, and Oregon Railway & Navigation company, via Portland, form the new short line to Tacoma, Seattle, Olympia and Port Townsend, Washington Territory, and Victoria, British Columbia.

The ticket rates to these points via the above line have just been lowered to \$60 first class, and \$35 second class, baggage checked through. For further information, call on any agent.

E. MCNEILL, General Manager, W. P. ROBINSON, JR., G. P. & T. A., St. Joseph, Mo.

THE MARKETS.

(MAY 18.)

New York.
WHEAT—No. 2 red, 81½¢.
CORN—No. 2, 43¼¢.
Chicago.
WHEAT—No. 2 spring wheat was quoted at 82½¢; No. 3 spring wheat, 70a80c; No. 2 red, 82a83c.
OATS—No. 2, at 22¼¢.
RYE—No. 2, quoted at 40¼¢.
BARLEY—No. 2, nominal.
CORN—No. 2 quoted at 33¼¢.
CATTLE—Beef steers \$3 60a4 35.
HOGS—\$4 30a4 50.
SHEEP—\$3 50a4 30.
St. Louis.
WHEAT—No. 2 red, 78¼¢.
CORN—No. 2, 31¼¢.
CATTLE—Beef steers \$3 25a4 40.
HOGS—\$4 20a4 45.
SHEEP—\$3 00a4 60.
Kansas City.
CATTLE—Beef steers, \$2 40a3 90.
HOGS—\$4 15a4 27.
SHEEP—\$3 30.
St. Louis Wool Market.

Receipts for the week ending May 15, 282,546 pounds against 208,000 last week. Tending upward and advancing in price; firm even in face of largely increased offerings; demand quickening and keeping pace with receipts. Quotations revised. Shippers should know that appended figures are for average receipts. We are receiving many nice lots from Texas, Kansas and Nebraska, that, being fully as good as this State's growth, bring fully as high a price. KANSAS AND NEBRASKA—Medium, 21a23c; coarse, 18a20c; light fine, 18a21c; heavy fine, 14a16c; low and inferior, 15a17c.

It is un-American in the higher sense for our people to prate about Europe so glibly when so many of them are profoundly ignorant of the wondrous beauties of their native land. As a matter of fact there are hundreds of thousands of American citizens who are thoroughly familiar with Switzerland; who have idled away weeks at Lucerne, done Chamouni, and attempted the Matterhorn, and yet have never feasted on the lovely beauty, the wild weird majesty of any one of the Colorado Peaks. "More than Alpine glory" rewards visitors along the South Park Division of the Union Pacific in Colorado. There is no scenery like it in the new world.

IMPORTANT TO HORSE OWNERS

The Great French Veterinary Remedy for Past Twenty Years. Recommended and Used by the Best Veterinary Surgeons of this country.



COMBAULT'S CAUSTIC BALSAM.

Prepared exclusively by J. E. COMBAULT, ex-Veterinary Surgeon to French Government Stud. (G.)
Supersedes all Caustery or Firing. Impossible to Produce any Scar or Bleeding.
For Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, all Skin Diseases or Parasites, Thrush, Diphtheria, Pinkeye, all Lameness from Spavin, Ringbone and other Bony Tumors. Removes all Bunches or Blebs from Horses and Cattle.
A Safe, Speedy and Positive Cure.
It has been tried as a Human Remedy for Rheumatism, Sprains, &c., &c., with very satisfactory results.
WE GUARANTEE that one tablespoonful of Caustic Balsam will produce more actual cure than a whole bottle of any liniment or spavin cure mixture ever made.
Every bottle of CAUSTIC BALSAM sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, &c. Address LAWRENCE, WILLIAMS & CO., Cleveland, O.

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LUMBAGO, PAIN IN BACK, Bright's Disease and Kindred Afflictions. Physicians prescribe it. \$1.00. Ask Druggist or write W. M. T. LINDLEY & CO., 218 LaSalle St., Chicago, Ill.

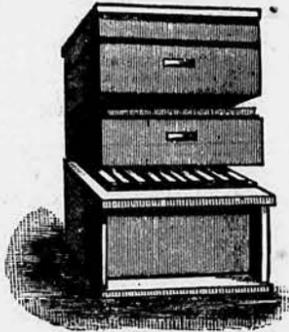
- PATENTS -

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ATTORNEY AT LAW, NOTARY PUBLIC, SOLICITOR OF PATENTS, and UNITED STATES CLAIM AGENT, Office, Rooms 62, 63 and 64 Hall Building, 9th and Walnut Streets, Kansas City, Mo. Telephone 1829.

The Busy Bee.

Tools of the Apiary.

EDITOR KANSAS FARMER:—As the season for practical work in the apiary is at hand, I offer a few remarks on the tools of the apiary for the consideration of your readers. Some of these will be illustrated, and we will begin with the hive. Let me say, however, that I am not writing for the benefit of the experienced bee-keeper, but for those who are supposed to know but little about the business. Bees are not particular about what kind of a hive they work in, and so it is not on their account that any improvement should be made. The old "gum" of our fathers was just as acceptable to them as the most improved modern hive, and they would store just as much honey in it. In fact, some of our so-called "improved" hives are really no improvement at all, but are, in many respects, a detriment to the work of the bees. The only reason for discarding the "gum" is the benefit that will accrue to the bee-keeper himself.



In. Langstroth, Simplicity.

We give an illustration of a very simple hive that seems to answer all the requirements of modern bee-keeping. The advantages of such a hive over the old "gum" are very apparent to the most casual observer. First of all, the brood chamber, as we call it, is filled with frames, and these frames can be removed, one at a time, at the pleasure of the operator; that is, they are made to hang on a rabbit so that they can be lifted out, one at a time, and each comb examined. This even the farmer who keeps only a few colonies will find of great advantage. The super, or place where the surplus comb honey is to be stored, is so arranged that the combs are built in small frames that will hold one or two pounds of honey. These are easily removed, and the farmer has his honey handy and in a convenient and attractive shape for the table. Should he have more than he wants for his own use, it will command the best market price put up in this way. The trouble with the old method is that the honey taken in that way was almost valueless for the market. Now, let no one get the idea that a hive like the above requires a large outlay of money, for it does not. It should not cost over \$2 at most. In fact, it will not pay to put very much money in a bee-hive. Good hives are sold sometimes for even less than this amount. The so-called "patent" hives that are sold through the country by agents at a high price, may be pronounced a humbug upon general principles. They are frequently found at country fairs and other places where agricultural implements are being shown. Here is what Mrs. Harrison, a noted lady bee-keeper, has to say upon this subject: "I have seen hives at fairs which drew large crowds—and their glib exhibitor claimed that they were one of the greatest inventions of the nineteenth century—that an intelligent bee-keeper would not tolerate in his yard; hives with cunning little drawers—and how the glib exhibitor pulled them in and out, showing them

STEEL STAY GUARDS FOR WIRE FENCES, MANUFACTURED BY THE WIRE FENCE IMPROVEMENT COMPANY, 325 Dearborn St., Chicago.



CAN be attached easily to Smooth or Barbed Wire Fences by any one. Recommended EXTENSIVELY by Farmers, Breeders, and Agricultural Journalists. Will not rust. An Fence Wire, Made of Fine, Spring Steel, Japanned for Strength, are 3 1/2 inches long, and 1 1/2 wide; flexible, light, very strong and cheap. With smooth No. 9 wire, will make a perfect fence, easy to see, impossible to break, and lasting a lifetime. "Stock" Guards are for fences with wires 6 1/2 to 12 inches apart. "Hog" or "Sheep" Guards for use on fences 12 to 18 inches apart. "Stock" Guards, 65¢; "Hog" Guards, 75¢; "Sheep" Guards, 1.00. Discount to dealers. If not for sale in your town, write us.

to his delighted audience. A bee-keeper would know at first glance that when the hive was occupied with bees, those cute little drawers would be propolized so tightly that no power could get them out, except by chopping the hive to pieces."

You will see from the above that the simpler and plainer a hive is the better it is for all practical purposes. The one illustrated is a modification of what is known as the Langstroth hive. There is no patent upon it, and anybody has a perfect right to make it who desires to do so. There are several large factories in the United States where these hives are cut and sold in the flat, or they may be had of any one who deals in bee-keepers' supplies. Being made by machinery, they fit so accurately that any person of ordinary ingenuity who can drive a nail can put them together.

Now, Mr. Editor, I have probably said enough about hives. With your permission, I will furnish illustrations of some other tools and have something to say about their use in a future article. EMERSON T. ABBOTT. St. Joseph, Mo.

With groans and sighs, and dizzied eyes,
He seeks the couch and down he lies;
Nausea and faintness in him rise,
Brow-racking pains assail him.
Sick headache! But ere long comes ease,
His stomach settles into peace,
Within his head the throbbings cease—
Pierce's Pellets never fail him!

Nor will they fall any one in such a dire predicament. To the dyspeptic, the bilious, and the constipated, they are alike "a friend in need and a friend indeed."

The Edelweiss can be cultivated in pots or among rockwork, but it is said that, when transferred to a lower level, its blossoms sometimes become red. Among the Swiss mountaineers it is considered the emblem of purity, and is used as a bridal flower in place of the orange blossoms of more temperate climates.

The prevalence of scrofulous taint in the blood is much more universal than many are aware. Indeed, but few persons are free from it. Fortunately, however, we have in Ayer's Sarsaparilla, the most potent remedy ever discovered for this terrible affliction.

The entering wedge of a complaint that may prove fatal is often a slight cold, which a dose or two of Ayer's Cherry Pectoral might have cured at the commencement. It would be well, therefore, to keep this remedy within reach at all times.

Near the soda springs in Ashland, Ore., there is a spring which emits a gas so poisonous as to kill whatever may breathe it, and it is said that there is almost constantly a ring of birds, snakes, lizards and small deer lying dead about it.

Don't hawk, hawk, blow, spit, and disgust everybody with your offensive breath, but use Dr. Sage's Catarrh Remedy and end it.

ST. JACOBS OIL FOR FARMERS.

R. S. WITHERS, Esq., Fairlawn Stock Farm, Lexington, Ky., writes:

"I use St. Jacobs Oil on my horses, my men and myself. It is a sovereign cure."

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MAINS'
Fountain Head and Storm Cloud Claim this Space.
Mains' Herd of Pure-bred **POLAND-CHINA HOGS**, of as fashionable strains as can be had. All recorded in the Ohio Poland-China Record. Fall pigs of both sexes and spring sows bred and to breed for sale. A large selected herd of sows (most of which were bought in Ohio) new bred for season of 1889 to No. 1 boars of as good royal breeding as there is in the country.
Address: **JAMES MAINS,** Oskaloosa, Jefferson Co., Kas.

HIGHLAND HERD POLAND-CHINAS

Deitrich & Gentry, Ottawa, Kas.
Such strains as Corwin, Give or Take, Hoosier Tom, Duchess, Riverside Beauty, Lady Maid, I. X. L. and others represented. 75 pigs from 6 boars. Orders booked now for spring pigs. Correspondence answered promptly. Mention KANSAS FARMER.

JACKVILLE HERD OF POLAND-CHINAS

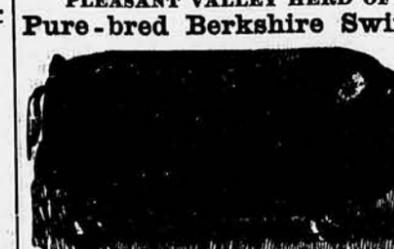
J. S. RISK, Prop'r, WESTON, MO.


I have a fine lot of early pigs farrowed January and March. I can furnish very choice pigs not akin. Pigs sired by six different boars. Write for prices or call and see stock.

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THE WELLINGTON HERD consists of twenty matured brood sows of the best families of home-bred and imported stock, headed by the celebrated HOPEFUL JOE 4889, and has no superior in size and quality nor in strain of Berkshire blood. Also Plymouth Rock Chickens. Your patronage solicited. Write.
M. B. KEAGY, Lock Box 784, Wellington, Kas.

PLEASANT VALLEY HERD OF Pure-bred Berkshire Swine.


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

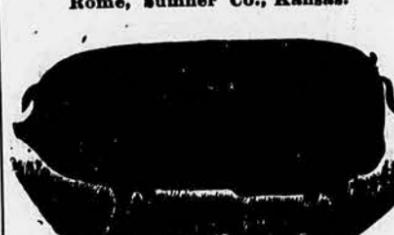
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Of the Royal Duchess, Sallie, Hillside Belle, Charrier, Stumpy, Fashion, Queen Betsy, and other families of fine, large, fleshy qualities, with such top breeding as British Champion, Longfellow and Sovereign Duke, and the noted young show boar PERKINS 1994 at head of herd, the property of G. W. BERRY, Berryton, Shawnee Co., Kas. Located on the K. N. & D. R. R., nine miles southeast of Topeka. Farm adjoins station. Write for prices and free catalogue. Orders taken now for spring pigs from show sows.

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For Registered Prize-winning **BERKSHIRE SWINE AND SOUTHDOWN SHEEP** or money refunded. Come and see or address J. M. & F. A. SCOTT, Huntsville, Randolph Co., Mo. Mention Kansas Farmer.

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T. A. HUBBARD, Rome, Sumner Co., Kansas.


Show yard of Poland-Chinas and Large English Berkshires. I am breeding the best and leading strains, including Gracefuls, U. S. Black Bess, I. X. L., Corwin, Sallies, Bella Donnas, Duchess, Dukes and Champions. The best of blood, with extra size and individual merit. Write or come and see me. Two hundred pigs for sale. Am using thirteen extra good boars.

THE GLORY OF MAN STRENGTH VITALITY!

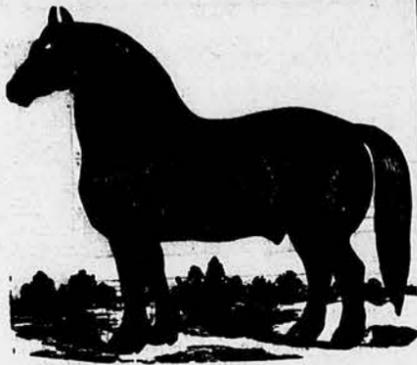

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A Scientific and Standard Popular Medical Treatise on the Errors of Youth, Premature Decline, Nervous and Physical Debility, Impurities of the Blood,
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Resulting from Folly, Vice, Ignorance, Excesses or Overtaxation, Enervating and unfitting the victim for Work, Business, the Married or Social Relations. Avoid unskillful pretenders. Possess this great work. It contains 500 pages, royal 8vo. Beautiful binding, embossed, full gilt. Price, only \$1.00 by mail, post-paid, concealed in plain wrapper. Illustrative Prospectus Free, if you apply now. The distinguished author, Wm. H. Parker, M. D., received the GOLD AND JEWELLED MEDAL from the National Medical Association, for the PRIZE ESSAY ON NERVOUS AND PHYSICAL DEBILITY. Dr. Parker and a corps of Assistant Physicians may be consulted, confidentially, by mail or in person, at the office of THE PEABODY MEDICAL INSTITUTE, No. 4 Bulfinch St., Boston, Mass., to whom all orders for books or letters for advice should be directed as above.

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3,000 PERCHERON FRENCH COACH HORSES, IMPORTED.

STOCK ON HAND:
300 STALLIONS of serviceable age.
150 COLTS superior individuals, with choice pedigrees.

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Terms favorable and prices low. Will trade for steers. Farm two and a half miles northeast of town and 100 miles west of Topeka on Santa Fe railroad. Write for particulars to **MAKIN BROS.,** Florence, Marion Co., Kas.

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All the sixteen roads running into Kansas City have direct connection with the yards, affording the best accommodation for stock coming from the great grazing grounds of all the Western States and Territories, and also for stock destined for Eastern markets.

The business of the yards is done systematically and with the utmost promptness, so there is no clashing, and stockmen have found here, and will continue to find, that they get all their stock is worth with the least possible delay.

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In connection with the Sales Market are large feed stables and pens, where all stock will receive the best of care. Special attention given to receiving and forwarding. The facilities for handling this kind of stock are unsurpassed at any stable in this country. Consignments are solicited with the guarantee that prompt settlements will be made when stock is sold.

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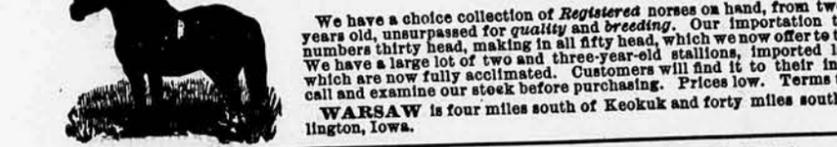
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The only institution in the world where Cancers and Malignant Tumors are permanently removed without using knife, ligature or caustics, and in all cases a permanent Cure is guaranteed. Consultation free. Call or address **KOEHLER CANCER HOSPITAL CO.,** 1430 Grand Ave., Kansas City, Mo.

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When I say cure I do not mean merely to stop them for a time and then have them return again. I mean a radical cure. I have made the disease of **FITS, EPILEPSY or FALLING SICKNESS** a life-long study. I warrant my remedy to cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my infallible remedy. Give Express and Post Office. **H. G. ROOT, M. C., 183 Pearl St. New York.**

A SUFFERER from errors of youth, lost vigor, etc., was restored to health in such a remarkable manner after all else had failed, that he will send the mode of cure FREE to all fellow sufferers. Address **L. G. MITCHELL, East Haddam, Conn.**

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THE STRAY LIST.

HOW TO POST A STRAY.

THE FEES, FINES AND PENALTIES FOR NOT POSTING.

BY AN ACT of the Legislature, approved February 27, 1884, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice.

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

No persons, except citizens and householders, can take up a stray. If an animal liable to be taken up, shall come upon the premises of any person, and he fails for ten days, after being notified in writing of the fact, any other citizen and householder may take up the same.

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

If such stray shall be valued at more than ten dollars, it shall be advertised in the KANSAS FARMER in three successive numbers. The owner of any stray may, within twelve months from the time of taking up, prove the same by evidence before any Justice of the Peace of the county, having first notified the taker-up of the time when, and the Justice before whom, proof will be offered.

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

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

FOR WEEK ENDING MAY 9, 1889.

Phillips county—S. J. Hartman, clerk. PONY—Taken up by J. M. Henry, P. O. Rushville, April 6, 1889, one dark bay mare pony, 13 hands high, brand on left hip; valued at \$25.

Cherokee county—J. C. Atkinson, clerk. MARE—Taken up by O. R. Harris, in Garden tp., P. O. Lowell, April 27, 1889, one light bay mare about 3 years old, 13 1/2 hands high, no marks or brands.

Finney county—O. V. Folsom, clerk. PONY—Taken up by J. C. Fugate, in Garden City tp., April 24, 1889, one black pony mare, 4 feet 10 inches high, a barred Spanish brand low on left shoulder; valued at \$30.

Brown county—N. E. Chapman, clerk. COLT—Taken up by John A. Simmons, in Walnut tp., April 18, 1889, one iron-gray horse colt, 2 years old, three white feet and white strip in face, branded S on one shoulder; valued at \$20.

Osborne county—L. Grecian, clerk. 2 MARES—Taken up by A. H. Cooper, in Nat'ma tp., P. O. Tapley, April 7, 1889, two mares, supposed to be 3 years old, one black and the other bay; valued at \$75.

Wichita county—H. H. Platt, clerk. PONY—Taken up by O. F. Rowland, in Edwards tp., P. O. Coronado, February 13, 1889, one bay-rose pony, white stripe in face, no marks or brands.

FOR WEEK ENDING MAY 16, 1889.

Greenwood county—J. W. Kenner, clerk. PONY—Taken up by J. S. Masters, in Madison tp., May 3, 1889, one dun mare pony, white face, Mexican brand on left shoulder, X on right thigh and X on left hip; valued at \$25.

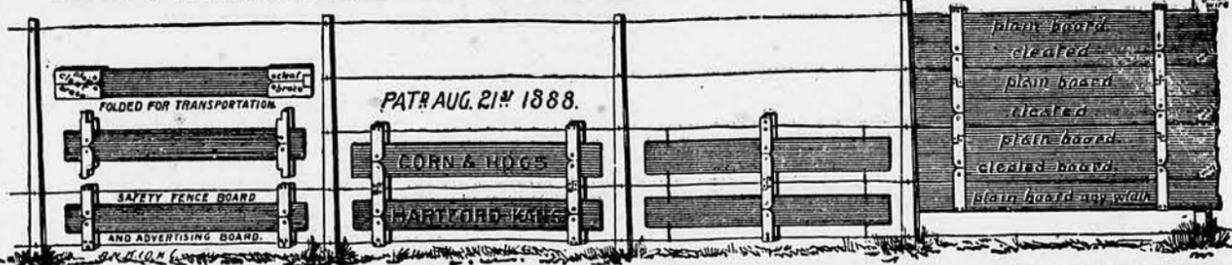
Sherman county—O. H. Smith, clerk. MARE—Taken up by J. E. Erwin, in Iowa tp., April 11, 1889, one brown mare, 10 years old, left fore foot white, star in face, branded N on left shoulder.

Shawnee county—D. N. Burdge, clerk. HORSE—Taken up by A. M. Casperson, P. O. Tecumseh, April 27, 1889, one dark bay horse, 6 or 7 years old, five feet high, right fore and left hind foot white, white star in forehead, white spot on left eye, black mane and tail, slightly lame; valued at \$25.

Thomas county—James M. Summers, clerk. MULE—Taken up by C. F. Hanscom, in Hal' tp., April 10, 1889, one brown mule, fourteen hands high, small saddle mark on back; valued at \$30.

Montgomery county—G. W. Fulmer, clerk. MARE—Taken up by John Blake, in Caney tp., May 1, 1889, one sorrel mare, 6 years old, white left

HARDEN'S SAFETY FENCE AND ADVERTISING BOARD.



This engraving only shows part of its forms of application. A hatchet, saw, square, brace and bit, and wire nails only are needed in its construction. It is at once economical, complete, easily made, taken down and folded up, and can be put on fence again or stored away, being always ready for use.

FOR WEEK ENDING MAY 23, 1889.

Miami county—H. A. Floyd, clerk. FILLY—Taken up by P. L. Russell, in Middle Creek tp., P. O. Somersat, April 16, 1889, one bay filly, supposed to be 8 years old this spring, white spot in forehead, some warts on nose, about fifteen hands high, thin in flesh, no other marks or brands visible; when taken up had a wind-puff on right hind leg, but has disappeared; valued at \$40.

Cherokee county—J. C. Atkinson, clerk. MARE—Taken up by Henry Sumpter, in Crawford tp., April 14, 1889, one brown or dark bay pony mare, four white feet, blaze face, two hands high, OO or figure 8 branded on left shoulder, thin in flesh.

Barton county—D. R. Jones, clerk. MARE—Taken up by H. N. Ford, in Comanche tp., April 24, 1889, one brown mare, 7 years old, three white legs, blaze face, indescribable brand on left hip; valued at \$20.

HORSE—Taken up by same, one black horse, 1 year old; valued at \$12. STALLION—Taken up by same, one roan 2 year-old stallion, had halter on; valued at \$18.

PONY—Taken up by T. M. Ullery, in Buffalo tp., April 19, 1889, one sorrel pony, 3 years old, four white feet, blaze face, branded A on left hind leg; valued at \$20.

PONY—Taken up by same, one roan mare pony, 8 years old, four white feet, blaze face, branded A on left fore leg; valued at \$20.

Republic county—H. O. Studley, clerk. MARE—Taken up by Geo. W. Culver, in Grant tp., P. O. Wayne, April 25, 1889, one bay mare, 7 years old, no marks or brands; valued at \$50.

GELDING—Taken up by same, one bay gelding, 3 years old, no marks or brands; valued at \$40. Jewell county—H. L. Browning, clerk.

MARE—Taken up by Charles F. Haggart, in Brown Creek tp., P. O. Mayview, May 2, 1889, one roan mare, weighs 750 lbs., no marks or brands; valued at \$20.

Too Late to Classify.

NO MORE HORNS! HOW TO PREVENT THEIR growth on young cattle. No cruelty, but a simple, humane process. Order now for this spring's calves. Full directions on receipt of \$5. Address W. H. Garrett, Box 96, Kansas City, Mo. Refer to editor Colman's Rural World, St. Louis, Mo.

WHITE LEGHORNS—L. J. Davidson, Eaton, Cowley Co., Kas., breeds S. C. White Leghorns exclusively. Eggs, \$1 for 13; delivered on cars.

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All the leading varieties, including the new and popular variety, Red Jersey, grown only by us. Send for price list of vegetable seeds. Address M. H. SMITH & SON, Market Gardeners and Seed-Growers, Muscatine, Iowa.

Bulbs!

12 Large White Double TUBEROSE, 3 CANNAS--Mixed Colors, 3 CLADIOLA--Mixed Colors, By mail, postpaid, for 50 cents. Order early. H. M. HOFFMAN, (Recommends, DeSoto road), Leavenworth, Kas.

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MILLIONS OF Fruit Trees, Shade Trees, Small Fruits, Vines, Ornamental Trees, Etc.

TEN MILLION FOREST TREE SEEDLINGS. ONE MILLION HEDGE PLANTS.

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Full instructions sent with every order, and perfect satisfaction guaranteed. Send for full list and prices. Address D. W. COZAD Box 2, LACYGNE, LINN CO., KANSAS

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APPLE TREES TWO AND THREE YEARS old, of most excellent quality, offered at low rates by the 1,000 or by the carload. Also Peach, Plum, Grapes, etc., etc. J. A. BLAIR & SON, Proprietors, Lee's Summit, Jackson Co., Mo.

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Best Qualities AT LOWEST MARKET PRICES!

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Stack Covers. Harvesting Machines.

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Can be destroyed by spraying the trees with London purple dissolved in water. For full directions and improved outfit for Hand or Horse Power at BOTTOM GASH PRICES address FIELD FORCE PUMP CO. Leokport, N.Y.

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THE ZIMMERMAN
 The Standard Machine.
 Different sizes and prices. Illustrated Catalogue free.
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 IMPROVED. BEST MADE.
 Because of their DURABILITY, EASE of Operation, and Few and Short Stoppages (a machine earns nothing when the drill is idle).
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TIMKEN SPRING VEHICLES
 Hundreds of thousands in use. Try One.
 Greatly improved with swinging shackles on one side. Easiest riding vehicle made. The springs lengthen and shorten according to the weight put on them. Adapted equally well to rough country or fine city drives. Will give you best satisfaction.

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 FOR CONVENIENCE OF handling Milk and Cream with best results, leads the van. Has double skimming attachment. Drawing milk or cream first as desired. No fear of sediment. Butter made from it was awarded the GOLD Medal at Indiana State Fair, 1888, and St. Louis (Mo.) Fair, '88. It has taken the FIRST PREMIUM at nearly every State Fair where exhibited. WE FURNISH EVERYTHING USED IN BUTTER FACTORIES OR DAIRIES. Send for illustrated circulars. Agents wanted in every county and town.
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DECATUR TANK HEATER
 A successful device for application to stock tanks. Prevents formation of ice; heats water to temperature healthful for cattle; requires little fuel and attention; applied or removed without cutting or otherwise defacing tank. Saves its price within a short period of use. Its merits alone commend it. Live Agents wanted for unassigned territory.

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 The Eclipse Double-Acting Continuous Press—SIMPLE—STRONG—DURABLE.
 The best for either Hay or Straw. We cheerfully mail to applicants complete descriptive circulars of above goods.
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 Anti-Friction Ball Bearings. Make less Draft. Double Levers. Move Disc Gangs Independently. Disc Gangs Flexible. Seeder Attachment a Great Success.
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 HOUSES CONVENIENTLY LOCATED.

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 FOR EVERY PURPOSE
 SOLD ON TRIAL.
 Investment small, profits large. Send 20c. for mailing large illustrated Catalogue with full particulars.
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 Runs in the lightest winds. Works in the heaviest gales. Does not get out of order. Noiseless in operation. Needs no oiling or other attention oftener than four times a year. No wearing parts exposed to the weather. No tower required, as Wind Mill can be located in the best exposure (on barn or hill) at any distance from water supply. Pumps five times more water than any other wind mills. Adapted to any size well. Recommended by distinguished engineers. The strongest and best pump made for farms, mines, railway service, drainage and irrigation. Send for catalogue.
Hartford Compressed Air Pump Co.,
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DUTTON GRINDER
 PERFECT MOWING MACHINE KNIFE GRINDER.
 Can be carried into the field and attached to Mowing Machine Wheel. New Descriptive Catalogue Free.
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 It has been in constant use for nineteen years, with a record equaled by none for simplicity, durability and power. Made of the best material and by skilled workmen. We manufacture both Pumping and Geared Mills and carry a full line of Windmill supplies. Send for catalogue, circular and prices. Address
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WARRANTED not to blow down off the tower, and that our Geared Wind Mills have double the power of all other mills. Address of Tanks, Wind Mill supplies, and the Celebrated
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CYLINDERS ALWAYS BUY THE BEST
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 Best Fences and Gates for all purposes. Free Catalogue giving full particulars and prices. Ask Hardware Dealers, or address, mentioning this paper, **SEDGWICK BROS.,** Richmond, Ind.

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 The most APPETIZING and WHOLESOME TEMPERANCE DRINK in the world. TRY IT.
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 Who is obliged to borrow, should do so on the best possible terms. Write direct to the lender and save Agent's Commissions. Money always ready when papers are signed. NO DELAYS! NO EXTRAS!
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The Hog Sanitarium
 [Patented Oct. 9, 1888, by a practical feeder.]
 For Saving Feed and Work and Protecting Hogs from Disease.

A Granary and Automatic Feeder Combined, to be erected in the Feed Yard. Will store 900 bushels of corn; feed 150 head of hogs. Any farmer can build it.
 For feeding laxative and nitrogenous food, such as Bran, Ground Rye, Ground Oil Cake, Shorts, etc., with Corn, shelled or ground, dry, and without waste; also for feeding salt at all times, thoroughly mixed through the feed. Warranted, when properly used, to save at least 20 per cent. of the feed as usually fed. Not by the direct saving alone, but mostly by reason of increased thrift and rapid and even fattening. Will require for construction about 2,000 feet of lumber and 3,000 shingles for feeder of regulation size. Can be built of less capacity and added to at any time to suit the farmer's needs.

The use of this feeder with a proper supply of nitrogenous and laxative food with corn, will in two weeks' time place the most unthrifty hogs in good condition, if not already infected with cholera. It is the greatest safeguard against cholera. Sanitarium hogs eat regularly and often; never overeat. No mud or filth to consume; all work and waste practically dispensed with.
 The use of shelled corn or meal in the Sanitarium is not half the trouble it is to feed ear corn. Keeps the yard free from litter; gives all hogs in the yard the same chance to thrive, all having equal access to feeder. When you see your corn trampled in the mud and filth you feel like kicking yourself. When you witness hogs eating from the Sanitarium in a muddy time you smile; so do the hogs. You do not hesitate to provide for the comfort of other farm animals; why neglect the hog? He brings a quicker and better return for money invested than any other animal. Protect his health and feed him properly and he will be more remunerative to you. I furnish Permits with full instructions about building and operating Sanitarium on one quarter section or less tract of land, for \$10.00. To introduce it, I will furnish same to first applicant in a township for 25 cents (in stamps), which merely covers cost of papers, etc., and requires building to be erected within sixty days from date of permit. Applications can be made direct to me by mail, and in all cases must be accompanied with description of land on which you wish to build (section, town, range and quarter).
 Above special proposition will be withdrawn July 1, 1889. Agents with good references wanted in every county—stockmen preferred.
 Circulars on application.
 Any party building the Sanitarium, or adopting or using any feature or plan of its construction without first obtaining a Permit or Farm Right, will be subject to prosecution for infringement, and will be proceeded against accordingly.

E. M. CRUMMER,
 Patentee and Owner,
 BELLEVILLE, KAS.

PIONEER BUGGY
 FULL LEATHER TOP. DIRECT TO CONSUMER. SAVING 25 TO 40%. NO MIDDLEMENS PROFITS NOR EXPENSES OF TRAVELING MEN. CATALOGUE & FREIGHT CHARGE TO YOUR PLACE ON APPLICATION.
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TURKISH HAIR CROWER.
 Warranted to grow a beautiful mousetail on the smoothest hair or hair on bald heads, without injury, in 3 weeks or money refunded. 10,000 testimonials. The only reliable article of the kind on the market. Beware of worthless imitations. One pkg., 25 cts., 4 for 50 cts. **EASTERN MAN'G CO.,** Box 127, Boston, Mass.

TWO-CENT COLUMN.

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

SWEET POTATO PLANTS - Now ready. Carefully packed to go any distance. Correspondence solicited. Address B. R. Westcott, Eureka, Kas.

SWEET POTATO PLANTS. - All of the leading varieties at bed-rock prices. Rates given on application. S. Cox, Box 64, Lawrence, Kas.

SWEET POTATO, CABBAGE & TOMATO PLANTS - at \$1.50 per 1,000. Transplanted tomato and peppers at \$3 per 1,000. S. S. Mountz, Belle Plaine, Kas.

FOR SALE - Eggs of W. F. B. Spanish, \$2.50 per setting; P. Rocks, \$1; Pekin ducks, \$2. Each seventh order free. Eggs after May 1 half price. Mrs. Viola W. Gribbin, Virgil, Kas.

RED CEDARS A SPECIALTY. G. W. Tinscher, Topeka, Kas.

SHORT-HORNS. - For sale cheap, a number of choice thoroughbred bulls, cows and heifers. Address or call on W. W. Waltmire, Carbondale, Kas.

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SEED CORN. J. G. PEPPARD, 1220 Union Ave., KANSAS CITY, MO.

SHORT-HORNS AND JERSEYS - Males and females, of any age, for sale by John T. Voss, Girard, Kas.

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WANTED - Everybody that desires to buy, sell or exchange anything of value should try this column. It brings results with little cost.

FOR SALE - A few colonies of pure Italian bees at \$5.50 each, and a few colonies of Carolean and Italian mixed at \$6.50 each. J. B. Kline's Apiary, Topeka, Kas.

WYANDOTTE EGGS - F. J. Ewell, Bird Nest, Kas.

PLANTS! PLANTS! - Cabbage and tomato plants, from open ground, now ready, \$1.50 per 1,000; celery plants, sweet potato plants, \$2 per 1,000; egg plants, \$2 per 100; pepper plants, \$1 per 100; sage plants, \$1 per 100; tobacco, \$2 per 1,000 by express; cactus, \$3 per 100; geraniums, \$5 per 100; moonflowers, strong, 10 to 15 cents each, \$1 per 100; cactus, 10 cents each; 20 cactus, \$1; 15 geraniums, \$1; 20 assorted flowering plants, \$1. Plants by mail. Bonner Springs Nurseries, Bonner Springs, Kas.

2,000,000 SWEET POTATO PLANTS. All kinds. Prices on application. F. Bagtelides & Co., Lawrence, Kas.

FRESH SOFT MAPLE AND ELM SEED. - Prices on application. F. Bagtelides & Co., Lawrence, Kas.

WANTED - Gentle horse for light work two months for keeping. Good care. Address "F," Kansas Farmer's office.

SWEET POTATO PLANTS. All leading varieties, from choice, select stock. Per 1,000, \$3; in 5,000 lots, \$1.75 per 1,000; 10,000 lots, \$1.50 per 1,000; 20,000 lots, \$1.25 per 1,000. C. F. PRimm BROS., Augusta, Kas.

WANTED - All those farmer-boys who are thinking of attending a business college this fall, to know that we will deduct your railroad fare both ways to and from Topeka to any distance not exceeding 150 miles, from the cost of the fall scholarship if you go to our school. All the finest educators and best business men say we keep the best school for a business education in the State. Pond's Business College, Topeka, Kas.

DEBS, HIVES, ETC., PLYMOUTH ROCK EGGS, very cheap. St. Joseph Apiary, St. Joseph, Mo.

WANTED - To negotiate with parties interested in starting a cheese factory or separator creamery. Have some means and fourteen years experience as butter and cheese-maker. Address J. L. Abless, 1023 New Jersey St., Lawrence, Kas.

GARDEN TOOLS. - A full line of Planet Jr. hand and horse tools. Send for pamphlet. Trumbull, Reynolds & Allen, Kansas City, Mo.

Am always in the market to buy or sell SEEDS J. G. PEPPARD, 1220 Union Ave., Kansas City, Mo.

2,000,000 HEDGE PLANTS - 125,000 two and three-year-old apples, 500,000 Russian mulberries, catalpas, etc. A full line of nursery stock. Babcock & Stone, North Topeka.

WANTED - AGENTS. First-class, reliable agents wanted in every county in Kansas to represent the National Mutual Building and Loan Association of New York. Address, with references, E. A. Wagner, Manager, Topeka, Kas.

LOOK HERE! Three pure-bred Clydesdales from imported stock - one three-year-old and one two-year-old stallion, also one three-year-old filly, will be sold cheap. Address James Tweedie, Douglass, Butler Co., Kas.

A BUTTER AND CHEESE-MAKER WANTED - with some money and experience, to take an interest in and manage a factory. Factory nearly new; cost \$7,000. Exhaustless supply of milk. Good market. Or will sell reasonably. Phillip Hoffman, Moundridge, Kas.

SWEET POTATO PLANTS. TURNIP and BEET seed for stock. Soft maple, and all kinds of seeds. Trumbull, Reynolds & Allen, 1426 and 1428 St. Louis Ave., Kansas City, Mo.

FOR SALE - At half value, thoroughbred Short-horn bull calf (Young Mary). Write for pedigree and particulars. Good individual. J. B. Ferguson, Lone Elm, Kas.

BLAKE'S ANNUAL WEATHER PREDICTIONS FOR 1890.

According to Mathematical Calculations, based on Astronomical Laws will be ready for mailing in August, 1889. This will be a larger book than any I have heretofore issued. It will contain tables giving the maximum, minimum and mean temperature, in degrees Fahrenheit, for each month in the year. Other tables give the probable amount of precipitation in inches for each month in the year for each State and Territory, all of the large States and part of the Territories being subdivided into districts with a separate calculation for each, making 158 districts. The weather for part of Canada and the principal States in Europe is also given. The main features of my predictions have proved correct for the last fifteen years, though I cannot always make all the details correct. But they are sufficiently so to enable farmers to know what crops to plant and when so as to insure best results. My advice last year to seed extensively with winter wheat on account of a favorable winter and spring, and because this summer would be too dry for corn, has proved entirely correct. The planetary situation for both this year and next will be such as to produce great extremes, with only short spells of ordinary weather. Neither farmers nor merchants can conduct business successfully without knowing in advance what these extremes will be. To these ordering the book how I send by return mail a confidential letter of two pages giving the main features of the weather for 1890, as it will take me from two to three months to complete the details for the book; while many wish to know the main points now, so as to know whether or not to prepare for fall seeding and as to what plans for the future it is best to form. In future the weather predictions will be found exclusively in these books, and full and complete, with advice as to crop and profits in each State. Price of Weather Tables for 1889 is \$2 per copy, and price of Weather Tables for 1890 is \$3 per copy. Address C. O. BLAKE, Topeka, Kansas.

Wanted NEW SUBSCRIBERS A Big Premium!

Given away to everybody who will send us only two new subscribers at \$1 each. First - We will send Blake's Weather Tables and Predictions to any one sending us two new subscribers and \$2. Second - We will mail the valuable dairy book, "A B C Butter-Making," to any one sending us two new subscribers and \$2. Third - We will send the Home Magazine, a splendid monthly ladies' home journal, one year, to any one sending us only two new subscribers and \$2. These valuable premium offers are open to every reader of this paper. Send in the names, and mention which premium you wish. Address KANSAS FARMER CO., Topeka, Kansas.

WASHBURN COLLEGE. TOPEKA, KANSAS.



FOR BOTH SEXES. Collegiate and Preparatory courses. - Classical, Scientific, Literary; also an English course. Vocal and Instrumental Music, Drawing and Painting, Oratory and Elocution. Fourteen instructors. Facilities excellent. Expenses reasonable. Address PETER MOVICAR, Pres.

BERKSHIRE PIGS.

A choice lot of February and March pigs, the get of the great boars - LONGFELLOW 16835, and MODEL DUKE 17397, and out of sows of equal merit, now ready for shipment. Order early and get the choice. Send for late prize list, showing the winnings of my herd in 1888 at the largest Western shows. New catalogue of the entire herd will soon be out and sent free to all applicants. Address N. H. GENTRY, Sedalia, Mo.

Important Sale of Short-horns

On May 29, 1889, at Independence, Mo., I sell thirty-four Bates and Bates-topped Short-horns. Fifteen Waterloos and Wild Eyes, fourteen Peris and five Gazelles. Catalogues ready. H. M. VAILE, Independence, Mo.

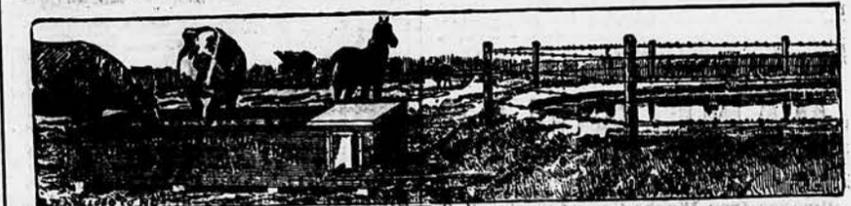
\$65 A MONTH AND BOARD PAID, or highest commission and 30 DAYS' CREDIT to Agents on our New Book. P. W. Ziegler & Co., 523 Market St., St. Louis, Mo.

SEEDS J. G. PEPPARD, 1220 UNION AVENUE, (One block from Union Depot) KANSAS CITY, MO.

W. B. WILHELM & CO., Commission Merchants.

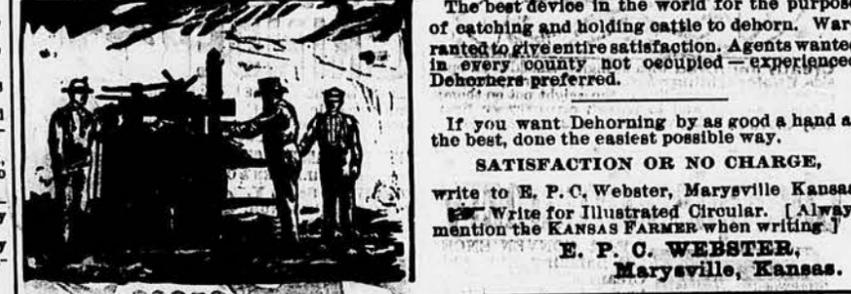
WOOL

Wool Hides, Furs, Sheep Pelts, ETC. CONSIGNMENTS SOLICITED. Formerly HAGEY & WILHELM, Wool Commission Merchants, 4 and 6 North Commercial St., ST. LOUIS, MO. References: - Boatmen's Saving Bank, Dunn's Mercantile Agency, Bradstreet's Mercantile Agency.



AN ENTIRELY NEW DEVICE. An Automatic or Self-Regulating Stock Waterer. Can be attached to barrel, tank or pond. Keeps on hand a constant and regular supply of water. One tank or trough especially for hogs. For detailed description send for circular. Correspondence solicited. Agents wanted. Territory for sale. Manufactured by FERRY & HART, P. O. Box 391, Abilene, Kansas.

Webster Dehorning Chute.



The best device in the world for the purpose of catching and holding cattle to dehorn. Warranted to give entire satisfaction. Agents wanted in every county not occupied - experienced Dehorners preferred. If you want Dehorning by as good a hand as the best, done the easiest possible way. SATISFACTION OR NO CHARGE, write to E. P. C. Webster, Marysville Kansas. Write for Illustrated Circular. [Always mention the KANSAS FARMER when writing.] E. P. C. WEBSTER, Marysville, Kansas.

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