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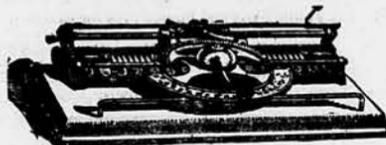
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Agricultural Matters.

SORGHUM FROM THE GROUND TO THE BARREL.

In presenting this article on the growth and manufacture of sorghum, it is my intention to give the results of a large experience in the sorghum business. Having followed the growing and manufacture of sorghum for a great number of years, I shall present no theories which call for a large outlay of money, but will give such practical instructions as will enable the veriest amateur to successfully cultivate and manufacture the crop. I guarantee that any farmer who will follow my instructions, can, with no previous knowledge, grow the crop, set up the machinery and manufacture a superior article of sirup. When we realize that sorghum can be grown wherever corn will grow, and then look at the enormous imports of sweets into the country from foreign lands, we must conclude that it is want of knowledge to a large extent, that keeps the farmers of Iowa from raising their own sweets; for there are no commercial sweets on the market that will compare in purity and for cooking purposes with sorghum when it is rightly made.

The first step towards securing a good crop is the selection of good seed. As it is now too late to save seed for spring planting, the next best thing to do is to send to some reliable seedsman for what is needed. It can be had at from \$1 to \$1.50 per bushel. The variety will depend upon circumstances. If you plant a small patch and expect to run a neighborhood mill, you will want the Amber, as it will make the best sirup, but not so large a yield as some of the others. While the seed crop is hardly worth sowing for feeding purposes, there is no cane grown that will make a sirup to compare with the Amber. If you expect to put out a large crop and sell sirup, then you want to plant the cane that will make a good marketable sirup, and at the same time the largest possible yield, so as to reduce the cost of working. You can strip or cut a large stock as quick as a small one, and yet get more juice out of it. The seed crop on the larger varieties will pay for the harvesting. While the Amber will not yield more than ten to fifteen bushels per acre, the Early Orange, Link's Hybrid, Honduras, and one or two others will yield twenty-five to forty bushels of seed per acre. Then, while the Amber will make about one hundred gallons of sirup per acre, the larger kinds will make from one hundred and fifty to two hundred gallons per acre.

After deciding whether you want quantity or quality, the next thing is to select the ground for your sorghum patch. Herein to a large extent will depend your success or failure. Any natural soil will, if not too wet, produce a good crop of sorghum, but the lighter the soil the better the quality of the sirup. While a clay soil will make a sirup (if rightly made up) as light and clear as honey (and in my judgment far better), a wet, heavy black soil will make a dark-colored, strong-flavored sirup. Almost any kind of manure put on the ground will impart its flavor to the sirup, therefore, we must conclude that for a good, extra quality of sirup we want a light soil; and for an extra quality and a very light color a light clay soil.

Having the seed in readiness and ground selected, you are ready to plant. This should not be done until the ground is thoroughly warmed up, as the sorghum plant is very slow of growth; and when coming up if the ground is

cold and the weather wet, there would be a good prospect for the weeds to take your crop unless you went in with the hoe, and that is what very few Iowa farmers will do. Wait until you are done planting corn, then plow up your ground, harrow until it is perfectly smooth and well pulverized and then plant. Do not let any ground lie more than forty-eight hours after plowing before planting. Plant about one-fourth to one inch deep, in drills three feet eight inches apart, one to two seeds in a place, four to six inches apart in the rows. If the seed is good it will sprout in about four days and will be coming up in a week from the time of planting.

As soon as it is well up, begin cultivating it with the corn plow. The cultivation is an important thing in growing a good sorghum crop. Under favorable circumstances the sorghum plant is a very fast grower, and to secure the most rapid growth the crop should be cultivated at least twice a week until the first of July, after which it should not be disturbed, as continued cultivation promotes continued growth, and the cane will not ripen for the mill before danger from frost.

The cane can be worked at any time after the seed tuft has appeared and the bloom has fallen. The crop when worked up green will make a lighter colored sirup than the same crop would if allowed to ripen its seed before working, but it will not make so much of the sirup nor a sirup that will granulate. For that reason some prefer it worked in a green state, while others want it to go to sugar. It is best to begin working up the crop as soon as it will make sirup, and continue all through the season, thereby getting both kinds for your different customers. Another thing that will control the granulation to a certain extent is the time the cane is allowed to lie after cutting before working; cane worked the same day it is cut, other things being favorable, will largely go to sugar. We have secured at our works under such circumstances from Amber cane 90 per cent. of sugar from the total product; while the same crop which lay in the yard three weeks before working scarcely grained at all. Therefore it is obvious that the quality and kind of sirup made is almost entirely under the control of the manufacturer.

The machinery for working up the crop is now ready to be set up and the most important point to be considered is the saving of labor, as the work around a sorghum mill is hard at best. The works should be situated on a side hill, if possible, so that the juice will have a free run from the mill through the different tanks to the evaporator, thereby saving all handling of the juice. It will be found more economical to provide spouting to carry the juice three or four hundred feet, if necessary, to get the requisite fall, than to dip or pump the juice to the evaporator. In building a furnace do not dig a hole in the ground for the ash pit, but put the entire front end above ground to secure a good draught. From the level of the ground at the front end of the furnace build sixteen inches high and place on your grates, then build sixteen inches above the grates and level up for setting the evaporator on. Put a thick layer of mortar around the top of your furnace and place on the evaporator, pressing it down on the green mortar and leveling it with a spirit-level. The evaporator should be exactly level. Back of the grates the furnace should be filled up with dirt to within six inches of the evaporator to drive all the heat directly against the bottom of the pan. On the side of the furnace next to the mill should be placed the feeder, a tank holding fifty to one hundred gallons of

juice, with the bottom slightly above the top of the evaporator so that the juice will run through a faucet from the feeder to the evaporator. If you do not use clarifying agents you will want two feeders so that in doing job work you can grind one customer's cane into one feeder and the next one into the other while you finish boiling from the first, thereby keeping them separate. If you filter in any way you will need tanks for that and can divide the jobs in them, in which case one feeder will be sufficient.

I have tried different agents for filtering purposes and clay is the best. To filter with clay you need two tanks holding from one to two hundred gallons each. Place one end on top of the feeder, the other end extended toward the mill, and if the tanks are about eight feet long, the end toward the mill should be about three inches lower than the other. Put two spiles in the end over the feeder of each tank, one directly on the bottom and the other about two inches from the bottom. Fill one tank nearly full of juice and put in the clay. There is no rule to follow as to the amount of clay to be used on a tank of juice, as some cane is more easily cleared than others. I use on an average a bushel and a half of clay to two hundred gallons of juice. Stir it until the clay is all mingled in the juice and let it settle a moment. When it is sufficiently cut it will look white and milky. After it has settled a few minutes, carefully scrape the clay to the lower end of the tank with a scoopshovel. The juice will be ready to run off through the upper spile in a few minutes. The clay will have to be scraped from the lower spile by hand before starting it. When rightly filtered the juice looks like spring water while running through the spiles, but has a milky look when in the tank in a body; and is so pure that there will not be over a common pail full of scum taken from fifty gallons of sirup. The clay being in the lower end of the tank, the juice will all drain off into the feeder. While using out of one tank fill and filter the other.

The spout carrying the juice from the mill wants the end joint movable to change from one tank to the other. The mill should be made perfectly immovable, as a very little twist is liable to break a casting. The juice should run from the mill into a box or keg filled with hay or straw to prevent the foam and pieces of stalks from clogging the spout. There should be a strainer placed at every place where the juice leaves one vessel and enters another, and the sirup should be run through a strainer directly from the evaporator. The sirup should be thoroughly cooled before barrelling, as hot sirup will shrink about one-fifth when cold.—J. P. Longfellow, Bedford, Iowa, in *Homestead*.

Applying Green Manure.

EDITOR KANSAS FARMER:—We all recognize the fact that there is only a small per cent. of available plant food in fresh manure, and that it will rot much quicker in a mass, if properly managed, than if scattered over the field and then worked into the soil. With some crops where immediate results are desired, the manure should be thoroughly rotted before applying. But in several years' experience and careful trial I am satisfied that, as a rule, for the average farmer the best and most economical plan of management is to haul out the manure whenever the other work on the farm will permit and there is a supply of manure to haul out, and I find that during the year there are busy seasons when hauling out manure cannot be done without seriously interfering with other farm work, and with a little care at this time it is

readily possible to rot all the manure needed for the garden and truck patch, the most desirable places to use thoroughly rotted manure. At least this has been my experience. I try to make and save all the manure possible, bed the stock carefully so as to keep clean and absorb all the liquid portions of the voidings. All the stock on the place are managed with the intention of securing as large a quantity of manure as possible, at the same time keeping in view the fact that quantity should not be increased at the expense of quality. While I believe in using and in securing well-rotted manure whenever possible, at the same time I am reasonably sure that the safest and most economical plan is to haul out and apply manure, whenever possible, on plowed land; the per cent. that will be wasted by leaching or evaporation is very small if proper care is taken to work into the soil, not any more than will be lost by such causes in the barnyard rotting. I used to think that manure ought to be handled sufficiently to rot thoroughly before hauling out and applying. But from several years trial I am satisfied that, all things considered, the best time to haul out manure is when the work can be done to the best advantage without interfering with the other farm work, and there is a supply of manure to haul out. With very little trouble a place can always be had where the manure can be applied to a good advantage.

N. J. SHEPHERD.

Eldon, Miller Co., Mo.

Fowls should not be killed for several hours after feeding.

Small turkeys are more salable and usually in greater demand than those of large size, though this fact is not generally known.

SAVED.—A fine family of children were all afflicted with scrofula. Two died early; the rest would soon have followed, but for the timely and persevering use of Ayer's Sarsaparilla, which built them up into a healthy and vigorous manhood.

Whenever the work of the farm will permit, it will pay to plow up a good patch for turnips. In anything like a favorable season turnips will yield heavily; and as very little, if any, cultivation is necessary, they can be raised very cheaply.

You can never know till you try, how quickly a dose of Ayer's Pills will cure your sick headache. Your stomach and bowels need cleansing, and these pills will accomplish it more effectually and comfortably than any other medicine you can find.

While grass is undoubtedly one of the very best materials we can use for the cows during the summer, at the same time it will pay to feed a light feed of bran night and morning. Especially is this the case when it is an item to secure as large a flow of milk as possible.

Creameries and Dairies.

D. W. Willson, Elgin, Ill., makes a specialty of furnishing plans and specifications for building and operating creameries and dairies on the whole milk or gathered cream systems. Centrifugal separators, setting cans, and all machinery and implements furnished. Correspondence answered. Address, D. W. WILLSON, Elgin, Ill.

Thirty Miles Disappear.

Thirty miles of journey is a big thing to disappear, but this distance has been dropped out between Kansas City and Chicago. How it happened is thus figured: The Chicago, Santa Fe & California railway is completed between Kansas City and Chicago, and the distance between the two cities is only 458 miles, measuring from Union Depot, Kansas City, to Dearborn Station, Chicago. This is exactly thirty miles less than by any of the old lines, so you have to travel thirty miles less, your freight has to be hauled thirty miles less, and practically the Santa Fe has made thirty miles disappear. A few years at this rate and Kansas will be in New England.

The Stock Interest.

Caring for Sheep.

From the catalogue of U. P. Bennett & Son, Leo's Summit, Mo., importers and breeders of Cotswold and Shropshire sheep, we copy the following excellent suggestions about the care of sheep:

Like all animals subject to the use of man, sheep are liable to disease, or ailments, many of which may be prevented or avoided by timely care and management on the part of the watchful shepherd, and thus many valuable animals be saved. In the West and Southwest, the fatal diseases to which sheep are liable are comparatively few, owing, it is claimed, to the fact that the summers and autumns are moderately dry and equable, and the winters not characterized by excessive dampness. This is certainly an encouraging circumstance, for if the climate is in his favor, the greater the care in the way of comfortable shelter, feed and water, on the part of the attentive flockmaster, the more gratifying will be his success.

We have not been remarkably successful in doctoring sick sheep, and have learned to rely more on "prevention" than on "cure." The lambs are the very life of the flock,—are of the first importance, and being young and tender, are most liable to suffer from neglect. As the summer wanes into autumn, there comes a critical time for them. The heat, the flies, the want of good water, the shortened pasture, and above all, the attacks of parasites, all call for watchful care on part of the shepherd. Excessive heat, worry, and poor water, are no doubt often the causes of diarrhea, which may be intensified by the foulness of the fence corners, or places to which they resort, in which the poor animals try to rest, and where they suffer and many of them die. Much of this suffering may be avoided by furnishing shelter, or shade, from the heat, supplying good water, and by providing some food additional to the pasture. They may be turned into the cornfield, after the corn is laid by, where shade, coolness, and the few bunches of grass and weeds they find in the corn, and the suckers they nibble, will be of benefit to the sheep and no detriment to the corn. These ameliorating precautions will keep the young things in a thriving condition, and where feeding troughs—accessible to the lambs only—are kept supplied with ground feed of bran, rye, and linseed meal, in proportions of three, two and one parts respectively, good results may be looked for. The flock should be seen often, and missing ones hunted up, for immediate attention is often necessary to save a lamb. *Don't neglect the lambs, then! Treat them well and they will pay well.*

In the management of the flock, clean, dark apartments should be provided for the sick animals; and if larger accommodations be furnished for the well ones, they may escape from many of the insects that torment them, especially the sheep gad-fly, and others producing internal parasites. During July and August the noses of the sheep should be smeared frequently with tar; and the produce of the blow-flies—maggots—may be destroyed by using crude petroleum, which is healing and cooling to the injured parts. And for looseness of the bowels, a dose of ten drops of the following mixture, given hourly, will give relief, if the trouble has not run too long, viz.: Four drachms tincture of rhubarb; 2 drachms tincture of opium, and 2 drachms tincture of camphor. This given in a little molasses to cover the pungent taste is poured on the tongue and quickly swallowed.

It is a fact, well established, that sheep, grain-fed, and well protected

from the rigorous, wintry storms, will furnish wool of a much stronger fiber, making a more durable fabric, than wool clipped from sheep not thus cared for with shelter and food. They should not be allowed to fall away in flesh before going into the feeding yards and barns for the winter, for every time this occurs the magnifying glass has revealed to us that a weak place will be found in the fiber. No more can good, heavy fleeces be raised on hay alone than prime mutton can be produced in freezing weather without grain being the larger part of the ration. Turnips, carrots and beets may be cheaply grown and profitably fed; at all events, as the pastures become dry, let the sheep have one feed a day of something better than they can pick up in the field. And where this liberal, systematic feeding of beets, turnips and other varieties of food adapted to promote the succulence of the meat, is continued through the winter and on till grass, an increased return will be realized in the wool clip, and such of the flock as are intended for mutton may go to market at an early day.

A Mistake in Sheep-Feeding.

To have things just right with sheep requires careful management. Sometimes I think it is more luck than otherwise to have them do well at lambing time. This conclusion is pressed upon me this spring more than ever, for this year more than ever I was determined that my sheep should pay. They had been fed clover hay and meal all winter, until a couple of weeks before the lambs were due to come, when the clover hay ran out. They were then given timothy with a little clover in it. The turnips had been fed so freely to all of the stock that they were used up, and the bins of small potatoes were resorted to, to take the place of the turnips. One day a sheep was noticed to have the stretches and to refuse to eat. A dose of raw or unboiled linseed oil was given to her at night, and the next morning she could not be picked out from the others.

Then the lambs began to come. They were strong and seemed all right for a day or two. The first one, when a day old, got weak and died. The next one started in the same way, but a teaspoonful of linseed oil moved its bowels and it lived. Another was born and the mother's udder was caked so hard she would not let it suck. This lamb was a precocious fellow, for it had horns a quarter of an inch long when it was born. While fussing with these lambs the sheep which had lost her lamb suddenly refused to eat and in an hour or so could not stand up, and soon after died. There is no doubt in my mind that all this ill luck and series of mishaps during the growing time was occasioned by the change of food. This I do know, that there is no food so natural to sheep, and so exactly fitted to keep them in perfect health, and to prepare them for lambing time, as a steady feed upon bright clover hay. I would have bought it, but the roads were in such a condition that it could not be hauled. Mr. Woodward, a successful sheep-breeder and feeder, has fed potatoes to sheep with success. I never fed them before, and do not condemn them now. My point is that it was a mistake to make the change so close to lambing time, in the hay and roots. Merino sheep always do best when fed on clover hay and allowed to have their lambs after being turned out to grass. I should recommend to all beginners never to have the lambs come until the sheep are out to pasture. There will be less trouble with the udders, and the little lambs will be more active and much less liable to be afflicted with colic.

The milk of the sheep is evidently easily affected by the food, and also the tone and strength of the ewes. I have never had so much trouble as this spring, and I cannot account for it in any way except the changes of food at a critical time. I have fed ewes on straw and oats, and had but little trouble and loss. At this time they were fed more liberally with oats, from a quart to three pints each. One year I fed the ewes corn, and they all had udders more or less caked, and would not let the lambs suck, although they nursed them all right. Seven died before this trouble was found out. Since then corn has not been fed to the breeding ewes. My best success has been when clover hay and turnips were relied on, with

oats, bran and linseed meal in small quantities.

While the Merino sheep is the most hardy, and will endure the most exposure, the lambs at birth are the most delicate, and the ewes require the most care in their food to produce enough milk, and to prevent caking of the udders when there is a bountiful secretion. My Downs have given me no trouble. It seems natural and right for them to have lambs in cold weather, and they always have milk enough, and the lambs are rarely helpless or sick with any stomach troubles.

The men who succeed best in this vicinity have cross-bred, medium-wooled sheep, and they winter them upon clover hay without any grain until after the lambs are born, when the ewes are fed a little. There is no question about it that clover hay and turnips must furnish the basis for our sheep husbandry, if we are to have the assurance of success, and keep the cost down to a level to correspond with the present prices of wool and mutton. The Merinos must be left, in their yeanning, to the beneficent influences of fresh grass and warm sunshine, to lay a foundation for success with them.—F. D. Curtis, in *Country Gentleman*.

Economy in Feeding Stock.

Prof. James Long, the well-known English writer on dairy matters, recently delivered a lecture before the Cirencester Chamber of Agriculture, in which he discussed the milking qualities of well-bred Short-horns, the comparative advantages of grazing and soiling cows, the value of certain foods, etc. We take the following from a summarized report of the lecture from the *National Live Stock Journal*:

"The subject of feeding cattle in the most economical and effective way is one of supreme importance to every agriculturist. In the feeding of plants, chemistry has shown that nitrogen, phosphoric acid, and potash are absolutely essential to the growth of plants, so that every natural or artificial fertilizer must contain a certain proportion of these constituents before it can be a complete and well-balanced manure. If any of these constituents be given in excess of the plant's requirements it is simply wasted, or has to be left over till the balance be restored; and, on the other hand, if any of these constituents are deficient, the growth of the plant will be strictly regulated by the amount which is provided of this essential. It is much the same with the feeding of cattle, though the essentials of a complete food are not so strictly differentiated as to their precise functions in the animal economy. Every complete food must contain a certain proportion of the nitrogenous or albuminous compounds which mainly form flesh, and of the carbo-hydrates and fat which form the fuel required to maintain the temperature of the animal, and serves various other uses in the animal frame. If the nitrogenous or flesh-forming compounds are given in excess of the carbo-hydrates and fat the animal is unable to assimilate all the available nitrogen, and that amount of excess passes into the manure. On the other hand, if the proportion of carbo-hydrates and fat be in excess of the proper proportion of nitrogenous substances, which should be as one to five of the non-nitrogenous substances, the progress of the animal in the laying on of flesh will be in accordance with the amount of nitrogen provided, and not in accordance with the amount of non-nitrogenous food supplied. As bearing upon these important points, some remarks made by Prof. Long in the course of a recent lecture before the Cirencester Chamber of Agriculture may here be noted.

"At the outset of his lecture, the Professor said he sincerely believed that pedigree in their cattle was responsible for a great diminution in their milk supply. Pedigree Short-horns were prominent offenders in this respect, and in too many cases they had a pedigree of meat, while they ought to have a pedigree of milk as well. Two well-known families—the Gwynne and the Waterloo—were specially referred to as stock which would give meat instead of milk. The Professor's sweeping condemnation of pure-bred Short-horns was sharply challenged by Mr. Charles Hobbs, who stated that a cow of his which was sired by a Waterloo bull took first prize as a milk-producer at the dairy show, regard being had

both as to quantity and quality. It may, however, be admitted that while it was very unsafe to single out any particular families as inferior in milking qualities, yet it is at the same time true that breeders of pure stock have in many cases aimed at well-covered symmetry and early maturity rather than milking qualities. It is possible, too, that the common practice in pure stock breeding of allowing the calves to be their own dairy maids, as Mr. Kyd phrased it at Cupar last week, may have affected to some extent their milking qualities, as the calf would not be able to use all the milk that a heavy milker would yield, and the milk supply would thus dry up to some extent. But at the same time there are many families even of pure-bred Short-horns and Aberdeen-Angus cows that have fully proved their capacity as excellent milkers.

"Passing on to the main object of his lecture, the feeding of cows, Prof. Long urged that grazing was an expensive and wasteful feeding. He was, therefore, strongly in favor of soiling the animals by carrying the forage to them in the stalls. The advantages of soiling, as compared with pasturing, are that when the food is thus brought to the animals in the stalls, there is less waste of the animal frame than when they have to walk any considerable distance to the field, and then collect their food over a wide enclosure. There may also be some loss saved in the bleeding of the grasses. When the grass is not cut till full-grown, there is only one loss from bleeding; but when it may be cropped six or eight times in the course of the summer, the loss from bleeding may be greater. In soiling, too, the cattle may be kept at an equable temperature, whereas in grazing a considerable loss of milk and flesh is often caused by exposure to cold as well as galloping round the parks when pursued by flies in the heat of summer. Besides, when the animals are pastured rather than soiled, the droppings are to some extent wasted. By their compactness they more or less smother the grasses beneath them, while the grasses round about them grow up rank and coarse. They are also subject to loss by washing away, and by worms, rooks, etc., while they can not be fermented as the manure in courts or heaps can be. But, in spite of these facts, it is still a contested question among chemical experts whether the added labor of soiling would compensate for its advantages, while the experience of practical farmers in Scotland, at least, is almost invariably in favor of pasturing, both for milch cows and feeding stock.

"As to concentrated foods, Prof. Long declared emphatically for cotton cake in preference to any other as a source of nitrogenous or flesh-forming matter, and one of the principal reasons why he recommended it was that its manurial value was so high. According to Sir John Lawes, if a ton of cotton cake cost £6 it returned £4 to the soil, and it is admitted on all hands that the manurial value of cotton cake is very high. In regard to this, however, we can not help remarking that the best and most successful feeders rarely finish their cattle with cotton cake, but use linseed cake instead. It is quite true that cotton cake has about twice the amount of nitrogenous compounds to be found in linseed cake, and is about equal to it in respect of oil; but the nitrogenous compounds in the linseed cake are possibly in a more soluble and easily assimilable condition than those in the cotton cake. As to the high manurial value of cotton cake, it is quite evident that this must be the result of the nitrogen in the cake not being fully assimilated by the animal, so that it consequently passes into the manure. You can not have your cake and eat it, is an axiom of every-day life, and, in the same way, the feeder can not have the nitrogen in the cake formed into the flesh of the animal if it is to be found enriching the manure heap. This may serve to explain why the best linseed cake maintains its place as the favorite cake, notwithstanding the higher percentage of nitrogenous compounds and oil in the analysis of the cotton cake, and the very high manurial value which the latter is credited with possessing.

"In comparing the value of the manure with the market prices of the food, Prof. Long quoted the results of an experiment made by Prof. Henry in America. Four cows were fed in stalls for fourteen days, and the food given them, together with their milk and manure, were carefully analyzed. The food was found to contain 22.86 pounds

of nitrogen, 17.65 pounds of phosphoric acid, and 19.09 pounds of potash. In the milk and manure were 21.19 pounds of nitrogen, 18.16 pounds of phosphoric acid, and 14.22 pounds of potash. The phosphates in the milk and manure were thus in excess of those supplied in the food. This result, to say the least, is calculated to make many feeders question the accuracy of the analysis, and the only possible explanation of it is that if the analysis be correct, the cows must have been falling off in condition considerably, which does not look like scientific feeding.

"But while it may not be possible to agree on every point with Prof. Long, no one can fail to recognize his ability and the zeal he has displayed in advocating a great improvement in our dairy system. As a prominent and ardent worker in the field of scientific education, he has done good service to the country in general and the dairy community in particular."

In the Dairy.

TONGANOXIE DAIRY ASSOCIATION.

In the southwestern part of Leavenworth county is a region of country well adapted to dairying. The surface is rolling; it is well watered with streams and springs; tame grasses grow well, and all kinds of grains and fodders are produced in perfection. Two years ago, or thereabouts, Mr. E. S. Dix and his sensible wife, with Mr. and Mrs. W. H. H. Whitney, Mr. and Mrs. A. A. Cheeseman, Messrs. W. C. and J. M. Phenicie, E. G. Cheeseman, M. Davies, G. M. Wilkinson, H. V. Needham, Charles Baldwin, H. Balliet, H. Buckingham, and others with their wives, organized themselves into the Tonganoxie Dairy Association. Most of them own large farms, ranging from one to four sections of land each. The membership is now something upward of fifty. Meetings are held twice a month, usually at the residence of one of the members—(the first one was held at Mr. Dix's, where the association was born and christened). The members make purchases of dairy goods through the association, and co-operate in every way possible. The product of the association has been handled chiefly by Mr. and Mrs. Dix, who purchase from the members their butter at stated prices—about three cents the pound below Kansas City market rates, and then forward to regular customers at that place. The last year they marketed, part of the time 800 to 1,000 pounds of butter daily.

Wednesday of last week, June 6, the association had an open-air meeting with picnic accompaniments, in a beautiful maple grove on Mr. Whitney's place. Old Kansans who remember the Santa Fe trail will know where the grove is when they are reminded that the old Nine Mile House (out from Shawnee) on Nine Mile creek, still standing, is in the edge of the grove. By special invitation of the Executive committee, the editor of the KANSAS FARMER was present. He was met at the depot—Reno—by Mr. Whitney, with his pure-bred buggy mare, and driven some miles over his and his neighbors' farms, looking at grain and pasture fields and herds of fine cattle, in charming landscapes.

The association was called to order after dinner, by President Dix, and the following proceedings were had:

1. Remarks by Mr. Peffer, of the KANSAS FARMER, on the importance of a social awakening among farmers as a first step toward a higher and broader education, to the end that they shall not lose ground in the race with their fellow men who are engaged in other callings.

2. A well delivered recitation—"Lifting the Mortgage"—by Miss Mary Carter. Miss Carter spoke easily and gracefully.

3. An address on "Selection of Dairy

Cows," by Mr. A. A. Cheeseman, who does not feel disposed to discard "the little Jersey" just yet. Mr. Cheeseman is a practical man; he gave some good suggestions on points which purchasers should remember when they select cows.

4. A twenty-minute talk on "Butter-making forty years ago," by Mr. W. H. H. Whitney, who told how "my mother made butter," with the old-fashioned dash-churn, and without any knowledge or thought of scientific principles involved.

5. A paper read by the President, E. S. Dix, as follows:

THE RATION OF A DAIRY COW AND THEIR PRODUCT.

The proper ration of a dairy cow is a subject to which dairymen should give their most careful attention, as it is the one thing more than all others on which the profit of the dairy depends.

Chemistry has shown that all the food an animal eats is divided into two great classes—protein and carbo-hydrates; there are other minor classes of which it is not worth while to speak, as these two are the chief divisions. Protein is that substance in the food that enters into the formation of the milk, muscles, bones, etc.; carbo-hydrate chiefly goes to make up the fat. Carefully-conducted experiments and the long experience of our best dairymen show that a ration on which a dairy cow does best is one that consists of one part of protein to five parts of carbo-hydrate. There are tables published that show the exact proportion of protein and carbo-hydrate in each kind of grain and roughness that we use. These tables are very valuable in showing us how to feed properly. Corn, for instance, is a grain that should never be fed alone to a dairy cow, except in connection with clover or very early-cut millet. In feeding corn fodder we should always feed oil meal, bran or oats, being most valuable in the order named.

Timothy hay is a roughness that is very hard to feed properly, on account of its running largely to the carbo-hydrate, the proportion being one to seven. A good ration for timothy, and one that I have used with good results this last winter, is

No. 1.—Twenty pounds timothy; eight pounds bran or oats; two pounds oil meal.

The following are some very good rations, combining in their proper proportions the various foods we have available:

No. 2.—Twenty pounds mixed hay; eight pounds bran; two pounds corn meal; two pounds oil meal.

No. 3.—Twenty pounds clover hay; ten pounds corn meal; two pounds bran.

No. 4.—Twenty pounds corn fodder; ten pounds bran; four pounds oil meal.

After we have fed and cared for our cow properly, it is her part to turn the food that we have given her into goodly quantities of milk and butter, and failure on her part to do so should send her to the butcher. You have been told how to select a good cow by her form and looks, but the thing is the final test as to whether after a cow has all the desirable qualities in looks you wish to keep her in your yard.

No man should be content with his herd unless they give him at least 250 pounds of butter per year to the cow, and after he reaches that, he should strive for better results. There are herds of practical working cows that give 400 pounds butter per year to the cow, and what others do, so can we.

Of course we read of the immense yearly yields of Clothilde among the Holsteins and of Euros among the Jerseys; we cannot expect to own herds such as these, but as we know what has been done, we can put our standard high, and if we do not quite attain the mark our average will still be very high.

In conclusion, brother dairymen, get good cows, feed them properly and take good care of them; always strive each year to get more butter to the cow than the last, and the cow will take good care of you.

The writer hereof acknowledges the receipt of many friendly attentions from the members of the association, both gentlemen and ladies, which he appreciated highly. The Tonganoxie Dairy Association is made up of live men and women who are working together in pleasant and profitable relations. They propose to increase their usefulness and influence, not only among themselves, but among their fellow men and women generally.

The KANSAS FARMER wishes them abundant success. It will extend a helping hand in every possible way. They are doing a grand work socially,

and their financial success has exceeded original expectations. We would be pleased to have a brief report of their meetings whenever any subject of general interest is discussed.

CHEESE-MAKING ON THE FARM.

One of our readers, who has a small herd of dairy cows from which he is making a very excellent quality of butter, which brings a price considerably above the highest market quotations, asks us to tell him, through the *Farmer*, how he can obtain a still greater income from his dairy, by making cheese in connection with his butter-making. We are not quite sure that there is not a better way to dispose of the skimmed milk of a small dairy than to attempt the manufacture of cheese, for the making of really good salable cheese, from skimmed milk, is an art that very few have yet become master of in this country, and we are somewhat in doubt as to whether the business could be profitably carried on upon a small scale. The simple rules for cheese-making—like the simple rules for butter-making—may be learned by any person of ordinary intelligence with very little effort, and in a short time, but to become a good butter-maker, or a good cheese-maker, must require long practice, and a good deal of close application to what might at first seem like very small matters. We remember well our early experience in a farm dairy cheese-room, and it seemed a very simple matter to set the milk, warm it to the proper temperature, by the "rule of thumb," put in the rennet, wait till the curd had "come," then break fine with the hands, gradually dip off the whey, and afterwards to sprinkle with salt, and put the cheese to press. Nor did it seem to require much skill to turn the cheeses daily, and rub them over with some kind of grease to keep out air and insects. But when it came to cut the different cheeses for use, it was rarely that any two were found to be as nearly alike as two samples of fresh butter made at the same dairy.

And the cheeses were chiefly new milk cheeses too, which are deemed much easier to make than skimmed milk cheeses of good quality. We have no idea that a chapter on cheese-making had ever been read in that dairy, and we are sure that a thermometer had never been seen in the house at that time. The milk was collected from a herd of four or five cows, and at a season of the year when it was considered too warm for making good butter, most of the dairy cheese being made on small farms during the hot, "dog day" weather of July and August. These cheeses from the four-cow, or five-cow dairies, were not more than ten or twelve inches in diameter, and about four inches or less in thickness, and when at their best were pretty dry by the time they were cured. Occasionally two or more farmers' wives would club together and make up the milk from the combined herds alternately, so that each would have a few larger cheeses, that would keep without drying so hard. The less socially inclined frequently made up two days' curds into one cheese, but this method involved some risk on the score of quality in the finished product, the curd of the first day not always keeping to the entire satisfaction of the dairy-woman. During the hot weather, the whole of the cream went into the cheese tub, though from the appearance of the whey-butter taken from the whey tubs there was not a little waste of cream during the process of manufacture. Many of the hot weather cheeses puffed up after being put upon the shelves to cure, and leaked whey continually, and some cracked badly, while an occasional specimen would go all to pieces and have to be thrown to pigs or hens.

Later in the season a few cheeses for early use were made from milk from which a portion of cream had been removed for butter-making, and to many tastes such late-made, partly-skimmed cheese, was more acceptable than the so-called, whole-milk cheese, with its variable qualities. These late-made cheeses were often improved in texture, and perhaps in flavor, by the addition of fresh buttermilk to the milk in the curd tub. In some small dairies cheese-making is still carried on by the crude methods we have described, but except for home use, and for the satisfaction to be gained from doing a thing that is

out of fashion, we can hardly recommend the practice, especially in farm homes, where the housekeepers are already overburdened with hard farm work.

Still, the fact remains that the skimmed milk on our dairy farms, when it is fed to old, fattening hogs, is not utilized as it should be. There are a few dairymen in New England who have made a success of butter and cheese-making combined, but most of them have owned or controlled a large number of cows, enough so that they could afford to provide themselves with the apparatus necessary for doing the work in an economical manner. J. T. Ellsworth, of Barre; G. W. Whitney, of Williston, Vt., and the late E. D. Mason, of Milton, Vt., have all been highly successful in making cheese from milk from which a portion of the cream had been removed for butter-making. The "Powell" process of butter and cheese-making is also being carried on at the present time in one or more of the large Vermont dairies, where both products are made from the same milk, the buttermilk being also added to the cheese.

We are aware that there is a strong prejudice in the minds of many honest men against skimmed milk cheese, just as there is a strong prejudice against skimmed milk in any form, but if a large portion of the cream is wasted by the usual process of manufacturing new milk into cheese, owing to the want of skill on the part of the worker, we cannot see why a skilled cheese-maker should not be able to make a fair article from milk which has been purposely skimmed in part. So long as the consumer will pay new milk prices for skimmed milk, and pronounce it entirely satisfactory, we certainly cannot see why a man possessing the necessary skill to make a good cheese from partly creamed milk, should not do so, and thus turn a product into wholesome and palatable food for man, that usually goes to the swine.

We could give plain directions for making cheese in the family dairy, and in a future number may do so, and thus enable novices to gain some knowledge of the practice, as well as the theory, but an expert cheese-maker, like an expert in anything, must have had a long experience in all the practical details of his business. If our inquirer could visit a few successful cheese-makers and learn what system to adopt, and could then hire a competent and reliable man to take the lead in starting the enterprise, and could then increase the size of his dairy, to a profitable basis, or could secure the milk of his less enterprising neighbors, he would seem to be in a fair way of bettering the condition of both himself and those around him. It is enterprise and more practical knowledge upon farm processes that is wanted, to place the farmer upon that higher level which he is so anxious to reach. Skimmed milk can be made a much greater source of profit than it usually is by feeding it to a better class of young animals, be they calves, pigs or chickens, but there would be still more value in it if put into wholesome and attractive forms of human food.—*New England Farmer.*

WELLS, RICHARDSON & Co's

IMPROVED
Butter
Color.

EXCELS IN { STRENGTH
PURITY
BRIGHTNESS

Always gives a bright natural color, never turns rancid. Will not color the Buttermilk. Used by thousands of the best Creameries and Dairies. Do not allow your dealer to convince you that some other kind is just as good. Tell him the BEST is what you want, and you must have Wells, Richardson & Co's Improved Butter Color. Three sizes, 25c. 50c. \$1.00. For sale everywhere. WELLS, RICHARDSON & CO. Burlington, Vt.

(33 Colors.) **DIAMOND DYES**

are the Purest, Cheapest, Strongest, and most Durable Dyes ever made. One 10c. package will color 1 to 4 pounds of Dress Goods, Garments, Yarns, Rags, etc. Unequalled for Feathers, Ribbons, and all Fancy Dyeing. Also Diamond Paints, for Gilding, Bronzing, etc. Any color Dye or Paint, with full instructions and sample card mailed for 10 cents. At all Druggists WELLS, RICHARDSON & CO., BURLINGTON, VT.

Correspondence.

Watch the Cocoonery.

Mrs. Mary M. Davidson, Silk Culturist, Junction City, writes:

This is the most important and critical period for our silk crop, and as we are having a very cool season with frequent rains and the nights unusually cool, I fail would give a word of warning to the amateur raisers. There should be strict attention paid to the temperature of the cocoonery; one failure in this may cause the loss of the entire crop. It would be well to have a fire in the cocoonery every night during the last age of the cocoons. Those that were hatched the 10th of May are now ready to make their cocoons. The season has been so very cool that the worms will not mature as early, hence a longer period of feeding. The silk will not flow as readily in a cool atmosphere; it must be above 80 deg.; in fact, it will not flow at all, and a sudden fall to below 70 deg. the worms will be chilled and leave the cocoon half completed and die, rendering them worthless.

By official reports kindly sent us from the Department of Silk Culture, Washington, D. C., by Hon. Phillip Walker, we learn "That the crop for the last year was slightly greater than that of 1886, about 2,200 pounds of dry cocoons having been purchased at Washington, 2,100 at Philadelphia and 1,700 at Peabody, Kas. The State of Kansas produced about 1,800 pounds of these, which was more than the States of Ohio and Illinois, the second and third States on the list." The above should surely be encouraging to those engaged in silk culture and stimulate others to engage in the work. We learn, also, that a company has been organized in Jacksonville, Florida, for the development of the silk industry of that State on an extensive scale; 300 acres are to be planted in mulberry trees near the city. New York capitalists have subscribed \$50,000 to the enterprise.

There has been a Southern Land and Silk Association formed in Baltimore, Md., capital stock \$150,000, chartered by ladies. There is an example for our Kansas women to follow. They have taken the lead in so much that is good we shall expect not to follow but inaugurate a still grander enterprise.

About Effects of Dehorning Cattle.

EDITOR KANSAS FARMER:—In the issue of May 3 of the FARMER I noticed an article from Mrs. Webster, in which she states that cattle that were dehorned in December were still suffering with sore and matted heads, and others that were dehorned this spring were dying from the effects of flies. Since reading the article I have fully investigated the matter and have found that Mrs. Webster had been misinformed. In the herd referred to that were dehorned in December, I found that there were but two out of the seventy head dehorned that matted at all, and those two had stopped running and were all right within six weeks from the time they were dehorned. In the herd referred to that were dehorned this spring, while there are quite a number that have been fly blown, but one of them died, and that one some time since the article was written; and I do not think the cause of that one's death can be laid entirely to dehorning, for five head died out of the same herd last winter and spring before they were dehorned.

There are a number of cattle in this vicinity that are singularly affected, the cows dry up on their milk, the udder gets hard, the teats get sore and turn black and peel off as though they had been frosted. Some get sore spots on their bodies, the skin scales up and the hair comes off. Some think it is caused from eating wild mustard. It can not be laid to dehorning, for there are as many cattle affected with it that have not been dehorned as there are of those that were dehorned. The cattle that have suffered the most from the effects of flies and have been the slowest to heal up are the ones that have been affected with this malady.

There is no necessity for stock dying from the effects of flies if taken in time, and the owner sees to it himself instead of leaving it to the hired man and boys. Clean the maggots out and blow in calomel with a quill is one good way. JOY BISHOP, JR.
Delphos, Ottawa Co., Kas.

ADVANCE IN MEDICAL SCIENCE.

A Well-deserved Compliment Paid to Dr. F. C. Dillings, One of Topeka's Most Successful, Best Informed Physicians.

The wonderful reputation achieved by Dr. F. C. Dillings in the successful treatment and cure of chronic and other diseases, has become the common talk of citizens of Topeka and Kansas, and the envy of other practitioners. A description of the Doctor's office rooms, medical library, medical appliances and instruments, and his method of treatment, which we clip from to-day's *Commonwealth*, will in a measure explain how Dr. Dillings has acquired his great reputation:

"It is perhaps unlikely that the general public appreciate, or know of the degree of proficiency to which one certain physician located in our city, has advanced in the treatment of stubborn, obscure and dangerous diseases, though they have heard and read of many truly wondrous cures effected through his skillful eclectic (eclectic meaning to choose from every method and every medicine) treatment. Dr. F. C. Dillings is the gentleman we are taking occasion to write about, and whom we believe to be a truly progressive physician and a public benefactor. The editor of the *Commonwealth* was instructively entertained during an hour of yesterday's gloomy, rainy weather, by being shown through the Doctor's splendid office and reception rooms, 111 East Sixth avenue, and is free to say that he was surprised at much that was there disclosed to view, as he had no idea that outside of the large cities, like Chicago or New York, would be found such evidences of progression and familiarity with the art of healing. Our attention was especially attracted by a wealth of recently issued medical literature by eminent authors, one very remarkable work of ten numbers having cost one hundred dollars, and many scores of rare and costly anatomical plates, illustrating every possible diseased condition, with the most advanced and exhaustive medical treatment according to the most approved methods appended; also, improved and life-like manikins of the human form, showing every muscle, every nerve, every bone and every organ, its use and function. Many new and rare medical appliances and instruments were shown, and many successful methods of cure for serious diseases explained. The Doctor's large and well-stocked laboratory was also invaded, and our attention called to a great number of costly and rare medicines said to be specifics for numerous diseases that by the usual medical treatment are known to be incurable. Altogether these offices and operating rooms of Dr. Dillings are a revelation. They are well adapted and appointed for the reception of the sick; a very temple of healing, presided over by the prince of physicians, whose strange and unusual success has made him well and favorably known to an army of suffering ones in Topeka and the commonwealth of Kansas.

"In thinking of Dr. Dillings it will be well to remember that he is an 'eclectic,' and chooses his medicines and means of cure from every source, and that one method of treatment employed by him is the 'magnetic treatment,' for the giving of which he is naturally qualified to an extent that astonishes all.—*Daily Commonwealth*.

—The above clipping from the *Topeka Commonwealth*, together with kindly comments by the *Kansas Democrat*, are printed for the benefit of the readers of this paper who may be in need of the services of a truly successful physician. Without doubt Dr. Dillings is the best patronized and most talked about physician ever in the capital city. The press and people unite in declaring his cures to be perfect marvels in the healing art, aside from his hundreds of patients in Topeka and Shawnee county he successfully treats by correspondence, large numbers of the sick who are located all over Kansas, and sends medicines everywhere. He is permanently located at 111 East Sixth avenue.

Inquiries Answered.

DEHORNING CATTLE.—What effect, if any, does dehorning have on cattle that have the hollow-horn?

—No such case has yet been reported. Who can answer?

CHEESE FACTORIES.—A correspondent asks about the location of cheese factories. If proprietors of all dairy establishments in the State, of whatever character, would favor this office with their names and places of business, giving the particular line they follow, it would be serviceable to them and to us in many ways.

PICKLES.—Will you or some of your readers give the method used in large establishments for pickling cucumbers by the barrel, similar to those sold in groceries by quantity and ready for use?

—We gave a recipe two or three years ago in the *KANSAS FARMER*. Will hunt it up and republish.

CHEESE-MAKING, ETC.—Is there any home arrangement that could be made without much expense to answer the place of a curd mill, if so please describe it? Could you recommend fly-proof cheese dressing? What advantage is the floating thermometer over the other, and how is it used? At what place? What is the cause of a cow being hard to milk? Are the milking tubes of any advantage in milking a cow? Are they any way injurious to a cow?

—Referred to Mr. R. L. Wright, of Shawnee county, for detailed answer.

IS IT BUTTON FARCY?—I have a mule with sores on breast, knee and pastern joint of right fore leg, and can find no one that knows what it is. Lumps form from the size of a hazel nut to the size of a hen egg (being larger on breast and knee) and are very slow in coming to a head (sometimes as long as six months), and when once opened will not heal up but keep running and forming a pipe which appears to be just under the hide, and after awhile the hide becomes calloused. Has been in this condition for over a year. The mule is hearty and looks well, does her full share of work and keeps sleek and fat. Should like to know what it is, and the cure if there is any. Can the State Veterinarian be consulted in such cases?

—It will require a professional examination to determine what the real trouble is. There is no State Veterinarian now. Address, with very complete history and description of case to Dr. F. H. Armstrong, 212 West Sixth street, Topeka, referring to *KANSAS FARMER*.

Gossip About Stock.

Remember that we can supply "Haaff's Practical Dehorner," the best book on the subject ever published, for only \$1.25, or we will send it and the *KANSAS FARMER* one year for only \$2.

Attention is directed to the breeder's card of Messrs. Zinn & Lackey, of Topeka, who have a very excellent herd of Holstein-Friesian cattle, and are now ready to supply all classes of cattle of this breed.

E. S. Shockey, Topeka, says: "Interested parties are circulating the story that I am out of the Hereford business. In order to impress upon their minds that I am still on deck and very much alive to my own business, I now offer good registered bulls at \$50 to \$100."

We especially desire every reader of this paper who may be needing Cotswold or Shropshire sheep, Short-horn cattle, Berkshire swine or poultry, to look up the advertisement of U. P. Bennett & Son, Lee's Summit, Mo. They are old and careful breeders and reliable in every respect.

C. S. Eichholtz & Son, Wichita, Kas., who have a grand herd of Short-horn cattle, write as follows: "As long as we are in the cattle business we will keep a card in the *KANSAS FARMER*. It is the best advertising we have ever used." Western breeders who advertise in this paper right along testify in like manner.

F. W. Truesdell, Lyons, Kas., Vice President for Kansas of the National Association of Expert Judges on Swine, requests all swine breeders of Kansas to write him at once and give their views as to the advisability of calling a meeting for the purpose of organizing a State Association of Expert Judges on Swine, as an auxiliary to the National Association.

A Great Book Concern.

The principal wholesale and retail establishment for books and stationery in Kansas for a number of years was the well-known house of T. J. Kellam, of Topeka. He has enjoyed the best and largest trade of any similar house in the West. Recently, however, owing to the constantly-increasing business, it was found necessary to organize a new company with increased capital, and accordingly, on June 4, a stock company was incorporated as the Kellam Book and Stationery Company, with the following Directors: T. J. Kellam, H. L. Shirer, T. S. Hand and J. H. Ingraham. All of these gentlemen have been identified with the establishment and are practical and progressive book men.

The Kellam Book and Stationery Company is the only wholesale firm of the kind in the State and supplies many of the cities over the State with goods, besides supplying a large portion of the stationery for the Santa Fe offices.

Any of our readers desiring books of any kind, stationery, etc., need have no hesitation in sending their orders to this firm, as they are reliable and prompt in every respect.

Dress the Hair

With Ayer's Hair Vigor. Its cleanliness, beneficial effects on the scalp, and lasting perfume commend it for universal toilet use. It keeps the hair soft and silken, preserves its color, prevents it from falling, and, if the hair has become weak or thin, promotes a new growth.

"To restore the original color of my hair, which had turned prematurely gray, I used Ayer's Hair Vigor with entire success. I cheerfully testify to the

Efficacy

of this preparation."—Mrs. P. H. Davidson, Alexandria, La.

"I was afflicted some three years with scalp disease. My hair was falling out and what remained turned gray. I was induced to try Ayer's Hair Vigor, and in a few weeks the disease in my scalp disappeared and my hair resumed its original color."—(Rev.) S. S. Sims, Pastor U. B. Church, St. Bernice, Ind.

"A few years ago I suffered the entire loss of my hair from the effects of tetter. I hoped that after a time nature would repair the loss, but I waited in vain. Many remedies were suggested, none, however, with such proof of merit as Ayer's Hair Vigor, and I began to use it. The result was all I could have desired. A growth of hair soon came out all over my head, and grew to be as soft and heavy as I ever had, and of a natural color, and firmly set."—J. H. Pratt, Spofford, Texas.

Ayer's Hair Vigor,

PREPARED BY
Dr. J. C. Ayer & Co., Lowell, Mass.
Sold by Druggists and Perfumers.

The refuse bones from the family table should all be saved and broken into small pieces for the fowls. They eat them greedily, and, when not supplied with bones, it is good policy to buy them ground and ready for use.

Don't Get Caught

This spring with your blood full of impurities, your digestion impaired, your appetite poor, kidneys and liver torpid, and whole system liable to be prostrated by disease—but get yourself into good condition, and ready for the changing and warmer weather, by taking Hood's Sarsaparilla. It stands unequalled for purifying the blood, giving an appetite, and for a general spring medicine.

Hardware for Farmers.

D. A. Mulvane & Co., 713 Kansas avenue, Topeka, always keep a full line of hardware, and especially desire the patronage of every farmer, who will find it to his interest to inspect our complete stock of hardware of every description, including the cheapest and best line of gasoline stoves, refrigerators, barb wire, screen doors, tinware, ladders, wheelbarrows, etc.

To Nervous Men.

If you will send us your address, we will mail you our illustrated pamphlet explaining all about Dr. Dye's Celebrated Electro-Voltaic Belt and Appliances, and their charming effects upon the nervous debilitated system, and how they will quickly restore you to vigor, manhood and health. If you are thus afflicted, we will send you a Belt and Appliances on trial.
VOLTAIC BELT CO., Marshall, Mich.

Consumption Surely Cured.

TO THE EDITOR:—Please inform your readers that I have a positive remedy for the above named disease. 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., New York.

Consumption Cured.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYSE, 249 Power's Block, Rochester, N. Y.

For Sale.

For the benefit of the parties who circulate the story that I am out of the Hereford business, I now offer registered bulls at \$50 to \$100. E. S. SHOCKEY, Topeka, Kas.

WEATHER PREDICTIONS.

By Prof. C. C. Blake, Topeka.

[Correspondence and remittances for the KANSAS FARMER on account of this Weather Department should be directed to C. C. Blake, Topeka, Kas. See advertisement of Blake's Almanac on another page.]

TEMPERATURE FOR JULY.

The first part of July will have fluctuating temperature in nearly all parts of the country, including Canada, but it will not average as warm as usual for the season till toward the middle of the month, when it will grow warmer till at or about the end of the month. The last half or two-thirds of the month will be hotter than usual in southern Canada and nearly every section of the United States, except Dakota, where it will not be quite so hot. Along the sea coasts the high temperature will also be modified at times by sea breezes.

On the Pacific coast it will average warmer than usual; the hottest part of the month there will be toward the middle of the month.

In England and Europe the month will average warmer than usual, except that during the first part of the month it will not be so warm in Germany and eastern Europe.

PRECIPITATION FOR JULY.

The total amount of rainfall for the month in the United States will be a little less than normal, with a little excess in Canada; but it will be so well distributed among the States during the month that few places will suffer much from drouth, except in small localities.

Southern Canada will have plenty of rain during the month, except that Ontario will be deficient during the last half. Most of New England and New York will not have as much as needed during the first half of the month, but a fair amount during the last part. New Jersey and Pennsylvania will average about normal, while Delaware, Maryland, Virginia, and West Virginia will have some excess. North and South Carolina will average about normal. Georgia, Alabama and Mississippi will average about normal, with a little excess in Florida. Louisiana will be a little deficient, with an excess in Texas, especially in eastern Texas. Arkansas will have more rain than Kentucky and Tennessee. In Ohio, Michigan, Iowa and Missouri it will be about normal, with rather less in Indiana and northern Illinois and more in southern Illinois. Wisconsin, Minnesota and northern Dakota will have an excess, especially during the first half of the month in the two former States and during the whole month in northern Dakota; but the south half of Dakota will be deficient during the first of the month, with an excess later.

In Kansas, Nebraska and Colorado the rain will be rather streaked in July, and while the total amount will be rather less than the average for July, yet taken in connection with the rains that will occur in said States during June, we think there will be enough to keep the crops growing nicely in nearly all places. Some few small localities may be missed by the rain, but we think there will be very few spots during June and July that will have no rain for thirty days at a time. In some years the rains are so general that hardly any dry spots are left. We do not look for those general rains this summer, but think the rains will be more local, and frequent enough to cover nearly all localities at short intervals; hence we do not look for any general drouth in June or July. In most of New England and New York it will average drier during the first part of July; while in many, though not all, of the Western States it will be driest during the last of the month.

On the northern part of the Pacific coast, especially in Oregon, the rain will be heavier than usual, particularly during the last half of July. There will not be much rain in California, though during the last half of the month the dews will be heavier than usual.

In England and Europe the rainfall for the month will be as much spotted and streaked as in this country, but it will average a small excess.

When we use the word "excess" or "deficiency," we refer to the general average for a long series of years for the month and locality mentioned; therefore when we say there will be an excess in a section that is generally dry or that has been dry for a month or so, it does not necessarily follow that that section will have all the rain needed. So too there may be a deficiency in a State that already has too much and

still leave it too wet. A little added where it is already very wet is too much, while a larger amount would not be enough if it were previously too dry.

We shall give the details for the various States and parts of States more exactly in our weekly calculations, which we publish in each issue of the KANSAS FARMER.

RAINFALL FOR WEEK ENDING JUNE 23.

It will generally be a dry week for all the Atlantic States from the Province of Quebec to Florida, and thence west along the Gulf to the Mississippi river, including Tennessee and West Virginia. Southern Florida is about the only place in said tract that will have much excess of rain, though several spots will have the normal amount. In Louisiana and eastern Texas there will be more rain, but less in the rest of Texas and in Arkansas and the Indian Territory. Kentucky will have more than the average, as also will southern Ohio; but northwestern Ohio will have less, while the northeastern part of the State will be deficient. Missouri, Illinois, Indiana, eastern Iowa, Wisconsin, Michigan, Ontario, Manitoba and northeastern Minnesota will each have less than the usual amount of rain for the week; while the rest of Minnesota and western Iowa will have a little excess. Eastern Nebraska will have some excess and the rest of the State will be about normal. The northwest corner of Dakota may have rain, also the southeast quarter, but the rest of the State will not probably have much. Montana and Colorado will be a little deficient and Wyoming about normal, while New Mexico will have some excess. In Kansas, the northwest quarter and the west half of the southwest quarter of the State will have about enough rain, with a little less in the northeast quarter, and least for the week in the center of the south half of the State. On the Pacific coast there will be more than the usual amount of dew, but not much rain except along the coast of Oregon and Washington Territory.

During said week the temperature will average a little below normal in Canada and the northern half of the United States. The last week in June will give considerably more rain throughout that part of the United States east of the Rocky mountains than will the week which ends June 23.

GREAT BEND, KAS., June 4.—In the FARMER of May 31, you say: "The storms seem to mysteriously avoid these spots as if in spite."

Now I would ask if it is due to any peculiarity of location—if it is more liable to occur in such places than others, or is it just a happen so? W. G. M.

Answer.—In the present state of our knowledge the answer you have suggested, "just a happen so," is about as good as can well be given. Yet, to call it a mere coincidence does not satisfy an inquiring mind, as we well know that nothing can happen without a preceding cause. Several thousand years ago the most learned of the Oriental astronomers supposed an eclipse was "just a happen so." The first eclipse we have any record of occurred on the 13th of October, 4,016 years ago, but about a thousand years after that the ancient astronomers discovered the Saros, or the eclipse period, wherein eclipses of the sun and moon recur in the same order every eighteen years and eleven days; but still they had no idea of what an eclipse really was, supposing that even the Saros was a sort of coincidence; they would have put to death any one so wild as to have even hinted that the exact second when each eclipse would occur could be mathematically calculated. At the present time it would not be half so wild to say that the time and location of every local storm can be calculated, and hence predicted for months in advance, as it was then to suggest that an eclipse could be computed for months or years in advance. We have no doubt that mankind will be able to calculate and predict even the local storms within the next fifty years, and possibly within ten years. We were over twenty years at work calculating the weather before we could master the astronomical part of it. We then were simple enough to suppose that we had found the key which unlocked the whole problem; but we soon learned that our astronomical base would only account for the larger storms and weather changes, leaving a whole brigade of local storms which we could not account for. We knew that the topography of the country had much to do with them and we made calculations for that, but still

there was a large remainder which we could not account for. We then noticed that under certain astronomical conditions even these local showers acted in a similar manner. We knew that the magnetic needle was affected by sun-spots, and inferred that all of the electric and magnetic currents in earth, air and water were not only affected by sun-spots but by all the cosmical causes. We therefore determined to "hunt it down," and for the last ten years have been on the hunt after this smaller game, the result of which is the predictions by weeks for each State, which we are now publishing. We expect soon to be able to predict for each county, though to do so for all the counties will take more calculating than any one man can do. We now know that these ground currents have a great deal to do with local storms and showers in addition to the topography of the country, and that these currents can be calculated in advance. We also know that when the showers "mysteriously avoid a certain locality as if in spite" for several weeks at a time, while our "less-deserving neighbors" have a plenty, there is no mystery at all about it, but that it is the result of law which includes not only the topography of the country but the ground currents of electricity as well. If the laws were such that local showers would constantly avoid a particular spot month after month and year after year, then the people would soon learn to avoid such spots as they would the plague. We actually have a number of such spots—one is the Desert of Sahara, one in Chili, and several in Asia. But in the United States and most other countries these spots shift about from month to month and from year to year as the cosmically-producing causes shift, being no more liable to appear in one locality than another, except that the topography may predispose them to make a location.

It should also be stated that there is still an unknown quantity which is left to future ages to find the value of, and that is the deposits and veins of iron, copper and other minerals in the bowels of the earth, some of which act as good conductors and others as non-conductors of these electric ground currents. We do not know enough about these to calculate them—future generations probably will.

Verification.

At the date of this writing, "the returns are not all in," but the reports received from many sections of the country show that the predictions which we published for the week ending June 9 have proved to be entirely correct.

It will be noticed that the report of the "Kansas Weather Service," published in this issue, is for the week ending June 7, while our predictions, published in the KANSAS FARMER of May 31, were for the week ending June 9, and that the rain which we predicted for southeastern Kansas came extensively Friday night, June 8.

Below we give extracts from a few letters.

I have received the KANSAS FARMER, and am glad to hear from you again. We are getting the "very late spring" you predicted in your Almanac last year. Seeing commenced in good earnest, then came the wet and cold, so that nothing could be done for three weeks. We get the weather changes here a little later than the general average, but any one can by watching the changes know what is coming next if he has your predictions. I think they are worth ten times the price you ask. W. R. B., Sherwood, Wis., May 29.

Send the KANSAS FARMER. Have had your previous predictions and they proved correct. J. P. B., Elburn, Ill., May 28.

I feel lost without your predictions—you hit the nail on the head every time. H. B., Plattsmouth, Neb., May 28.

Your predictions for last year were worth a herd of eighty head of cattle and six horses, as we got our hay on wheels last fall—something we never did before, and would not then had it not been for your predictions. Some of our neighbors lost a part and some all of their stock. They had plenty of hay but could not get to it after the middle of December. I hope thousands of farmers will profit by your predictions this year. J. F. M., Minneapolis, Minn., May 24.

I find your predictions correct, and every man needs them, at any price. T. W. J., M. D., Cornell, Ill., May 21.

If your predictions are as correct in the future as they have been in the past, we shall derive great benefit from them. & Co., Minneapolis, Minn., May 21.

I never believed in weather prophets, but think your predictions are scientific calculations, as they have proved to be correct. I. L. R., Leesburgh, Kas., May 26.

Would not be without your predictions for five times the cost. G. W. B., Fall Leaf, Kas., May 27.

Will you publish your predictions this year? I am willing to pay well for them. J. W. W., Gideon, Kas., May 17.

Wish I could get you one hundred subscribers in this section, and shall try, as I have

received great benefit in the past from your predictions.

J. H. B., Terre Haute, Ind., May 21.
We are very much gratified to learn that you are publishing your predictions. & Co., Minneapolis, Minn., May 31.

Glad to get a good agricultural paper and your predictions all for \$1. Hope you will meet with the success you merit, for any one who read *The Future* must know that your predictions were something more than guess-work. O. G. P., Moravia, N. Y., May 28.

As you predicted, we are having a little more rain here than usual for the last half of May. S. C., Hanford, Cal., May 28.

Your predictions are correct. Send Almanac and FARMER.

G. F. F., Zellwood, Florida, May 28.

KANSAS WEEKLY WEATHER REPORT.

Furnished by the Kansas Weather Service.

Abstract for the week ending Thursday, June 7, 1888:

Rainfall.—There has been a general deficiency in rainfall during the past week. The precipitation did not reach one inch at any point. It was greatest in Osborne, Smith and Phillips; in the counties around the head-waters of the Walnut, Verdigris, Neosho and Marais des Cygnes rivers and Dragoon creek; the southern half of Saline county; and in Montgomery, Labette and Cherokee. It was least from the northwest counties southeastward to Sumner; in Coffey and Woodson, thence east to Missouri, including the east half of Miami and Johnson; and in the northern counties from Jewell and Cloud to the Missouri river.

Temperature and Sunshine.—The temperature and sunshine have been about normal.

Results.—The warm weather has given an unusual impetus to vegetation; especially has corn responded to the new order, though the hot winds for two days seriously threatened the other crops, and did so much towards ripening oats that the straw will be short in the counties from Comanche to Wabaunsee. Wheat harvest has begun in the southern counties and the yield promises to equal that of 1887, which was the greatest in the history of that section. The wheat is nearly ready for harvest as far north as Clay. Rain is much needed in the central counties; but Woodson is probably the only county actually suffering; here the potatoes are already injured by the dry weather, the trees are shedding their fruit and the chinch bugs are destroying the corn to a large extent. In Johnson, Miami and Franklin the chinch bugs are hatching out and attacking oats, corn and young timothy. Cut worms are diminishing in Butler. Web worms have appeared in the gardens and on small corn in Sumner. Web worm moth has appeared in large numbers in the southeastern counties. The home gardens are now supplying the tables in the central counties of the extreme west.

TOPEKA REPORT.

For the week ending Saturday, June 9, 1888:
Temperature.—Highest at 2 p. m., 90° Tuesday the 5th; lowest at same hour, 76° Friday the 8th. Highest recorded during the week, 93° on the 5th; lowest, 46° Sunday the 8th.
Rainfall.—Rain fell on two days, the 4th and the 8th—in all, 40-100 of an inch.

Kansas Weather During May.

Sergeant Jennings, of the Kansas Weather Service, handed in a copy of his monthly report for May, from which we take the following paragraphs:

"The mean temperature for the State is below the May average, and this deficiency is most marked in the northeastern counties, where it amounts to 4 deg. and upwards. It is less marked in the central southern counties, being but 1.2 below the average in Sumner county, but the deficiency increases from here west and is 2.6 deg. in Ford county.

"The average temperature for the eastern division is 63 deg., for the middle division 63 deg., and for the western division 59 deg. Average for the State 62 deg. The average maximum temperature for the State was 88 deg., while the average minimum temperature was 39 deg. The temperature conditions were uniform in the middle and eastern divisions but ranged slightly lower in the western division, the average highest and lowest temperatures being a degree lower and the mean being 4 deg. lower than in the other divisions.

"The frosts of the 14th and 19th did much damage to gardens and blasted many buds. The average rainfall for the State was 3.24 inches, for the eastern division it was 3.50; for the middle division 3.20; and for the western division 3.03. Of the total amount fallen in the State the eastern division received 36 per cent., the middle division 33, and the western 31 per cent.

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.

Written for the KANSAS FARMER.

Our Day of Life.

BY M. L. HAYWARD.

How fairly smiled life's morning
Upon my love and me!
Kind nature's best adorning
Greeted my love and me.
The flowers bloomed so brightly,
The birds sang all so blithely,
And wedding bells rang lightly
To cheer my love and me.

How sorely pressed life's nooning
Upon my love and me!
No time for idle crooning,
Came to my love and me.
We toiled and wrought sublimely,
Nor met our tasks supinely,
But called them all divinely
Ordered, my love and me.

Now gently falls life's evening
Around my love and me!
The sunset rays are gleaming
Before my love and me.
Death's night will soon be falling,
Beyond its fears appalling,
We hear sweet voices calling
To greet my love and me.

Written for the KANSAS FARMER.

The Pansy.

BY MARY E. COLE.

When spring is sobbing, and the breeze
Sighs fitful through the dripping trees;
When sunshine comes with sudden freak,
And plays with shadows hide-and-seek,
In some secluded, sheltered place,
We see the pansy's modest face.

And whether in a bridal dress,
Or mourner's garb, with quiet grace
She looks up in her own sweet way,
With always something sweet to say,
While her companions are delayed,
Their dainty toilets to be made.

Another bath of shining rain,
And they appear, a fairy train;
Year after year they bloom the while;
I fancy as I see them smile
That with such look of human ken
They all are souls that might have been.

And when I list with inward ear,
Strange is the whispering I hear—
Condolence that I needs must go
Through thorny paths they do not know,
And gladness that with all my pain
I may die and live yet again,
Or be transplanted to a clime
Where ne'er is heard the tramp of time.

The Struggle of Life.

Somebody has said that a large proportion of the mistakes, errors, and even the sins of the world, are due to false relations in life, rather than to inherent depravity. Certainly a great share of the misery in the world can be traced to the struggle between what is and what should be.

To harmonize soul and surroundings is the problem which we must all solve if we would impress upon our environments the stamp of our own natures, as we advance in mental and spiritual growth; but as to every action there is ever opposed an equal reaction, so every such effort is combated by the reaction of circumstances upon the spirit, keeping down and blotting out. This is the real struggle of life, this fight of what we are with what we would be. To some of us it is a blind, half-conscious struggle, a futile rebellion against something—we hardly know what—in our lives that we would change if we could; others accept with resignation and bear with pathetic patience; while others grow desperate and strike blindly at what they call Fate and Circumstance, passionately longing for a harmony which alone can bring them peace and tranquility. These, like George Eliot's "Armstrong," "Cannot bear to think what life would be, With high hopes shrunk to endurance, stunted aims, A self sunk down to look with level eyes On low achievements."

And yet it is these "low achievements" which go a long way toward the comfort of even the most discontented. Suffering and sacrifice are not normal conditions of our lives, happiness is simply the secret of bring-

ing outer life into accord with inner thought, it may mean little, it may mean much, but is really only the lasting harmony between our inclinations and our objects, without which our lives are discordant, incomplete failures.

It has been often asked whether in the Hereafter we shall not find ourselves able to do the things we long to do here and cannot. Of this we only know that

"Far out of sight, while sorrows still enfold
Lies the fair country where our hearts
Abide;
And of its bliss is naught more wondrous told
Than these few words—'We shall be satisfied.'"

Few of us, though conscious of our own unsatisfied longings, are aware of the widespread unrest which comes of inability to bring our two natures into harmonious sympathy, to adapt our personality to the lives we must lead. There is an "irrepressible conflict" to be fought by the woman of intellect and education who assumes the responsibilities of marriage, with the housekeeping and home-keeping duties which accompany it. None can appreciate more keenly all the charms and graces of domestic life, in which means are steadfastly kept out of sight, and results alone observable, but none are more impatient of the "belittling cares" which bend the back, roughen the fingers, and try the soul. A well-regulated home is not gained without constant care and supervision on the part of its mistress; its manifold duties absorb her, and she endures a spiritual semi-starvation in giving up herself to the material necessities which are, after all, essential to the completeness of the nobler growth. Shall she devote herself to the domestic, and sink below the level of her former life, the state which won to her side he whom she is bound to regard before all others, even herself? Or shall she wax mentally strong at the expense of those duties which fall to her share as wife and housekeeper? "The level we strike in the soul that touches us most nearly, is almost sure to be the high water mark of our own," and if the wife is to go hand in hand with the husband, she must be sure that the flood tide of her intellectual life reaches up and mingles with his. Doubly blessed among women is she who can feed both body and brain, who can manage to supply material needs, and yet never lose sight of her ideal, far, far above her present level though it be.

Nature never gives to a living thing capacities not practically meant for its benefit and use, and there is an everlasting obligation upon us to realize all we can out of our lives; and the opportunities of which life is full, which we fail to reach through self-denial and sacrifice, are the ones which wait for us, or to which our lives tend, almost without our own volition. The life that misses its chances through indulgence or selfishness or which ignores its responsibilities, cannot be a happy one, for it is imperative to keep in view the truth that no end that is shut in self can bring content to a human soul. Paradoxical as it may seem, we must find our greatest happiness in renouncing it for the happiness of another. To a soul at war with itself, an unselfish love is the only hope.—*Beatrice, in Michigan Farmer.*

A Word for Bananas.

The banana has a high recommendation as an article of food because of its nutritious character. One authority announces that one pound of this fruit has more nutriment than three pounds of meal or as many pounds of potatoes, while as a food it is said to be in every sense superior to wheat bread. The natives of the West Indies and other tropical countries subsist largely upon them and find them, as chemists do, a food containing a large amount and variety of nutriment. A friend of the writer's makes them a special and exclusive article of food when he has work requiring considerable and particular attention and accuracy at a time when a regular meal and other food would weaken the action of the mind. He finds that the banana in such case digests easily and makes no diminution of mental concentration, while, at the same time, the required sustenance of mind and body is obtained.—*Good Housekeeping.*

Every thinker and utterer of good thoughts is a pioneer, pushing his way through the brambles to contend against darkness, ignorance and superstition.

Novel Reading.

There are two forms of literature which, more than others, have the power to awaken the emotions—poetry and prose fiction. Of these, poetry is the more potent, being older and lying nearer to the savage nature within us; for, with all our boasted civilization, we are, as far as our sympathies are concerned, more nearly allied to the primeval man than to that thing of dwarf body, bald pate, and blue spectacles which we call the Man of the Future.

But the novel has superseded the higher forms of poetry—the epic and the drama—in the popular estimation. The complexity of the relations of modern life can be better represented in prose than in verse. When the world was younger and less thickly settled; when men dwelt in tents, untrammelled by the requirements of an age of tailors and milliners; when warfare was a matter of personal prowess with spear and battle-axe; when love and marriage were unembarrassed by lawyers and settlements, verse could deal with all these things in an appropriate manner; but it requires prose to deal with modern arms, nineteenth century drawing-rooms, or costumes from Worth's. Verse is indeed the nobler vehicle of expression, but prose is better adapted for every-day use. It deals with emotions nearer the level of ordinary experience, and thus appeals more strongly to our sympathies.

Prose fiction, addressed, as it is, to the imagination and the emotional side of our natures, has a vast influence upon the reader. Novels must of necessity leave an impression either for good or evil upon the mind. It is needless to urge that great care should be exercised in their selection. There is hardly a greater evil threatening this country now than the baneful effects of a class of publications which pretend to furnish amusement for the young under the form of stories of adventure, but which make the commission of crime the highest mark of heroism. Their whole tendency is evil; for they fall, for the most part, into the hands of people who do not realize that anything better exists. Moral and intellectual degeneracy must of necessity finally come upon a nation which permits the masses of the young to revel in this literary filth. France has failed to advance morally as much because of its literature as from any other cause. Her people are a race of novel-readers. The popular taste is for realism of the most trivial and vulgar kind. The great writers, like Dumas and Victor Hugo, who made for France its place in literature, are almost forgotten in the rage for the new. France must present higher ideals than now in its literature before its people can become a moral people.

In choosing fiction to read, a most excellent rule is to take only what the wise and good have esteemed highly. Avoid the new, no matter how popular they may be in the first months of their publication. Don't mistake popularity for merit. Wallace's "Ben Hur" waited a long time for readers, but it is now the best-selling novel before the American people. Don't be in a hurry to read what other people are reading and talking about. You can afford to wait for the fuller approval of the world, for there are already many classics awaiting you. On the shelves of the great public libraries, and in nearly every private collection, are to be found those great books of the world which are the precious life-blood of a master spirit. Our familiarity with their fame is apt to render us indifferent to them, while we are looking for the new or eccentric.

Of course it is but a little thing to recommend what the great and noble thinkers of the world in the past have agreed upon and affirmed; but if the recommendation were followed everywhere, there would shortly be such a literary awakening as would make the close of the nineteenth century more glorious in works of real and abiding merit than any former period.—*Prof. Lantz, in Industrialist.*

Our druggists keep for sale Hall's Vegetable Sicilian Hair Renewer, the best preparation ever made for restoring the vitality and color of the hair.

The city of Paris is shown by official statistics to have consumed last year 4,000,000 eggs. It also drank 87,500,000 gallons of wine, 3,217,000 gallons of spirits and liquors, and something over 12,000,000 gallons of cider and of beer, or 6,000,000 and over of each.

Fashion Notes.

Pencil point protectors of gold, richly chased and encrusted with diamonds, are among the novelties recently produced.

A gold canoe, with oars beneath the thwarts and an anchor all ready forward, is a scarf pin favored by the amateur yachtsman.

It is stated that so great is the demand for green hats the present season, that dealers find it at times almost impossible to keep them in stock.

The large Rembrandt hats are often dubbed "picture hats," and their wide brims are bent into every conceivable shape, turning up or down in every direction.

Striped fabrics, when used for corsages, are made more effective by being made to taper sharply at the back forms, and to slope diagonally to a point in front.

Dinner dresses are made short for summer. Those of white India silk have insertions of Valenciennes or guipure set in the skirt and in the corsage between fine hand run tucks, also forming deep cuffs, to which full sleeves are sewed.

What is known as the Princess of Wales polonaise is made of corded silk and worn over velvet skirts. It fits the form perfectly, and is trimmed with a girdle, epaulets, vest piece, back piece and sleeve trimmings of heavy silk cords with applique ornamentation.

Sashes are more than ever popular, and the newest are moire in stripes an inch wide, of green and white, blue and white, of pink and pearl color. The stripes are not sharp and distinct, but melt into each other, and the effect is very pretty. Satin-edged ribbons have taken the place of those with a picot edge, and Pompadour patterns are the newest designs. On grounds of pink, cream, green or blue are little clusters of flowers or single blossoms, and on the wide sashes are flowers almost as beautiful and perfect as if painted by hand.

Gold and silver braid is still being extensively used as trimming, and the new bands for the neck, made of gold lace, are very dressy, but, as tinsel is in bad taste if at all tarnished, only the best kind of lace or braid should be purchased. The fashion is to thread the lower edge of the lace with very narrow watered ribbon, arranging at intervals perpendicular stands which end in three loops above the edge of the lace. Black, white, ecru, or silver lace is treated in the same manner, making a neat and pretty neck decoration for various gowns.

The Remarkable Cures

Which have been effected by Hood's Sarsaparilla are sufficient proof that this medicine does possess peculiar curative power. In the severest cases of scrofula or salt rheum, when other preparations have been powerless, the use of Hood's Sarsaparilla has brought about the happiest results. The case of Miss Sarah C. Whittier, of Lowell, Mass., who suffered terribly from scrofulous sores; that of Charles A. Roberts, of East Wilson, N. Y., who had thirteen abscesses on his face and neck; that of Willie Duff, of Walpole, Mass., who had hip disease and scrofula so bad that physicians said he could not recover, are a few of the many instances in which wonderful cures were effected by this medicine.

Every profession of religion that does not make a man kind to his parents, wife and children is a mistake in the article.

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The Young Folks.

Lines on "Strikes."

I've a liking for this "striking,"
If we only do it well;
Firm, defiant, like a giant,
Strike!—and make the effort tell!

One another, working brother,
Let us freely now advise;
For reflection and correction
Help to make us great and wise.

Work and wages, say the sages,
Go forever hand in hand;
As the motion of an ocean,
The supply and the demand.

My advice is, strike for prices
Nobler far than sordid coin;
Strike with terror, sin, and error,
And let man and master join.

Every falling now prevailing
In the heart or in the head,
Make no clamor—take the hammer,
Drive it down, and strike it dead!

Much the chopping, lopping, propping,
Carpenter we have to do,
Ere the plummet, from the summit,
Mark our moral fabric true.

Take the measure of false pleasure;
Try each action by the square;
Strike a chalk-line for your walk-line;
Strike to keep your footsteps there!

The foundation of creation
Lies in Truth's unerring laws;
Man of mortar, there's no shorter
Way to base a righteous cause.

Every builder, painter, gilder,
Man of leather, man of clothes,
Each mechanic in a pantie
With the way his labor goes,—

Let him reason thus in season;
Strike the root of all his wrong,
Cease his quarrels, mend his mora's,
And be happy, rich and strong.

—Western Plowman.

Slaves who once conceive the glowing thought
Of freedom, in that hope itself possess
All that the contest calls for; spirit, strength,
The scorn of danger, and united hearts,
The surest presage of the good they seek.

—Wordsworth.

'Tis an old maxim in the schools,
That flattering's the food of fools;
Yet now and then your men of wit
Will condescend to take a bit.

—Swift.

All jealousy
Must still be strangled in its birth; or time
Will soon conspire to make it strong enough
To overcome the truth.

—Sir W. Davenant.

Let no man trust the first false step
Of guilt; it hangs upon a precipice
Whose steep descent in lost perdition ends.

—Young.

A School for Fire Horses.

At 58 Lawrence street, Harlem, is the famous training school for all the fine, intelligent horses of the New York Fire Department. Here, says the *New York World*, the green horses are brought and trained to jump from their stalls at the first sound of the alarm gong and rush out to their stations, where they stand ready for the lightning-like adjustment of the harness, and quivering with impatience for the great doors to be thrown back, that they may whirl the ponderous engine or hose carriage out into the street. Veterinary surgeon Joseph Shea, who ranks as a captain in the department, is in command of this equine kindergarten, and is ably assisted by Foreman Lawrence Murphy, Firemen Patrick Haley and Thomas Clark.

About sixty perfectly-trained horses are turned out from this school yearly. Captain Shea does not attend to the training as much as to the buying and matching of the animals. He goes at regular intervals to Bull's Head, buys those horses that his judgment tells him are what he requires, and, sending them to the school, leaves them in the hands of Foreman Murphy and his two assistants. It astonishes one to find how rapidly this training is accomplished. The average horse understands his new duties pretty thoroughly at the end of two days, and the least intelligent of them never takes longer than a week to learn the ropes. After thoroughly testing the green animal to find if his "wind" is in perfect condition, he is put in a stall and led backward and forward to his station before the engine some dozen times or so to accustom him to ducking his head to get under the collar and harness. Then he is left in his stall and coaxed to come forward under the harness himself by kind words and rewards of candy and apples. He is then taught to come forward at the clang of the gong, and after a little practice at this his education is complete, and he is transferred to one of the regular fire houses. The system of training here is entirely that of kindness, and recourse to the whip

is never necessary. The horses seem to like the work, and grow as enthusiastic over it as one of the old volunteer firemen. Of course horses that do this kind of work have to be both strong and speedy. Three hundred dollars is the average price paid for them, and they must be between sixteen and sixteen and one-half hands high, weigh from 1,200 to 1,450 pounds, and be from 4 to 6 years old. Their usual length of active service is about five years. They are then auctioned off, and bring from \$50 to \$150.

This institution is also a kind of "hospital," and the fire horses that fall ill with distemper, or pink-eye, or become lame, are sent here to be nursed back to health. Captain Shea is fond of perfectly-mated teams, and takes a great deal of trouble in transferring horses from one station to another, in order that, as nearly as possible, every team in the department may be perfectly matched in size, appearance and working qualities. The old chemical fire engines are used in the school for the horses to practice running with, and four of them have been racked to pieces since the establishment of this institution, March 23, 1882. The one now in use is the old Morrisania engine, and it looks as if it were on its last legs, or, more correctly speaking, on its last wheels.

This school was started merely as an experiment, and as such was provided with what was thought to be temporary quarters in an old engine house. It has proved a big success, but nothing has been done to improve the accommodations. The building is too small for the amount of work done there, and is in need of repairs. The general opinion of the firemen is that there should be nearly double the number of teachers there, and accommodations for twenty instead of seven horses, so that in the spring, when the going is heavy and many horses ill from the hard work of the winter, there would be absolutely no danger of running short of trained animals. M. Surat, who came from France some years ago to study the methods of the New York Fire Department, was particularly struck with the equine training school, and when Chief Gicquel and President Purroy visited France a year ago, they saw in Paris a school on exactly the plan of this one, but fitted up more completely.

—Scientific American.

The Bell That "Tolls the Knell of Parting Day."

The curfew is said to have been introduced into England by William the Conqueror. By that monarch it was ordained, under severe penalties, when the curfew bell rang at 8 o'clock in the evening all lights and fires should be extinguished. There are those who hold that this was merely the enforcing of an existing and very common police regulation to that effect. The absolute prohibition of lights after the ringing of the curfew bell was abolished by Henry I, in the year 1100, but the practice of tolling a bell at a fixed hour in the evening was continued, and this, which is still extant in some places, is a survival of the curfew of mediæval times. At first the common hour was 7 o'clock, then it was gradually advanced to 8, and in some places to 9 o'clock; indeed, in Scotland, 10 o'clock was not an unusual hour. The curfew was a regulation most useful in those early days, when it was the custom to place the fire in a hole in the middle of the floor, under an opening in the roof, to allow the escape of the smoke. When the family retired for the night, the fire was extinguished by covering it up; hence the term *couverfeau*, or curfew. The regulation was also serviceable in obliging the women to keep in their houses, and thus preventing night brawls in the street. It is believed there is no historical authority for the popular tradition that the severity exhibited by the Conqueror, in enforcing obedience to the curfew, was most particularly designed to prevent the English from assembling in secret to plan schemes of rebellion against their Norman lords.

The Coinage of 1804.

There is something curious about the American silver dollar and half dollars of the coinage of 1804. In that year some thing like 20,000 of the dollars were coined; but it is a singular fact, as is now known, that not one of them was in circulation. Yet the most valuable of all American coins are two 1804 dollars, which are now in well-known collections. They are valued at \$2,000 each.—*Chicago Herald*.

Interesting Items.

The first Roman who wore a crown was Tarquin the Elder, 616 B. C.

A friend without discretion is more to be feared than an enemy in armor.

The theory of eclipses is said to have been known to the Chinese before 120 B. C.

The Minie rifle was invented at Vincennes, France, about 1833, by M. Minie.

A Houston, Texas, woman has a pet alligator that wags his tail when his name is called.

There are three orders of emotions; those of pleasure, which refer to the senses; those of harmony, which refer to the mind; and those of happiness, which are the natural result of a union between harmony and pleasure.

A curious result of the placing of electric lights in front of the Treasury and other public buildings at Washington has been an extraordinary combination of spiders' webs. The spiders have discovered that flies, moths, etc., are attracted by the light, and hence their webs are in some parts so thick that parts of the architectural ornamentation are no longer visible.

Artificial clouds were recently made for the protection of vines from frost at Pagny, on the Franco-German frontier. Liquid tar was ignited in tin boxes and pieces of solid tar on the ground near the vines. Large clouds of smoke arose and protected the vineyard for two hours. Although the vines in the neighborhood were injured by the frost, all that remained under the clouds were left uninjured. Of course this contrivance can succeed only in calm weather, but it is only in calm weather that white frosts occur.

In treating a negro in Lelpsic for an ulcerous affection, it was found necessary to replace portions of the skin with pieces taken from one or two white persons. These latter pieces gradually grew darker in color, and finally as black as the patient's own skin. This singular fact led to an experiment being made of transplanting portions of black skin on a white patient, and it was found that after a few weeks these began to grow pale. In less than fourteen weeks they had, in fact, grown so white as not to be distinguishable from the patient's natural skin.

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At this season nearly every one needs a good medicine to purify, vitalize, and enrich the blood, and Hood's Sarsaparilla is worthy your confidence. It is peculiar in that it strengthens and builds up the system, creates an appetite, and tones the digestion, while it eradicates disease. Give it a trial.

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	One inch.	Two inches.	Quarter column.	Half column.	One column.
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6 months . . .	25 00	45 00	75 00	135 00	225 00
1 year	42 00	75 00	120 00	225 00	400 00

All advertising intended for the current week should reach this office not later than Monday.
Electros must have metal base.
Objectable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.
To insure prompt publication of an advertisement send the cash with the order, however monthly or quarterly payments may be arranged by parties who are well known to the publishers or when acceptable references are given.
Every advertiser will receive a copy of the paper free during the publication of the advertisement.
Address all orders,
KANSAS FARMER CO.,
Topeka, Kas.

A great deal of wheat will be cut this week in the south half of Kansas.

Secretary Mohler estimates the wheat crop of Kansas this year at 15,000,000 bushels.

There is no change in the wool market that is at all encouraging to Kansas farmers.

The Greenleaf creamery (Washington county) under management of F. E. Van Horn, is reported doing well.

A friend writing from Hunnewell, says he has embarked in cheese-making, and he thinks he is doing well. There is no good reason why dairying will not succeed in Kansas.

A Stafford county man, renewing his subscription, writes: Corn looks fine but late. Oats fair. A few chinch bugs. Cattle doing fine; hogs ditto. Plenty of rain. Rather cool.

If any of our readers want a first class educational journal, we can and do heartily recommend the *Western School Journal*, published in Topeka, monthly, at \$1.25 a year by R. W. Turner.

The *Western Rural*, discussing the Treasury surplus, asks: "Why could not the money be loaned to State and county governments to enable them to fund their indebtedness into lower interest bearing obligations?"

The business situation is slightly improved in some localities but not in others. Improved crop prospects have had a good effect. The grain market declined last week, and the general range of prices was a trifle lower.

The Acme Club, an association of live farmers in Jefferson county, recently established a cheese factory near Nortonville. Mr. Joshua Wheeler, a member of the club, says the factory is doing well, giving general satisfaction. Some one from this office will visit the place soon and report through the *FARMER*.

CLEVELAND AND THURMAN.

At the Democratic convention in St. Louis, President Cleveland was nominated unanimously for re-election, and Allen G. Thurman, of Ohio, was named for Vice President. Mr. Thurman is quite an old man. He was born at Lynchburg, Virginia, November 13, 1813, which shows that one week after election day next fall, he will be 75 years of age. He is a lawyer by profession and universally regarded as an honest man. He was admitted to the bar fifty-years ago, before there were any railroads in Ohio. He was in Congress forty-one years ago; (1847) was elected Judge of the Supreme Court of Ohio, 1851, and was Chief Justice from '54 to '56; was elected to the United States Senate in 1869, was re-elected in '74. Mr. Thurman was always active in politics but was never charged with a dishonorable act. He was several times, since the war, honored by appointment to positions of trust by Republican Presidents. He has the confidence of all the people without respect to party. The only objections which are or will be urged against him by any body are age and political opinions.

Mr. Cleveland is a much stronger man to-day than he was four years ago—stronger with his party, and in some respects with the people generally. He was unknown, then, except as Governor of New York. He never cared about extending acquaintance among Statesmen and politicians outside of his own State; hence but few of the public men of the nation had ever seen him. He had never been as far south as the Potomac river, nor as far west as the city of Chicago. He was so little known and on that account so much suspected and feared that while his party supported him almost solidly, it was not done so heartily as it will be this year. He has been faithful in his party loyalty and has gained in popularity as his policy became better understood. He is now in the fourth and last year of his term, and nearly all the government offices are filled by men of his own party. That has solidified the party and imparted enthusiasm to its courage. His message last December pleased his strongest friends and proved to his enemies that he is the strongest man in the party by all odds.

That part of the platform which is most interesting to the people at large is contained in the following two paragraphs:

The Democratic party of the United States, in national convention assembled, renews the pledge of its fidelity to Democratic faith, and reaffirms the platform adopted by its representatives in the convention of 1884, and endorses the views expressed by President Cleveland in his last annual message to Congress as the correct interpretation of that platform upon the question of tariff reduction, and also indorses the effort of our Democratic representatives in Congress to secure a reduction of excessive taxation.

Chief among its principles of party faith are the maintenance of an indissoluble union of free and indestructible States, now about to enter upon its second century of unexampled progress and renown; devotion to a plan of government regulated by a written constitution, strictly specifying every granted power and expressly reserving to the States or people the entire granted residue of power; the encouragement of a jealous, popular vigilance directed to all who have been chosen for brief terms to enact and execute the laws, and are charged with the duty of preserving peace, insuring equality and establishing justice.

The tariff plank, as the reader sees, is the resolution adopted by the party at Chicago four years ago, with the President's message as a "correct interpretation" of it, and an indorsement of the Mills bill now pending before Congress. Here is the Chicago resolution referred to:

The Democratic party is pledged to revise the tariff in a spirit of fairness to all interests, but in making reductions in taxes it is not proposed to injure domestic industries but rather promote their healthy growth. From the foundation of this gov-

ernment taxes collected at the custom house have been the chief source of federal revenue. Such they must continue to be. Moreover, many industries have come to rely so much upon Legislation for successful continuance, that any change of law must be at every step regardful of the labor and capital involved. The process of reform must be subject in execution to this plain dictate of justice. Taxation shall be limited to the requirements of an economical government. Necessary reduction in taxation can and must be effected without depriving American labor of the ability to compete successfully with foreign labor, and without imposing lower rates of duty than will be able to cover any increased cost of production which may exist in consequence of a higher rate of wages prevailing in this country. Sufficient revenues to pay all expenses of the federal government, administered economically, including pensions, interest and principal of the public debt, can be got under our present system of taxation from custom house taxes on fewer imported articles bearing heaviest on articles of luxuries, and bearing lightest on articles of necessities. We therefore denounce the abuse of the present tariff, and subject to the preceding limitations, we demand federal taxation shall be exclusively for public purposes, and shall not exceed the needs of the government economically administered.

That resolution, with the President's message as its interpretation, and the Mills bill as its fruit, is the Democratic tariff platform in 1888.

THE PRICE OF FRESH BEEF.

The discussion of the prices of fat cattle and beef is attracting a good deal of attention. The *KANSAS FARMER* and a few other papers have asserted that while beef animals are sold lower than they were formerly, and while the great slaughter houses can and do slaughter animals cheaper than local butchers can, consumers are not receiving any benefit from the decreased prices paid for beef cattle. They assert that consumers of fresh beef pay as much for their steak or their roast as they did when beef cattle were selling a good deal higher and when the farmer was getting better prices for his fat steers than he is now or has been the last year or two. Upon this point there is some difference of opinion, though there ought not to be, as it is a matter of fact and not one of opinion; that is to say, it can be determined by reference to facts which are easily obtained. The *Breeders' Gazette*, Chicago, says:

And in all the talk which has been made about the unfortunate condition into which the cattle market has fallen, the great decline in the prices of live cattle, and the influence of combinations of one sort and another in depressing values, there is one thing which the *Gazette* has never been able to believe. We do not believe that in the great decline in the price of live cattle the price of beef to the consumer has been maintained at the old rates. We do not believe this because it is not good sense; because it is not reasonable that it should be so; because it is not possible that it can be true. The association of butchers very naturally make this assertion in order to gain wider sympathy and support in its efforts to secure legislation to protect itself against the competition of the dressed beef trade, but the reflective mind must see at once there is nothing in it and that the very reverse must be the case. With the low price of cattle which has prevailed for some time, and of which every one desiring to purchase could take equal advantage, the condition of the butchering interest would be a most prosperous one if only the old rates to consumers still prevailed. But it is a notorious fact that the interest is very much distressed, that the trade with consumers has been very largely secured by those handling dressed beef, and that in many places the local butchers are having a hard struggle for existence. This condition of affairs can only have resulted from the fact that the butchers have been and are steadily being undersold, that beef is offered to consumers at less rates than they can afford to provide it. Where the primary markets from which supplies are drawn are free and open, as is the case with the cattle market, no one can command the trade of consumers on the basis of high prices.

The *Gazette* does not assert what it knows to be a fact, but what, as it believes, must be a fact; that is to say, what it believes to be true; and it is what anybody else who had not investigated the subject, and especially if he lives in Chicago, or Kansas City, or at any of the great packing centers, would believe. Nothing would be more reasonable than that consumers should have the benefit of at least the larger part of the difference between the high

prices of 1884, say, and the low prices of 1887; but, as to the large portion of them at least, the truth is not that way. Let us have this matter settled on the basis of fact. The *KANSAS FARMER* is not a sensational paper; it does not cry fire unless there is at least enough smoke to justify a little noise. We want to be right and that without prejudice. We care nothing about opinions, our own or others' when the truth is against us. We have asserted that consumers are paying as much now for their beef cuts as they did when farmers were getting good prices for their cattle. Our assertion is based partly on information and partly on personal knowledge. Personally, our field of observation has been near home; our information covers a much larger area. The writer of this article has been purchasing his table supplies direct from retail dealers in Topeka long enough to know what beef costs at the "meat market;" he has been purchasing in person from one man at least five years, and he is now paying from 10 cents a pound for a "shoulder cut" to 12½ cents for round steak, and 15 cents for sirloins and Porter house pieces—the same prices precisely that he paid five years ago and all along since, except in two or three instances of scarcity for short periods, a little more. Topeka has a population of 46,000, is large enough to feel the effect of any reducing agency that is operating.

But we do not wish to stop on such a small margin as that. If we are wrong let the error be proved by facts. We ask our readers who have knowledge on this point to inform us early. We believe the dressed beef men are making money wrongfully out of the farmers, but we do not want to do them any injustice. We have readers, plenty of them, who can tell us whether the *KANSAS FARMER* is right or wrong on this point, and we would be much pleased if they will write and tell us briefly what they do know about it. Are consumers now getting fresh beef cuts any cheaper than they did one year, two years or three years ago; if so, how much?

A Word About the Grange.

Concerning this useful and growing organization, Mortimer Whitehead, lecturer for the National Grange writes: "A dozen years ago, and more, when the Grange was growing rapidly in membership, it attracted public attention because of its possible influence in business affairs and in politics. Many persons viewed the movement with uneasy apprehensions, for they feared it would overturn established order and so become a disturber. Later there was cessation of growth, and men, wise in their own conceit, said, "It has had its day; it will soon be among the things that were but are not." Fears and predictions were wrong. To-day the Grange is a silent force, working beneficently in the interest of order, peace and the welfare of a people engaged in honest industries that thrive best when directed by intelligence. In no instance has it been a disturber. Its influence in politics is greater now than ever before, but it is not partisan nor can it be used to promote the success of schemes devised by politicians. Without doubt its early growth was too rapid. It gathered within its ranks persons who became at once an element of weakness; hence that retardation that for a time gave rise to forebodings and checked enthusiasm even among its most faithful workers. The purifying process had begun, and never stopped until the Order had lost the principal parts of its impediments. Then confidence began to return, and with it increased strength, that has continued to increase until the Grange, counted weak after its losses, has become a powerful factor in shaping affairs."

A correspondent writing from Stevens county says: "Wheat, corn, oats, fruit trees of various kinds, alfalfa and wild grasses are all looking fine. We have had so far a very fine season. Plenty of rain, which insures good crops of all kinds."

The figures for the first ten months of the current fiscal year show a large increase in our imports over the like period last year:

	1888.	1887.
Total value of imports	\$600,433,112	\$572,421,697
Dutiable	401,384,396	379,976,388
Free	199,048,716	192,445,300

The last issue (souvenir) of the *Saturday Evening Lance*, among many other interesting features, contains a picture of the KANSAS FARMER Building, now building at the corner of Jackson and Fifth streets, Topeka. Mr. Frost keeps the *Lance* well forward in the procession.

Mr. B. F. Smith, fruit culturist, Lawrence, Kas., has our thanks for a dozen boxes of strawberries from his grounds. The weather had been a little too dry, he says for berries, and he estimates his loss on that account at least 15,000 quarts, equivalent to a money loss of \$1,800. This suggests the subject of irrigation as appropriate for discussion by horticulturists.

An exchange properly says that tariff reform ought not to be considered in connection with the surplus. It ought to stand or fall upon its own merits. Suppose, for instance, that the lowering of the tariff upon some article should make it so cheap that its sale would be many times multiplied. The aggregate receipts from the customs upon such an article might be greatly in excess of what they are now and the surplus in the Treasury increased to that extent.

The advance sheets of the annual catalogue of the State Normal School show an enrollment of 875 for the year closing June 14. Of this number, 669 are in the normal department. It is an increase of 129 over the attendance of last year. Eighty-two Kansas counties and fifteen States are represented. Shawnee county has nineteen students enrolled. 125 of the pupils were born in Illinois, 134 in Kansas. Nearly 300 soldiers' families were represented in the attendance on Memorial Day.

Mr. S. B. Jackson, Signal Service Observer at Tribune, Greeley county, (middle county on the west line of the State) reports May as follows: Mean temperature 57.7 deg.; maximum of month, 89 deg. on 20th. Maximum of month 30 deg. on 18th. Highest daily 67.2 deg. on 20th. Lowest daily 36 deg. on 30th. Total precipitations in inches 122. May was only 4.6 deg. higher in temperature than April. Corn and vegetables are backward; other things are ahead of last season. Hail damaged rye and fall wheat in some localities. Ground squirrels bothered sod corn. Grasses and small grain never better.

The *National Domain*, published bi-weekly at Washington City, at \$1 50 a year, aims to be a national paper devoted to the interests of settlers and others who desire an earnest advocate to represent them at the national capital. One of its special features will be to regularly furnish the latest and most important information upon all subjects relating to public lands, far in advance of other newspaper publications, such as decisions of the Secretary of the Interior, Commissioner of the General Land Office, and the United States Courts, important bills before Congress and the debates thereon, also pension legislation and matters of general interest to soldiers.

AMERICAN FARMERS' UNION.

In sympathy with the general unrest among Western agriculturists, farmers of Nebraska, with men like ex-Governor Butler at their head, organized the American Farmers' Union last year. By way of showing its object and scope we quote the preamble to the constitution, and two of the articles:

PREAMBLE.

For the purpose of resisting the encroachments of organized wealth upon farm productions—to encourage the framing and enacting of equitable laws—to secure commercial rights—to advance social and intellectual culture, and to secure to ourselves and to our children the just results of our toil, the American Farmers' Union is established upon the principle of a democracy, thereby setting forth the principles of our government in this co-operative organization.

ARTICLE II.

SECTION 1. It shall be the duty of the local Unions to deliberate upon all questions furnished them by their State Union, and when required, to report the majority and minority vote thereon to the State Union; also to report such other matter as they consider of general importance. Said report to be made quarterly, unless it is of a nature demanding prompt action, or is otherwise ordered by the State Union.

SEC. 2. It shall be the duty of the State Unions to furnish subject matter of common importance for the unity of consideration among the local Unions of their respective States; to report quarterly (except in cases demanding prompt action) to their local Unions and to the National Union; said report shall contain a summary of the reports furnished by the local Union, and to officiate in State affairs for the interests of their local Unions.

SEC. 3. It shall be the duty of the National Union to consider all reports received from State Unions; to report back matters of national importance; to establish rules of action governing local Unions; to interpret laws governing Unions; to make necessary appointments; to appoint district or county organizations; to assign questions of national importance to their appropriate localities or to the State Unions and to officiate for the national interest and general welfare of the local Unions.

ARTICLE III.

SECTION 1. The National Union shall make rules for concerning action in the government of local and State Unions.

SEC. 2. The State Unions may give orders for concerted action to apply to their local Unions when deliberating upon subjects of importance and to secure secrecy if required.

SEC. 3. Any rule of action adopted by the National or State Unions under this constitution, shall be final until withdrawn by the Union that gave them, or changed or revoked by the majority of the Unions to which they apply.

These are copied from a little "Pamphlet No. 2," referred to in the letter printed below.

Ex-Governor David Butler and Mr. E. W. Bell represented the Union at the Allen Trust convention in Topeka the 1st of May last, and they submitted brief verbal descriptions of the Union's plan and machinery to the editor of the *KANSAS FARMER* and others. We are now in receipt of a communication, written by Mr. Bell, in relation to the same matter and proposing that the farmers of Kansas unite with those of Nebraska in increasing the membership of the Union and enlarging its field of operations. Here is the article.

KANSAS AND NEBRASKA UNITED UNDER THE SYSTEM OF THE AMERICAN FARMERS' UNION.

"Think not that I am come to destroy the law or the prophets: I am not come to destroy, but to fulfil."—*Bible*.

Since her pioneer history began Kansas has towered up in rugged relief in every aggressive reform which our great nature could furnish. Her bold stand has marked the epoch for a broader and more perfect human liberty and for commercial justice. Giving due weight to the history of the past in its relation to the future, and knowing that Kansas geographically, politically, and materially, has found a parallel and a sympathetic neighbor in Nebraska, I appeal to her citizens to unite with her sister State by organizing under the plan of the American Farmers' Union, for the purpose of leveling trusts, pools, and monopolies; for the purpose of gaining to the farmers and laborers the result of their toil, and to infuse into our representative government the spirit of the people. The Union is the great conservator of what is good in our present institutions; it is not come to destroy the law, but to fulfil. It adds new features in organized work and discards old ones;

through it the people can be heard; it can focus the majority opinion upon any Legislature that may be in session and demand recognition, and this demand is not the puny prayers of petitioners, but it is the majority vote backed up by an organization that bristles with aggressiveness. By its system the farmers can be unified in opinion and thought. Their separation is to their advantage, as it favors more complete discussion and more careful deliberation. Separation over a vast area of country is practically annihilated by its *modus operandi*, and by their rapid transmission of the mails through which it acts.

The design is two-fold: giving the natural law of competition in its relation to supply and demand in commerce, and to breathe into our system of government the spirit of a pure democracy, ridding the people as far as possible of the present mania that does not represent. This is no visionary theory, but a practical organization, formulated in its detailed application. Its originators and framers have been residents of Kansas and Nebraska from twenty-four to twenty-nine years. Ex-Governor David Butler, whose name is linked with the formation history of Nebraska and whose practical judgment has never been questioned, is, by virtue of his labor in aiding in formulating the plan, the present President of the National Union. I believe the intelligence of the Kansas farmers will see merit in this system of work, and with the zeal of Kansas historic fame will enter into it for triumphant success.

The People's Industrial Union for the industrial classes of the towns and cities, is conducted on the same general plan as the Farmers' Union; each is distinct from the other; both work in parallel directions and can come together with all their combined force when desired. E. W. BELL.

Pawnee City, Neb.
P. S.—Pamphlet No. 2 will be furnished persons desirous of becoming familiar with the prominent features of the American Farmers' Union and People's Industrial Union by addressing E. W. Bell, Pawnee City, Neb.

This movement, as it appears to our minds, is nearer what farmers in general will ever agree upon than any other which has yet taken form. If farmers in Kansas, whether they belong to the Grange, Alliance, Wheel or Plowman's Club, or not, but who see the need of a closer union among farmers for purposes of mutual benefit, would correspond with Mr. Bell at the address given above, inclosing stamps for return postage, copies of the constitution, by-laws and statements of details in work would be furnished in reply and a great deal of good would follow, by way of suggestion if nothing more. The Farmers' Union is not the creature of imagination spurred into momentary action; it is the result of long and careful thought after frequent counsels of suggestion, amendment and revision. The plan was formulated deliberately after many details had been considered and worked out. In two respects it differs from the Grange, but neither is an improvement, unless it be in the fact that they overcome objections which some men urge against the Grange. The Union holds open meetings except when it is necessary to avoid intrusion by offensive persons. The Union does not put as much stress on social culture as the Grange does.

We commend the Union to the careful consideration of farmers, hoping that they will investigate its plans and propositions in connection with those of other existing or proposed organizations for industrial relief, to the end that eventually the best will be discovered. We expect great good to come from the meeting of the National Farmers' Congress and the National Grange in Topeka next November. All that can be learned by study of different plans of co-operation before that time will be that much to help in work then to be done.

Remember the FARMER is now \$1 a year.

How to Make a Rain-Gauge.

The following letter will have interest for many of our readers. The writer, Sergeant T. B. Jennings, of the United States Signal Corps, Assistant Director Kansas weather service stationed at Washburn college, Topeka, is collecting weather items from volunteer observers in all parts of the State. It is from his work that our regular weekly Kansas weather reports come. As will be seen by his letter below, he will furnish postal cards without expense to persons that will take observations and report to him. Read his letter, and put up a rain-gauge, whether you want to report or not. It will furnish interesting information for private use.

KANSAS WEATHER SERVICE,
TOPEKA, June 11, 1888.

EDITOR KANSAS FARMER:—Having frequently been asked how to make a simple inexpensive rain-gauge, I would like to give an answer through the medium of the *FARMER*, as the matter is one in which every farmer is interested: Take an ordinary can of tomatoes or peaches, and you will notice one end is smooth, while the other is corrugated. Be sure the can has no dents, as they will give false results. Open the corrugated end of the can, extract the contents, turn the can upside down on a hot stove, so as to unsolder the rest of that end. Carefully clean out any solder that might be on the inside of the can. Clean the can out and turn it upside down. You now have an excellent gauge. The next question will be its proper exposure, which is comparatively easy in Kansas. It should be clear of all modifying influences, such as trees and buildings, and high enough to prevent chickens, etc., interfering. Select a fence post with a clear "sweep of the sky," nail a lath to the post, allowing it to project about four inches above the post, place the gauge on the post and tie to the lath. The lath should not reach higher than the gauge, as then it would interfere with the falling rain. If the top of the post is not already flat and level, it should be made so with the saw. Next, provide a measuring stick. If red cedar is obtainable it is the best, walnut will come next. Whatever wood is used, the stick should be made as thin and narrow as compatible with its usefulness, so as to cause the least displacement of water possible. Graduate the stick in inches and fractions. If possible the fractions should be in tenths. All measurements in such a gauge are direct and should be recorded as measured. Parties providing themselves with such a gauge and desiring to make reports to this office will be provided with special postal cards for that purpose, on application to the undersigned.

T. B. JENNINGS, Signal Corps,
Assistant Director.

A statistical exchange gives the following facts concerning the grain bag industry: The grain bag trade on the Pacific coast last year amounted to 33,000,000 bags, and the indications now are that 2,000,000 more will be required for the wheat crop this season. The prospect for a large wheat yield never was better. The entire bag capacity of the California Jute Mill company is about 1,250,000 per year, and not more than this number can be produced by the double shift prison force at San Quentin. The great bulk of these goods, or over 30,000,000 bags, comes to the coast from Calcutta. They are filled with grain and shipped to Liverpool, and from there they are returned to New York as second-hand bags, which can never again be used for wheat, but are used for bagging vegetables and mill offals.

Niagara's Bridges.

A slight suspension bridge was built at Niagara Falls in 1848 and removed in 1854. A new suspension bridge, then the finest in the world, having a span of 821 feet, was completed in 1855. The great suspension bridge across Niagara river, from Niagara Falls to Clifton, Canada, was opened in 1869.

By using labor-saving machinery, such as the mower, the sulky rake, the hay-loaders, stackers and horse forks, hay can be put up at much less expense than by hand labor.

The best dollar investment in the world is for any reader of this paper to send us \$1 for the *KANSAS FARMER* one year.

Horticulture.

Directions for Selecting, Preparing and Sending Specimens of Fruits.

The Commissioner of Agriculture sends out the following:

It is essential that all specimens of fruits sent to this Department to be examined by the Pomologist, and intended to represent certain varieties, should be characteristic in all respects and should fully and fairly exemplify their peculiarities. To this end the following instructions should be followed:

1. Select such as are of average size, typical in shape and color, and not too soft to carry safely.
2. Cut a small branch showing bearing wood, and if possible with one or more fruits and characteristic leaves attached, and when possible another showing the mature one-year-old wood. It is of the utmost importance, not only to the Pomologist in identifying and comparing varieties, but also to the artist in making illustrations, that the branches and leaves should accompany the fruit.
3. Each fruit, whether attached to a branch or not, should be separately wrapped in several folds of tissue paper, and then packed in moss, cotton, or very soft papers, to fill the space between the fruit and the box which contains them.
4. In sending such as are liable to shrivel or such as have fresh leaves attached, the packing should be dampened. The box should be wrapped in several folds of strong paper, and securely tied over all with twine. There is no objection to sealing a package sent under a government frank.

Great care should be used to send nothing by mail that may decay and injure the contents of the mail bags.

There is no objection to receiving overgrown or curiously marked specimens of fruits which are of special interest.

Boxes made especially for carrying pomological specimens by mail, and franks for pasting on the outside of such packages, will be sent to any one applying for the same. When a frank of this Department is used, no postage is required, and such packages may be mailed at any postoffice within the United States.

Large boxes or barrels may be sent by express and the charges guaranteed, which will be paid here.

NORMAN J. COLMAN,
Commissioner.

H. E. VANDEMAN, Pomologist.

About Borers.

EDITOR KANSAS FARMER:—I have in the last few years read many articles and remedies for keeping borers and rabbits from young apple trees. We have had actual experience and have been a close observer for twenty-five years in planting and taking care of trees, and would most emphatically discard everything from the body of a tree that will exclude air. The trunk of a young tree needs the action of the atmosphere to make it a thrifty tree. Your correspondent in the KANSAS FARMER, 24th of May, says he has raised several orchards. But that does not prove his theory is correct. One man may succeed doing a thing; another man may do the same thing different or apply different means and succeed much better. Last season was the worst for borers on young trees I have seen for many years, thousands of trees having been destroyed by the borer; yet the remedy I practiced and advised proved successful in every instance where properly applied. I sold and delivered several

thousand trees in the spring of 1887, giving the directions as above referred to, and upon thorough inquiry and observation do not know of a failure. Notwithstanding the severe drouth that existed, many of my customers grew fine orchards, while others that neglected their trees and the directions lost all, and of course the man that sold the trees got the blame, for self never does anything wrong.

J. E. WHITE.

Kent, Reno Co., Kas.

Commercial Fruit-Growing.

Extracts from an address delivered before the Missouri State Horticultural Society, by N. F. Murray.

With all the loss and destruction by insects, hard winters and severe drouths, we know from our own experience and observations for the last eighteen years, that commercial fruit-growing in Missouri is fast becoming a grand success. One of our customers, who fifteen years ago bought and planted eight hundred 3-year-old apple trees, of few varieties and largely Ben Davis, on sixteen acres of Loess hill land has net from the same over \$6,000. Many others have done nearly as well, while there are none who have planted intelligently and given their trees reasonable care but will testify that it is not merely a paying but a speculative industry; this year apples have sold much higher than wheat, and more bushels of apples can be grown on a few acres than can be bushels of wheat on a good-sized farm. At present in Dakota Territory it takes seven bushels of wheat to pay for one of Missouri apples. Our State is centrally located and surrounded by a good market for our fruit, while we possess a soil and climate absolutely unexcelled for the production of the finest apples, peaches and many other fruits. On the south slope of the Ozark range we find the natural home of the peach, and the peach-growers' paradise. The Olden Fruit company have on their two thousand acre fruit farm in Howell county, some sixty thousand fruit trees, mostly peach, and twenty acres of berries. When we were kindly shown through this vast orchard and fruit garden by the proprietors last June, we failed to see one unhealthy tree or plant. This fact, together with the broad, satisfactory smiles to be seen on the faces of the proprietors, assures us that we have not overdrawn the picture. Not only the people of south Missouri, but of the whole State, will owe a debt of gratitude to these enterprising gentlemen for opening up this industry in the wilds of south Missouri. The time is near, when not only car but train loads of delicious peaches will be run from Olden to feed the peach-hungry people of the great West, and like all other industries, when once opened up by a few faithful pioneers and proven a success, the people will follow, and we predict the time not far distant when this region of country will have a reputation for peach-growing unrivalled by any in the United States. There are but few farmers in Missouri who cannot spare ten or fifteen acres for a winter apple orchard. The ground could be cultivated in corn, potatoes or other root crops for the first five years, the product of which would pay for all labor required, leaving the growth of the orchard so much net gain. From this time on it should be cultivated for fruit alone. The apple-picking would come in the farmer's slack time, and add largely to his income without interfering seriously with his farm operations. But the question that most naturally suggests itself to the minds of the fearful and unbelieving is, will not the production of fruit be overdone? I answer no, no danger, don't be alarmed. About fif-

teen years ago one of our editors made objections to publishing an article in favor of growing apples for market, by asking what in the world will be done with all the apples, when all the many and large young orchards now planted come into bearing? Those orchards and many others planted since have come into bearing. And what is the answer? Not half enough to supply the home demand at 75 cents to \$1 per bushel and absolutely not one car load to ship, for every ten called for. Some people seem to forget that while new orchards are growing, old ones are dying, and so forget that the vast regions to our West and Northwest are rapidly filling up with an agricultural and mining population, representing billions of wealth, and occupying a country that never has and never can produce their own apples and peaches. Then let Missouri, if she will, convert the Missouri river hills from St. Louis to the northwest limit of our State into orchards and fruit gardens, and let the people of south Missouri waken up and follow the glorious example of the Olden Fruit company, and convert the south slope of the Ozark range into one vast peach orchard, and still the product would find an outlet at paying prices; remember that every time you reduce the price on fruit you increase the demand and it should be our aim to make fruit so plentiful and cheap as to be within the reach of all industrious people. At present not one-half our own citizens can afford to eat home-grown apples of the poorest and cheapest quality, while the pockets of our rich are being continually drained to pay for canned fruits and vegetables grown by the aid of expensive fertilizers in distant States on land that never had a soil thicker than a pancake and long since worn out. All that is needed to place Missouri in the front rank as a commercial fruit-growing State is to get our people aroused to action; but Missouri like most other States has entirely too many people that can never find anything that will pay them good enough, or quick enough; to them there is always a "lion in the way."

Wire and Out Worms.

Wire worms live three years as grubs before the mature beetle is developed. The beetle usually lays its eggs in grass fields. The worms are likely to do most damage the second year after plowing grass. I think they feed on grass roots the first year. I advise careful inspection of the field, and if wire worms are found in the soil—they will be large now—I would plant to buckwheat or to peas. These are the crops that are not injured. If no wire worms are found then potatoes may be safely planted. I know of only three ways to destroy these pests. First, summer fallow; second, sow buckwheat or peas, which is a most desirable method, as it secures a profit at the same time; third, we bury pieces of potatoes with a stick stuck in each piece to mark its position. As the worms gather on the pieces, the latter are pulled up and the worms are killed. This is expensive, but often pays well in gardening. Let it be remembered that because wire worms created havoc last year, it is no certain sign that they will this year. If last year was the third year, they have now left the ground, and the eggs for the next brood are placed in some meadow, maybe rods away.

Most cut worm moths fly in August, and at that time lay their eggs. The caterpillars begin to feed in late summer and are partly grown in spring. The eggs are laid on some permanent crop, like grass. If the grass is plowed in May, for corn, of course it and its roots become very dry and wilted by June, and the cut worms, in lieu of

green, succulent grass, take the fresh tender corn, etc. The best way to manage the cut worm evil is to examine the ground as it is freshly plowed, and see if it is peopled by numerous cut worms; if so, just as the corn is coming up drive through the field with a load of green grass, throwing forkfuls thickly over the field. The next morning numerous cut worms will be found under the grass and may be killed. A better way is to poison the bunches of grass by spraying the grass with a dilute mixture of London purple and water, one pound to 100 gallons. Then we need pay no more heed to the matter after the grass is scattered. The cut worms will eat the poison with the grass and die, and the corn will go undisturbed.—*New York Tribune.*

Cultivation of Squashes.

Many people object to raising winter squashes in the garden for two reasons: They are subject to bugs, and require so much space to grow in. Squash bugs can be kept in check by the use of sulphur. After a reasonable growth has been made, pinch off the ends of all runners. It is by no means necessary to let a vine run over "all creation" because it is so disposed. It is a good idea to plant squashes near a fence, as they take kindly to any sort of a trellis. Fine squashes have been grown in this way, ripening quicker and more evenly than on the ground. No better variety of squash is grown than the Essex Hybrid. It is fine-grained and solid, of good flavor, very productive, and a most excellent keeper. Housekeepers who have tried cutting from a Hubbard squash in a hurry will find the Essex Hybrid much easier to manage, and equally good.—*New England Farmer.*

The Most Useful Insecticides.

Prof. A. J. Cook says: "I have found these are the arsenites, London purple and Paris green; the kerosene and soap mixture (one pint of kerosene and one quart of soft soap, or one-half pound of whale oil soap, stirred thoroughly till permanently mixed; then add water so as to make the kerosene one part to fifteen of water), and pyrethrum. This can be used as a powder; one pint to twenty of flour, or one tablespoonful may be mixed with two gallons of water. In the last case, it should be thrown on the plants with violence so as to touch all the insects. White hellebore is a valuable insecticide, especially in fighting currant slugs. Whale oil soap is a good specific in fighting many insects, like plant lice, rose slugs, etc. Tobacco smoke, for plant lice, and tobacco decoction are admirable to destroy vermin on domestic animals, like lice and ticks. Bisulphide of carbon is valuable for destroying grain insects in the bin. Perhaps the most generally useful remedy against insects destructive to plants is good culture and a generous use of that best fertilizer—barnyard manure.

"I should advise home-made insecticides or rather well-known insecticides in all cases. The put-up patented insecticides are usually some well-known insecticide like arsenic, with plaster, etc., *ad infinitum*. Such substances are sold at an immense profit."

The reading public has reason to be disgusted with any medicine which claims to cure everything, from a corn to consumption. Shallenberger's Antidote for Malaria is simply what its name imports. If you have Malaria in your system, a few doses will destroy it immediately. So far as now known it is the only antidote for this poison. Sold by Druggists.

Good stable manure, evenly applied, and well incorporated with the soil, will show a noticeable effect for several years.

The Poultry Yard.

How to Raise Ducks.

It was once supposed that ducks could not be raised without ponds of water, but they are now kept in brooders 5x7 feet, with yards 5x16 feet (100 in each yard), until they are eight or ten weeks old, when they are then ready for market. Ducks are profitable if sold as soon as they reach four pounds weight, or five at the highest, as they will return rapid growth and increase for all the food they may consume up to that age. After that time they do not pay except to keep a few, unless they have a pond and grass run. June is the best month for selling, and July next, as young ducks bring from 25 to 30 cents per pound, according to quality, in the New York markets. A pair of Pekin, Rouen, or Aylesbury ducks ought to weigh, with heavy feeding, ten pounds per pair the day they are ten weeks old.

If raised under hens, keep the hen and young ducks in little coops and runs, away from water. In fact, until the ducks are feathered, they should be given drinking water in a manner only to allow of their getting their beaks wet, for contrary to the old saying that "wet weather is splendid for young ducks," nothing is so fatal to them as dampness. Very cold drinking water will cause them to have cramps, hence it should be tepid.

Feed them, after they are twenty-four hours old, on a mixture of mashed potatoes, which may be thickened with ground grain (composed of equal parts of corn meal, ground oats and middlings), and give them all the milk they can drink. Scald all the food the first two weeks. After they are three days old, give them meat, chopped fine, (or ground meat), mixed in their food three times a week. Chopped grass, cabbage, vegetable tops, clover hay chopped and steeped in water, or any kind of green food may be given liberally. After the second week cooked turnips and ground grain will answer, with a little ground meat. Feed four times a day until they go to market.

They are subject to but few diseases. Cramps occur from cold water. Leg weakness comes from damp quarters at night. Apoplexy attacks grown ducks when they are very fat, and they are also subject to vertigo. If attacked by the large, gray body lice on the heads, they will appear apparently well, and suddenly turn over on their backs and die. The floor upon which they sleep must be of boards, and should be kept very clean and dry. As we stated, dampness is fatal to young ducks.

If raised in incubators feed them in little troughs, to avoid fouling the food. They require plenty of heat in the brooder at first, but after they are four weeks old, can do well without it. Give them plenty of drinking water always, and let it be clean.

Young ducks are usually marketed dressed, leaving on heads and legs, but some markets require the entrails to be drawn, while others do not. Old ducks seldom bring over 12 cents per pound. The best breeds are Pekins, Rouens, and Aylesburys; or those breeds may be crossed on each other with advantage. The best time to hatch them is in April and May, so as to get them in market in June and July.

A duck of the improved breeds will lay from 120 to 160 eggs per year, and usually begins in February. If kept in

the house until about 8 o'clock in the morning, they will lay in the house, as they lay early in the morning, but if turned out too soon they sometimes deposit their eggs in other places, and even on ponds. One drake to six ducks will be sufficient, and if young females are used, it is best to have a 2-year-old drake, though sometimes the eggs hatch well from parents of the same age on both sides, and less than a year old; but they should not be kept too fat, or the eggs will not hatch well. At Ham-monton, N. J., this season, several thousand ducks were raised in brooders that had no water, except to drink, and the same is done annually by Mr. James Rankin, of South Easton, Mass., who raises as many as 4,000 a year. The great desideratum is good care, regular feeding, and dry quarters.

Compared with broilers, the prices as reported in the New York markets, show that early in the season broilers bring as high as 65 cents per pound, though at that period no ducklings are sent to market.

For the years 1886 and 1887 the prices of young ducks and chicks, dressed, compared, were as follows:

	1886.		1887.	
	Ducks.	Chicks.	Ducks.	Chicks.
May 28.....	28	50	22	22
June 4.....	25	45	22	25
June 18.....	18	30	23	24
June 28.....	16	28	23	30

It will be observed the chicks are in the lead in the prices, but ducklings are sold when they weigh from three to four pounds each, while chicks must weigh, for the late months, over two pounds each, but it requires, on an average, three months for the chick to reach two pounds, while the duck arrives at that weight (averaging a number) in less than half that time, and is ready for market (weighing three pounds) in seven weeks, thus giving really a larger profit in the summer months, though prices rapidly decline after July 1.

The following is the weights of some young ducks, not extra fed, and which were taken as the average of lots of 100 ducks. The weights are per pairs, not single ducks.

	Lbs.	Oz.
Pair ducks, 1 day old.....	0	4
" " 11 days old.....	0	15 1/2
" " 20 " ".....	2	1
" " 32 " ".....	3	6
" " 39 " ".....	4	8
" " 42 " ".....	5	0
" " 45 " ".....	5	12
" " 49 " ".....	6	12
" " 54 " ".....	7	8

It will be noticed that they gained faster at some times than at others, which difference is due to warm or damp weather, as the case may be. After the fourth week they should gain from eight to twelve ounces each, per week, though we have known them to gain fourteen ounces in one week. Everything depends upon the food and care bestowed.

Of the breeds, a cross between the Pekin drake and Rouen female makes the best duckling, as it is white in color, like the Pekin, and has the hardness of the Rouen. Both breeds are very large, and grow rapidly. The white color avoids pin feathers showing when the ducklings are dressed. They are never sold alive, as is the case with the adults. The Aylesbury is also an excellent white duck, and nearly as large as the Pekin, the two white breeds making an excellent cross. Always use males of the Pekin, Rouen, or Aylesbury when grading up a common flock. The White Muscovy drake and Pekin female is an excellent cross, giving a very compact carcass. Compared with chicks, the growth forced on high feeding, with a lot of ten ducklings and chicks, for

experiment, with the same amount of food for producing one pound of flesh (usually a cost of 5 cents for each pound of carcass), we present the following:

	Duckling.		Chick.	
	Lbs.	Oz.	Lbs.	Oz.
1 week old.....	0	4	0	2
2 weeks old.....	0	9	0	4
3 " ".....	1	0	0	8 1/2
4 " ".....	1	9	0	10
5 " ".....	2	2	0	14
6 " ".....	2	11	1	2 1/2
7 " ".....	3	5	1	7 1/2
8 " ".....	4	0	1	12
9 " ".....	4	8	2	0

As they approach maturity (after the eighth week) the ratio of gain begins to become proportionately less, while some were heavier than others. The ducks were kept in a small coop and fed to demonstrate the highest point they could be made to attain, the pure-bred Pekins being used for experiment. The weight of chicks is taken from our May number.—P. H. Jacobs, in Farm and Garden.

Poultry Notes.

Avoid condiments in feeding chicks. If any red pepper is given at all, it must be very little indeed.

Coarse bones in fowls indicate coarse meat. A coarse-meated fowl is a poor thing beside a fine, juicy-meated one.

Coops with chicks should be stood on little knolls. During hard rains the water will sometimes stand in the coops and drown the birds if placed on or below the level of the surrounding ground.

Hens cooped out with chicks soon begin to lay again. Look out for their eggs, or vermin will do it for you. Some hens will lay in the spring when their chicks are only a month to six weeks old.

It is better and healthier to let hens that want to set do so if one has the convenience. It is most natural for them to take a rest from laying. The eggs from such hens are more likely to be fertile.



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(Offered by Messrs. J. R. Mulvane, W. A. Bells, Shellabarger & Griswold, C. K. Holliday and E. G. Moon, Topeka.)

BOYS' DEPARTMENT—GRAIN AND VEGETABLES.

Entries in this class must be the work of boys under 14 years of age; the product exhibited to have been raised in 1888.

Table with 3 columns: Item, 1st, 2d. Includes items like Best 10 stalks of corn in ears, Best half bushel seed corn in ears, etc.

Sweepstakes.—The largest and best display by any exhibitor in this class—\$10 to first, \$5 to second, and \$2 to third.

GIRLS' DEPARTMENT—HOUSEHOLD WORK.

Entries in this class must be the work of girls under 14 years of age. The judge is instructed to award premiums only to articles that are entirely finished, and the work to have been done by exhibitor.

Table with 3 columns: Item, 1st, 2d. Includes items like Best silk quilt, Best cotton patchwork quilt, Best specimen quilting other than above, etc.

Sweepstakes.—The largest and best display by any exhibitor in this class—\$10 to first, \$5 to second, and \$2 to third.

SPECIAL CLASS B.

(By the Citizens of Topeka.)

Specimens entered in this class may be shipped to "The Director in Charge," T. J. Anderson, Topeka, at the expense and in care of the Kansas State Fair Association.

Note.—All entries in this class to be donated to the State Board of Agriculture, to be exhibited at the meeting of the National Grange and National Farmers' Congress, at Topeka, November 14, 1888.

GRAINS IN THE STRAW.

Bundles to be not less than six inches in diameter.

Table with 3 columns: Item, 1st, 2d. Includes items like Best sheaf wheat—red, Best sheaf wheat—white, Best sheaf wheat—spring, etc.

CORN.

Table with 3 columns: Item, 1st, 2d. Includes items like Best bundle white, Best bundle yellow, Best bundle sweet, etc.

GRASSES, ETC.

Table with 3 columns: Item, 1st, 2d. Includes items like Best bundle timothy, Best bundle clover—red, Best bundle clover—mammoth, etc.

THRESHED GRAINS, ETC.

Table with 3 columns: Item, 1st, 2d, 3d. Includes items like Best half bushel winter wheat—white, Best half bushel winter wheat—red, etc.

Sweepstakes.—To the exhibitor making the largest and best display in this special class, \$25.

SPECIAL CLASS C.

(By T. E. Bowman, of T. E. Bowman & Co., real estate, loans, etc., 116 West Sixth street, Topeka.)

Table with 3 columns: Item, 1st, 2d, 3d. Includes items like Best 3 loaves of wheat bread, Best 3 loaves of graham bread, etc.

Best girl rider, under 16 years old. The rider to ride horse owned on the farm where she resides. City girls excluded. Sweepstakes.—Best girl or boy rider, under 16

years old, open to the State, owners to ride their own horse, \$15.

SPECIAL CLASS D.

(By the Topeka Seed House, dealers in garden implements and all kinds of garden seeds, 304 Kansas avenue, Topeka.)

Best individual collection and display of tame grasses grown in Kansas. (Number of varieties, tasteful display, together with history of grasses and success in cultivation, will be taken into account by committee making award.)

SPECIAL CLASS E.

(By Ferguson, Meyers & Co., real estate dealers, 530 Kansas avenue, Topeka.)

Best three-year-old roadster mare shown to harness, breeding, style and speed to be considered. Silver medal valued at \$10 00

Best bushel of yellow corn in ear grown in Kansas in 1888, the corn awarded the premium to become the property of Ferguson, Meyers & Co.

SPECIAL CLASS F.

(By Thos. E. Price & Bro., dealers in wall paper, paints, artist materials, etc., 720 Kansas avenue, Topeka.)

TO AMATEURS. Best figure painted on canvas. Best floral design on placque. Best landscape painting on canvas by boy or girl under 16 years old. Best piece of crayon work by boy or girl under 16 years old.

SPECIAL CLASS G.

(By Sam Rades, Topeka.) Best and finest finished pair hand-worked slippers on broadcloth, worked in embroidery, silk or floss, medium size. Slippers awarded the premium to become the property of the party offering the premium.

SPECIAL CLASS H.

(By Secretary Kansas State Fair Association.) Largest and best display of ladies' ornamental and fancy work, fine arts, textile fabrics, etc. To be exhibited by any organization or association of ladies, (Shawnee county excluded.)

SPECIAL CLASS I.

(By The Jersey Bulletin, Indianapolis, Ind.) For best five-pound batch of pure Jersey butter, made in this State, gold medal, valued at \$25 00. The award of this medal will be governed by the Association rules, except each entry competing must be accompanied by a written statement that the butter was made from the milk of pure Jersey cows.

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.

ONE SAMPLE WATCH FREE.

SELLING PRICE, \$5.87. SELLING PRICE, \$5.87.



10 Days' Trial Free to All.

4 Ounce Elgin Watch, Selling Price \$5.87.

The above cut represents an Elgin, seven jeweled, cut expansion balance, patent pinion, quick train, (18,000 beats per hour,) movement warranted an accurate time keeper for 8 years, complete with a 4 ounce Dneber Silverine open face case. This is a watch that ought to sell for \$15.00, and one that we do not make any money on directly, but where we sell one of these watches we gain the explicit confidence of our customer and almost invariably sell him some goods from our large catalogue.

Out this out and send to us within 30 days with 50 cts. in postage stamps to guarantee us from loss of express charges and we will deduct the 50 cts. from bill and send the watch by express, C. O. D., subject to examination, and arrange so you can carry it 10 days free, or deposit \$5.87 with your bank, send bank receipt to us and we will send the watch to you. You can carry it 10 days and if not satisfied, return the watch to your bank and get your money. If \$5.87 is sent to us with order we will send watch by mail, post-paid and refund your money in 10 days if not satisfied. To anyone buying a watch for \$5.87 within 30 days and selling or refunding the \$5.87 paid for first watch. And as a positive guarantee to all that the watch is the best ever offered for the money, we will take back any one of these \$5.87 watches any time within one year for \$5.00 cash. As to our reliability we refer you to any Express Co. or old reliable business house in Chicago. Or you can if you so desire, send your money or order to the Fort Dearborn National Bank, with instructions to turn same over to us if they know us to be perfectly reliable.

THE R. W. SEARS WATCH COMPANY, 51, 53 & 55 Dearborn St., CHICAGO, ILL.

FARMERS! SAVE MONEY BY BUYING YOUR GROCERIES OF H. R. EAGLE & CO., 68 WABASH AVE., CHICAGO. RETAIL GROCERIES -AT- WHOLESALE PRICES. ALL GOODS Guaranteed TO BE First-Class. ONE TRIAL WILL SATISFY YOU. Send for Price List at once to H. R. EAGLE & CO., 68 Wabash Avenue, Chicago. SAVE MONEY!

Kansas City Stock Yards, KANSAS CITY, MISSOURI, ARE BY FAR THE Most Commodious and Best Appointed in the Missouri Valley. With ample capacity for feeding, weighing and shipping cattle, hogs, sheep, horses and mules. They are planked throughout, no yards are better watered and in none is there a better system of drainage. The fact that Higher Prices are Realized Here than in the Markets East, Is due to the location at these Yards of EIGHT PACKING HOUSES, with an aggregate daily capacity of 3,300 cattle, and 27,200 hogs, and the regular attendance and sharp competitive buyers for the Packing Houses of Omaha, Chicago, St. Louis, Indianapolis, Cincinnati, New York and Boston. All the thirteen roads running into Kansas City have direct connection with the Yards, affording the best accommodations 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 that there is no delay and no clashing, and stockmen have found here, and will continue to find, that they get all their stock in worth, with the least possible delay. C. F. MORSE, General Manager. E. E. RICHARDSON, Secretary and Treasurer. H. P. CHILD, Superintendent.

LOOK HERE, FRIEND. Are you Sick? Do you have pains about the chest and sides, and sometimes in the back? Do you feel dull and sleepy? Does your mouth have a bad taste, especially in the morning? Is there a sort of sticky slime collects about the teeth? Is your appetite poor? Is there a feeling like a heavy load on the stomach, sometimes a faint, all-gone sensation at the pit of the stomach, which food does not satisfy? Are your eyes sunken? Do your hands and feet become cold and feel clammy? Have you a dry cough? Do you expectorate greenish colored matter? Are you hawking and spitting all or part of the time? Do you feel tired all the while? Are you nervous, irritable and gloomy? Do you have evil forebodings? Is there a giddiness, a sort of whirling sensation in the head when rising up suddenly? Do your bowels become costive? Is your skin dry and hot at times? Is your blood thick and stagnant? Are the whites of your eyes tinged with yellow? Is your urine scanty and high colored? Does it deposit a sediment after standing? Do you frequently spit up your food, sometimes with a sour taste and sometimes with a sweet? Is this frequently attended with palpitation of the heart? Has your vision become impaired? Are there spots before the eyes? Is there a feeling of great prostration and weakness? If you suffer from any of these symptoms, send me your name and I will send you, by mail, One Bottle of Medicine FREE. Send your address on postal card to-day, as you may not see this notice again. Address, naming this paper, Prof. HART, 212 E. 9th St., N. Y.

THE MARKETS.

By Telegraph, June 11, 1888.

LIVE STOCK MARKETS.

St. Louis.

CATTLE—Receipts 4,000, shipments 100. Market active and steady. Choice heavy native steers \$4 90a5 60, fair to good native steers \$4 40 a5 00, medium to prime butchers' steers \$3 30a 4 45, fair to good stockers and feeders \$3 30a 3 75, ordinary to good rangers \$2 45a4 30.

HOGS—Receipts 3,700, shipments 300. Market lower. Choice heavy and butchers selections \$5 50a5 60, medium to choice packing \$5 35 a5 55, ordinary to best light grades \$5 20a5 40.

SHEEP—Receipts 2,000, shipments Market firm. Fair to fancy, \$3 60a5 10.

Chicago.

The Drovers' Journal reports:

CATTLE—Receipts 12,000, shipments 4,000. Market steady. Inferior to choice, \$4 00a4 60; cows, \$1 85a2 40; Texas, \$4 15; stockers and feeders, \$2 50a4 10.

HOGS—Receipts 34,000, shipments 9,000. Market opened lower and closed firm. Mixed, \$5 40 a5 57½; heavy, \$5 50a5 65; light, \$5 35a5 55; skips, \$4 00a5 15.

SHEEP—Receipts 4,000, shipments 2,000. Market steady.

Kansas City.

On and after this date all Western roads will charge extra on mixed car-lots in excess of 20,000 pounds.

CATTLE—Receipts since Saturday 1,024. Market slow and weak. Good corn-fed about 5c lower; common and half-fat grassers 10a15c lower. \$4 40a5 70 for shipping steers.

HOGS—Receipts since Saturday 7,234. The market was weak and 5c lower than Saturday. Extreme range of sales \$5 00a5 45, bulk at \$5 25 a5 35.

SHEEP—Receipts since Saturday 2,267. Market slow but steady.

PRODUCE MARKETS.

New York.

WHEAT—No. 2 red, nominally 91½a92½c at elevator.

CORN—No. 2, 58½a59½c delivered.

St. Louis.

FLOUR—Steady but dull.

WHEAT—No. 2 red, cash, 88½a89c.

CORN—Lower. Cash, 47½a48c.

OATS—Steady. Cash, 31½c.

RYE—Nothing doing.

BARLEY—Nominal.

HAY—Firm. Prime timothy, \$13 00a18 00; prairie, \$11 00a13 00.

BUTTER—Firm. Creamery, 14a17c; dairy, 12a14c.

EGGS—11c.

PROVISIONS—Easier. Pork, \$14 50; lard, \$8 12½.

Chicago.

Cash quotations were as follows:

WHEAT—No. 2 spring, 84½a84¾c; No. 2 red, 85½c.

CORN—No. 2, 51½c.

OATS—No. 2, 32c.

RYE—No. 2, 58c.

BARLEY—No. 2, 65a67c.

FLAXSEED—No. 1, \$1 30.

TIMOTHY—Prime, \$2 10a2 15.

PORK—\$13 00.

LARD—\$8 55.

BUTTER—Creamery, 15a18c; dairy, 12a12½c.

EGGS—Firm at 14a14½c for fresh.

Kansas City.

WHEAT—Receipts at regular elevators since last report, 401 bushels; withdrawals, 3,000 bushels, leaving stock in store as reported to the Board of Trade to-day, 40,679 bushels. There was a somewhat stronger feeling to-day on 'change, with no sales on the call except No. 2 red for August at 75½c. On track by sample: No. 2 soft, cash, 83½c.

CORN—Receipts at regular elevators since last report, 4,631 bushels; withdrawals, 5,659 bushels, leaving stock in store as reported to the Board of Trade to-day, 55,621 bushels. On track by sample: No. 2 mixed, cash, 47c; No. 2 white, cash, 50c.

OATS—On track by sample: No. 2 mixed, cash, 31c; No. 2 white, cash, 35c.

RYE—No. 2 cash, no bids nor offerings.

HAY—Receipts, old, 11 cars; new, 3 cars. Market firm. New, \$12; old, fancy, \$11 00 for small baled; large baled, \$10 50; wire-bound 50c less; medium, \$8 00a8 50; poor stock, \$2 00a3 00.

FLOUR—Quiet. Sales: 1 car by sample at \$1 50. Quotations are for unestablished brands in car lots, per ½ bbl. in sacks, as follows: XX, 95c; XXX, \$1 05a1 10; family, \$1 20a1 30; choice, \$1 55a1 65; fancy, \$1 70a1 75; extra fancy, \$1 80a 1 85; patent, \$2 10a2 15; rye, \$1 40a1 60. From city mills, 25c higher.

BUTTER—Creamery easy; dairy and store-packed are active to shippers. We quote: Creamery, fancy, 17c; good, 15c; dairy, 11a12c; store-packed, choice, 11c.

CHEESE—We quote: Full cream, twins, 11c; full cream, Young America, 12½c.

Green self-working, 4c; green hurl, 4c; green inside and covers, 2½a3c; red-tipped and common self-working, 2c; crooked, 1c.

PROVISIONS—Following quotations are for round lots. Job lots usually ½c higher. Sugar-cured meats (canned or plain): Ham, 11c, breakfast bacon 10c, dried beef 9c. Dry salt meats: clear rib sides \$7 60, long clear sides \$7 50, shoulders \$5 85, short clear sides \$8 00. Smoked meats: clear rib sides \$8 25, long clear sides \$8 15, shoulders \$6 50, short clear sides \$8 65. Barrel meats: mess pork \$14 00. Choice tierce lard, \$7 50.

Topeka Markets.

PRODUCE AND PROVISIONS—Corrected weekly by W. W. Manspeaker & Co., 711 Kansas avenue. (Wholesale price).

Butter, per lb. \$ 8 a 10
Eggs (fresh) per doz. 12
Beans, white navy, H. P., per bus 2 65
Potatoes (new) " " a1 00
Beets " " 25 a

RIVERVIEW

The Prettiest Young City of the Smoky Valley.

Beautiful Springs, Lake, and also, what the name implies,

RIVER VIEW.

Buy a home in or farm adjoining Riverview. Call on or address

THOS. E. FULGHUM,
Hays City, Kansas.

SEED BUCKWHEAT! MILLET,

TURNIP SEED AND FRESH RUTA BAGA SEED,

AT TOPEKA SEED HOUSE,

Address **DOWN'S ELEVATOR & SEED CO.,**
304 Kansas Ave., cor. Third St., Topeka, Kas.

Mount Hope Nurseries

ESTABLISHED 1869.

Offer for Spring of 1888, Fruit and Ornamental Trees, Grape Vines, Small Fruit and Shrubbery. All the old established sorts, and the desirable new ones. Bed-rock prices. Quality of stock unsurpassed. We solicit club orders and by the carload. Shipping facilities best in the State. We are not publishing prices, but send us a list of your wants and we will price them to your satisfaction. **A. C. GRIESA & BRO.,**
Drawer 13, Lawrence, Kansas.

THE LAMAR NURSERIES.

Headquarters for Fine Nursery Stock
Which is Offered at

HARD - TIME PRICES!

Dealers and Nurserymen supplied at lowest wholesale rates. Parties desiring to buy in large or small quantities will save money by purchasing our stock.

We have Apple, Peach, Pear, Plum, Cherry and Evergreen Trees. Grape Vines in all varieties, and FOREST TREES a specialty. Osage Hedge Plants and Russian Mulberry in any quantity.
Write for Prices.

C. H. FINK & SON, LAMAR, MO.

LA CYGNE NURSERY.

MILLIONS

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

TEN MILLION FOREST TREE SEEDLINGS.

ONE MILLION HEDGE PLANTS.

ONE HUNDRED THOUSAND TWO-YEAR APPLE TREES—Grown from whole root grafts.

FIVE THOUSAND IRISH JUNIPERS—Two-foot, SPLENDID WALNUTS, and other forest tree seeds and nuts, prime and fresh.

Full instructions sent with every order, and perfect satisfaction guaranteed. Send for full list and prices. Address

D. W. COZAD
Box 25, LACYGNE, LINN CO., KANSAS.

TOPEKA SEED HOUSE.

Established 1878.

All Kinds of Field, Garden and Flower Seeds.

We have a fresh stock of reliable Seeds, and a full stock of all kinds of Field Seeds:

RED CLOVER, ALFALFA CLOVER, KENTUCKY BLUE GRASS, ORCHARD GRASS, ENGLISH BLUE GRASS, RED-TOP, MILLET, BROOM-CORN, CANE SEED.

SEED CORN PURE NORTHERN-GROWN 90-DAY CORN, SEED POTATOES, all kinds of useful Field and Garden Seeds, at Wholesale and Retail. Also a full line of GARDEN IMPLEMENTS.
Send for Catalogue. Address

DOWN'S ELEVATOR & SEED CO.,
304 KANSAS AVENUE, TOPEKA, KANSAS.

KANSAS HOME NURSERY

OFFERS

BEST HOME-GROWN TREES. Choice Fruit and Ornamental Trees of real merit for the Western Tree-Planters. Also best Fruit and Flower Plants. Water-proof. Samples by mail, 10 cents each; \$6 per 100, by express.

A. H. GRIESA, Drawer 28, Lawrence, Kas.

Hart Pioneer Nurseries

OF FORT SCOTT, KANSAS.

A full line of Nursery Stock, Ornamental Trees, Roses and Shrubbery. We have no substitution clause in our orders, and deliver everything as specified. 220 Acres in Nursery Stock. Reference: Bank of Fort Scott. Catalogue Free on application.
Established 1857.

ATTENTION, FARMERS!

You no doubt are aware of the fact that the dairy business is the most remunerative part of farming, and that there is no reason in the world why Kansas should not rank foremost in the creamery interests.

Kansas Creamery Butter

to-day is selling at the highest market prices in Denver and the West, but there is not enough butter made in Kansas to supply this great Western demand. Colorado has to buy her creamery butter in Iowa and Illinois, and these States are getting all of this good money that should go to our

KANSAS FARMERS.

Every town of six hundred inhabitants and upwards should have a CREAMERY, which they can procure at a VERY SMALL COST.

We are so situated that we can furnish all necessary Machinery and Apparatus, and give full instructions for erecting the building, which we will be glad to do at any time.

Let some enterprising farmer take hold of this, and work up a small stock company, and correspond with us.

We will be very glad to hear from anybody regarding this great industry.

OUR CATALOGUE FOR 1888 is now out. Send 2-cent stamp for same. Respectfully,

Creamery Package Mf'g. Co.

KANSAS CITY, MO.

HAGEY & WILHELM,

WOOL COMMISSION MERCHANTS

ST. LOUIS, MO.

REFERENCES:—KANSAS FARMER CO., Topeka, Kas.; Boatmen's Bank, St. Louis; Dunn's Mercantile Reporter, St. Louis; First National Bank, Beloit, Kas.

GENERAL AGENTS FOR COOPER'S SHEEP DIP.

We guarantee sale and full returns inside of TEN DAYS from receipt of shipment.

CONSIGN YOUR CATTLE, HOGS & SHEEP TO Larimer, Smith & Bridgeford,

LIVE STOCK COMMISSION MERCHANTS,
Kansas City Stock Yards, Kansas City, Kansas.

Highest market prices realized and satisfaction guaranteed. Market reports furnished free to shippers and feeders. Correspondence solicited. Reference:—The National Bank of Commerce, Kansas City.

The Veterinarian.

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

HUMOR OF THE SKIN.—I have a steer the neck and breast of which are covered with small pimples that are constantly moist with cold sweat. The pimples bleed when the heads are rubbed off. His hair comes out easily and the brisket is somewhat thickened. He seemed well till one week ago. Appetite good. Have greased the sores with melted lard without effect. What treatment do you advise? [Tie the animal up by himself and wash with strong soapsuds. Apply the following ointment twice a day by rubbing well in: Neat's-foot oil, ten parts; tincture of iodine, four parts; common salt, three parts. Give the animal two or three doses of epsom salts, one pound dissolved in water and given as a drink.]

GLANDERS.—I have a black mare, 17 years old, that suckled a colt through the winter. She has a discharge from right nostril of thick, yellowish matter, which sometimes comes in a long, string-like form. Mostly, however, it seems kind of grainy and short, in small lumps. She has intense soreness on right side of head from ear down to the throat-latch to jaw bone. Seems hearty and lively, and works strong. Please describe glanders. The matter sinks in water. [Glanders is one of the most insidious, loathsome and dangerous diseases known to man; a disease once established without a remedy, a disease readily communicated from one animal to another, and from animal to man. The exposure of the horses in both armies, often without shelter and little if any food, soon developed this scourge of the stable. Thousands of horses were lost through its ravages. The sale of condemned army horses in the larger cities spread the disease in every direction. Many private horses were attacked. Whole stables were depleted. To such an extent did the disease exist in several of the States, that the Legislatures were called upon to pass a law making it a penal offense to keep or own an animal known to be affected with glanders. New Jersey was the first State to pass such a law, making the punishment for any person having in his or her possession a glandered animal a fine and imprisonment, either one or both at the discretion of the court. The stringency of the law soon stamped the disease out of the State. Horses recognize and communicate with each other by the sense of smell. It is in this way, perhaps, that the first appearance of the disease is noticed upon the membrane of the nostril. The symptoms of the disease are usually as follows, varying in different animals according to constitution, climate, sanitary conditions, age, etc.: A discharge of matter from one or both nostrils, enlargement of the maxillary gland upon the side the discharge is from; the membrane lining the nasal cavity pale or having a leaden hue; sometimes ulcerations are noticeable; the discharge thin and glutinous, sometimes white but oftener greenish color. The symptoms of the disease in an animal contracting glanders from another are quite different from those arising from bad food, exposure, etc. In the former the discharge is from one nostril only, the appetite usually good, and the animal apparently in good condition otherwise. There is no cough, running at the eyes, or other catarrhal symptoms. In the latter the cough is always present, either moist or dry, and is preceded by loss of appetite, great depression, etc. The symptoms of the second stage are characterized by the discharge becoming more profuse and sticky, the swelling of the glands become harder and appearing to be attached to the bone; the discharge is sometimes streaked with blood and offensive; the under eye-lid becomes tumefied, swelling or elevation of the bones of the nose; loss of appetite, debility, swelling of the legs and sheath, sometimes lameness without apparent cause, ulcerations within the nostrils,

CHICAGO.

KANSAS CITY.

ST. LOUIS.

JAMES H. CAMPBELL & CO.,

Live Stock Commission Merchants,
FOR THE SALE OF CATTLE, HOGS AND SHEEP.

Rooms 23 and 24, Exchange Building, } Unequaled facilities for handling consignments of Stock in either of the above cities. Cor-
KANSAS CITY STOCK YARDS. } respondence invited. Market reports furnished free. Refer to Publishers KANSAS FARMER.

discharge from the eyes. When these symptoms appear the case soon runs to a fatal termination. The discharge from the nostrils, ulcerations upon the Schneiderian membrane, swelling of the glands, are not sufficient alone to prove a case of glanders, as there are other diseases where they occur. There are many well-defined cases of glanders that apparently recover, but it is only putting off the inevitable. In a month or two, sometimes as long as a year, the disease will return in greater severity and carry off the poor sufferer within a short time.]

Tutt's Pills

J. H. ATHEY, a prominent druggist of Holly Springs, Miss., says: "Your pills are doing wonders in this state. The sale of Tutt's Pills exceed those of all others combined. They are peculiarly adapted to malarial diseases. Our physicians all prescribe them."
SOLD EVERYWHERE.
Office, 44 Murray Street, New York.



LEWIS' 98% LYE
POWDERED AND PERFUMED (PATENTED)
The strongest and purest Lye made. Will make 10 lbs. of the best Perfumed Hard Soap in 20 minutes without boiling. It is the best for disinfecting sinks, closets, drains, etc. Photographers' and machinists' uses. Foundrymen, bolt and nut makers. For engineers as a boiler cleaner and anti-incrustator. For brewers and bottlers, for washing barrels, bottles, etc. For painters to remove old paints. For washing trees, etc. etc
PENNA. SALT MFG CO., Gen. Agts., Phila., Pa.

Maple Grove Duroc-Jerseys.

We use only the choicest animals of the most approved pedigree, hence our herd is bred to a very high state of perfection. Pigs in pairs not akin. Stock of all ages and sows bred for sale at all seasons. Prices reasonable and quality of stock second to none.

J. M. BROWNING, Perry, Pike Co., Ill.

POLAND - CHINA PIGS!
135 FOR SALE.

Sired by six first-class boars, for season's trade. My herd is headed by STEM WINDER 7971.
Address F. M. LAIL, Marshall, Mo.
[Mention KANSAS FARMER.]

LANEY & PAFF,
GREEN RIDGE, MISSOURI.

THOROUGHbred
POLAND - CHINA HOGS
FOR SALE.

No poor pigs sent out. [Mention KANSAS FARMER.]

THE GOLDEN BELT HERD OF
Thoroughbred Poland-Chinas

This herd comprises the richest blood to be found in the United States, and in uniformity and style has no superior in this country. Choice animals of all ages and either sex for sale. Stock shipped from here over either the A., T. & S. F. Mo. Pacific or St. Louis & San Francisco R. R. All breeders registered in American P.-C. Record. Pedigree with each sale.
F. W. TRUESDELL, Lyons, Kas.

OTTAWA HERD

Of POLAND-CHINA and DUROC-JERSEY Hogs. Twenty head of first-class boars from four to nine months old. Also seventy-five head of sows of same age, sired by Bruce 4695, C. R., Leek's Gilt Edge 2887, C. R., Whipple's Stemwinder 4701, Daisy's Corwin 4697. Dams—Mazy 2d 6214, Zaida 3d 8250, Maggie's Perfection 8210, Vone's Perfection 9424, Fay's Gold Drop 11676, Jay's Dimple 12172, Eureka Mayo 12176, and many other equally as well bred, and fine as can be produced by any one. Part of sows bred to gilt-edge boars of the most popular strains. Will sell at prices to suit the times. Never had any cholera in the herd. Write for prices.
I. L. WHIPPLE, Box 270, Ottawa, Kas.

Poland-Chinas

100 PIGS FOR SALE!

NEW BOARS:—Young America 3811, C. R., noted show hog and breeder; nine sweepstakes; sire of sweepstakes hog at Chicago fat stock show. Lord Corwin 4th, 1851; daisy show hog, of the highest premium blood. Lampe's Tom Corwin 6207; gilt-edge premium pedigree. SOWS:—Black Rosas, Gold Dust, Double Corwins, Black Bess, Black Beautys, Buckeyes, Dimples, Stemwinders, etc. Royal blood, gilt-edge pedigrees.
Shipped to fifteen States and thirty-three counties in Kansas.
W. S. HANNA, OTTAWA, KANSAS.

MAINS' HERD OF POLAND-CHINAS.



Jas. Mains, Oskaloosa, (Jefferson Co.), Kas., is located two and a half miles southeast of Oskaloosa, on Maple Hill Stock Farm. All hogs eligible to Ohio Poland-China Record. A fine lot of spring pigs now ready, for sale at prices that will suit the times. Also some fall sows now ready to breed or will be bred if desired. Personal inspection solicited.

Gold Dust Herd of Poland-Chinas.



J. M. McKEE, WELLINGTON, KANSAS.

Tom Corwin 3d 5293 A. P. C. R. at head of herd. Strains representing Model, Give or Take, Gold Dust, Black Bess and Black Beauty. Have some choice male pigs for sale. Also eggs of P. Rock, Brown Leghorn and Light Brahmas, \$1.25 per 13; Toulouse Geese, 15c; Pekin Duck 10c. each. Write; no catalogue.

For Berkshire Swine and Southdown Sheep that are first-class, or money refunded, call on or address J. M. & F. A. SCOTT, Box 11, Huntsville, Mo.
[Mention KANSAS FARMER.]

ORDERS TAKEN NOW

For SPRING PIGS sired by



ROYAL GRANITE 10105,

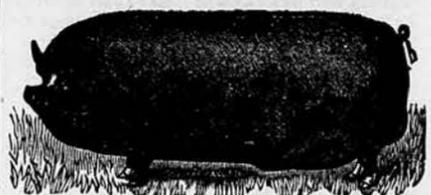
The best BERKSHIRE boar ever owned at "HAW HILL," and several other first-class sires. Enclose stamp for catalogue and prices.
SPRINGER BROS., Springfield, Ill.

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.

ENGLISH BERKSHIRES.



THE WELLINGTON HERD consists of twenty matured brood sows of the best families of home-bred and imported stock, headed by the celebrated HOPFUL JOE 4889, and has no superior in size and quality nor in strain of Berkshire blood. Also Plymouth Rock Chickens. Your patronage solicited. Write. [Mention this paper.]
M. B. KEAGY, Wellington, Kas.
P. S.—Yearling sows, already bred, for sale.

LOCUST & GROVE & HERD

OF
LARGE ENGLISH BERKSHIRE SWINE.

Nothing sent out but what is a credit to Locust Grove Herd. Individual excellence combined with purity of breeding, is my motto. Prices to suit the quality of stock offered. Correspondence and inspection solicited. Orders booked now for spring pigs. Address as below, or better, come and see.

JAMES HOUK, Prop'r,
Hartwell, Henry Co., Missouri.

SELECT HERD OF LARGE BERKSHIRES!

G. W. BERRY,
BERRYTON, Shawnee Co., KANSAS.

My sows represent the Royal Duchess, Sallie, Hillside Belle, Charmer, Stumpy, and other families. These Swanwick and Humfrey families are larger, thicker-fleshed, set on shorter legs, and possess finer qualities than other hogs. Herd headed by British Champion III, 13481 and Dauntless 17417. My aim is to produce a type of Berkshires honorable to the Select Herd and the breed. Correspondence in regard to spring pigs invited.
BERRYTON is located nine miles southeast of Topeka, on the K., N. & D. R. R. Farm adjoins station.

ELY'S CATARRH CREAM BALM

I had catarrh for eight years. With great reluctance I began using Ely's Cream Balm, and after six weeks use I believe myself cured. It is an invaluable Balm. — Joseph Stuart, 624 Grand Ave., Brooklyn.



A particle is applied into each nostril and is agreeable. Price 50 cents at Druggists; by mail, registered, 60 cts. ELY BROS., 56 Warren St., New York.

TO WEAK MEN

Suffering from the effects of youthful errors, early decay, wasting weakness, lost manhood, etc., I will send a valuable treatise (sealed) containing full particulars for home cure, FREE of charge. A splendid medical work; should be read by every man who is nervous and debilitated. Address,
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Devon Cattle! LINWOOD SHORT-HORNS

We are the largest breeders of this hardy, easy-keeping breed, one of the best for the West. Stock for sale singly or car lots.

RUMSEY BROS. & CO.,
EMPORIA, KANSAS.

Thoroughbred Cattle and Poultry

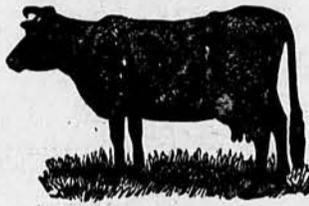
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BREEDER OF

THOROUGHBRED SHORT-HORN AND JERSEY CATTLE.

Stock for sale. Also FIFTEEN VARIETIES OF LAND AND WATER FOWLS of the very choicest stains. Send for Price Lists. Inspection and correspondence invited. Address JOHN T. VOSS, Girard, Kas.

Sherwood & Rohrer Stock Farm,

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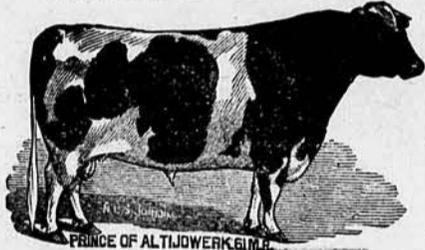


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A. J. C. C.
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JERSEY
CATTLE.

The herd is headed by the Stoke Fogis Victor Hugo Duke bull, St. Valentine's Day 1527, and the Coomassie bull, Happy Gold Coast 14713. Sons and daughters by above bulls, out of highly-bred cows, for sale for next ten days. SHERWOOD & ROHRER.

Holstein - Friesian Cattle

Of European Herd Book Registry.



The sweepstakes bull PRINCE OF ALTIJDWERK (61 M. R.) at head of herd, has no superior. Cows and heifers in this herd with weekly butter records from 14 pounds to 19 pounds 10 1/2 ounces; milk records, 50 to 80 pounds daily. The sweepstakes herd. Write for catalogue. M. E. MOORE, Cameron, Mo. [Mention this paper.]

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G. W. GLICK, Proprietor,
Atchison, Kansas.

Breeds and has for sale Bates and Bates-topped

SHORT-HORNS

Including representatives of Kirklevingtons, Filberts, Craggs, Princesses, Gwynnes, Lady Janes, and other fashionable families.

The Grand Bates Bulls,
8th Duke of Kirklevington No. 41798,
Waterloo Duke of Shannon Hill No. 89879,
At head of herd.

Fifteen choice young Bulls for sale now. Correspondence and inspection of herd solicited, as we have just what you want and at fair prices.

Sex Controlled.

To prove it, will ship to any one, from stock farms, Poland-China sow, bred to bring pigs all one sex, for \$16. Half with order, balance C. O. D. My plan is a mechanical contrivance, absolutely accurate in results—cannot fail. Plan offered after proving. Result of ten years trial. See Bible—Genesis, chapter 30, verses 38-39. My plan controls sex. For character, refer to Editor *Colman's Rural World*. Address W. H. GARRETT, Box 553, St. Louis, Mo.



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Dana's White Metallic Ear Marking Label, stamped to order with name, or name and address and numbers. It is reliable, cheap and convenient. Sells at sight and gives perfect satisfaction. Illustrated Price-List and samples free. Agents wanted. C. H. DANA, West Lebanon, N. H.

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Substance, flesh, early maturity and good feeding quality the objects sought. The largest herd of Scotch Short-horns in the West, consisting of *Cruickshank Victorias, Lavenders, Violets, Secrets, Brawth Buds, Kinnellar Golden Drops*, etc., headed by Imp. Baron Victor 42824, a prize-winner and sire of prize-winners. LINWOOD—Is twenty-seven miles from Kansas City, on Kansas Division Union Pacific R. R. Farm joins station. Inspection invited. Catalogue on application.

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— BREEDING HERD AT GROVE PARK, —
2 1-2 Miles Northeast of Lawrence, Kas., on U. P. R. R.
Known as the "Gibb Farm."

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TOPEKA, - KANSAS,

The Leading Western Importers of

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French Coach Horses.

AN IMPORTATION OF 125 HEAD,
Selected by a member of the firm, just received.

Terms to Suit Purchasers. Send for illustrated catalogue. Stables in town.

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IMPORTERS AND BREEDERS OF ENGLISH SHIRE AND SUFFOLK PUNCH HORSES



STERLING.
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RED POLLED CATTLE.

We have on hand a very choice collection, including a recent importation of horses, several of which have won many prizes in England, which is a special guarantee of their soundness and superiority of form and action. Our stock is selected with great care by G. M. SEXTON, Auctioneer to the Shire Horse Society of England. Prices low and terms easy. Send for catalogues to



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SEXTON, WARREN & OFFORD, Maple Hill, Kansas.



The Imported CLYDESDALE Stallion KNIGHT OF HARRIS 995 (Bell),

The property of H. W. McAFEE, will make the season at Prospect Farm, three miles west of Topeka, Sixth street road.

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Most Direct, Safest, Best, and Most Convenient
Means of inter-communication between all points in the States of KANSAS and NEBRASKA.
This great system presents the most comprehensive grouping of Central Lines in the United States, touching all principal localities in KANSAS, NEBRASKA, ILLINOIS, IOWA, MISSOURI, MINNESOTA and DAKOTA.

The Chicago, Kansas & Nebraska Railway joins the GREAT ROCK ISLAND ROUTE at KANSAS CITY and ST. JOSEPH FOR CHICAGO, and points EAST, and makes close connection with all the leading Railway Lines for ST. LOUIS and points EAST, SOUTH and SOUTHWEST; and with the famous ALBERT LEA ROUTE to ST. PAUL, MINNEAPOLIS, and points in the NORTHWEST.
By means of its central position, the substantial character of its construction, and its magnificent Passenger Equipment, consisting of restful RECLINING CHAIR CARS, magnificent PULLMAN PALACE SLEEPING CARS, AND ELEGANT DAY COACHES, THE CHICAGO, KANSAS AND NEBRASKA RAILWAY is enabled to offer superior advantages to its patrons, and to lead all of its competitors in time, security, comfort and accommodation.

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It is a line of modern construction, with the latest and best improvements, and traverses the most important portions of the States of KANSAS and NEBRASKA, where there are opportunities not found elsewhere for the Farmer, the Merchant, the Mechanic, the Laborer, the Professional Man, and all classes of business and industrial pursuits.
For tickets, maps, folders and other information, apply to your nearest Ticket Agent, or to
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Memphis Route,

KANSAS CITY, FT. SCOTT & MEMPHIS R. R.
(Formerly Gulf Route—Kansas City, Fort Scott & Gulf R. R.)

Offers you the most pleasant and desirable route to Kansas City and all points East, North and West; to Memphis and all points South.
At Kansas City, connections are made at Union Depot with all through trains for Chicago, St. Louis and the East; to St. Paul, Denver, San Francisco, Portland, and the West and Northwest. Via this line, entire train with Free Reclining Chair Car and Pullman Buffet Sleeping Car runs through to Memphis, Tenn.; through coach Kansas City to Bristol via Chattanooga and Knoxville. There is no other direct route from the West to Jacksonville, Pensacola, Nashville, Chattanooga, and all Southern cities.
This route, via Hoxie, is over one hundred miles the shortest line to Little Rock, Hot Springs, and points in Arkansas.
Write for large map and time-tables, showing through connections.
Before purchasing your ticket, call upon a ticket agent of this Company, or write to the undersigned for rates. Special rates and arrangements for parties and their movables, going South to locate.
Send for a copy of the Missouri and Kansas Farmer, giving full information relative to the cheap lands of Southwest Missouri. Mailed free.
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Gen'l Passenger and Ticket Agent,
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Of nearly 6,000 miles of steel rail, well-ballasted, with iron and steel bridges, an equipment unexcelled with over 300 passenger trains daily, traversing the great States of Missouri, Illinois, Nebraska, Iowa, Kansas, Colorado, Minnesota and the Territories, with trains made up of Pullman Palace Sleeping Cars, the Burlington's Celebrated Dining Cars, and Improved Modern Free Chair Cars, is unquestionably the Route for travelers to take going East, West or North.
Three Daily Fast Trains between Kansas City, St. Joseph, Atchison, Leavenworth and Quincy, Burlington, Peoria and Chicago without change.
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The line carrying the government fast mail between the East and far West. Any ticket agent can give you maps and time table of this well-known route, or you can address H. C. ORR, Gen'l Southwestern Passenger Agent, Kansas City, Mo.
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HAAFF'S NEW PRACTICAL DE-HORNER. Fifty illustrations. New Tools. Cattle Tags. New Water-heater. Send for circular. Agents wanted. Mention this paper.
H. H. HAAFF,
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× CHEAP × EXCURSIONS!

THE UNION PACIFIC will make a rate of one limited first-class fare for the round trip, from all stations to the following

- POINTS:
- NATIONAL REPUBLICAN CONVENTION AT CHICAGO. — Good going June 18 to 19, inclusive, and returning until June 25.
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 - DUNKARDS' MEETING AT NORTH MANCHESTER, IND. — Good going May 17 to 24, and returning until June 5.

These rates are open to all. Secure your tickets of F. A. LEWIS, City Ticket Agt., 625 Kansas Ave., or of J. F. GWIN, at Depot, Topeka, Kas.

Take care of your Horses and Cattle by using Dr. S. P. Cregar's **STOCK CAKE & ANTI-WORM REMEDY**, a cathartic stimulant for HORSES, CATTLE and other Live Stock. This Stock Cake removes worms, purifies the blood and water, loosens the hide, acts upon the kidneys, regulates the system, and puts the animals in healthy, thriving condition. Also is a Preventive Against Pleuro-Pneumonia in Cattle. Price 15 cents per cake.
Dr. S. P. Cregar, 1464 Wabash Ave., Chicago.

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, 1886, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice.

And such notice shall be published in the FARMER in three successive issues of the paper. It is made the duty of the proprietors of the KANSAS FARMER to send the paper, free of cost, to every County Clerk in the State, to be kept on file in his office for the inspection of all persons interested in strays. A penalty of from \$5.00 to \$50.00 is affixed to any failure of a Justice of the Peace, a County Clerk, or the proprietors of the FARMER for a violation of this law.

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.

Any person taking up an estray, must immediately advertise the same by posting three written notices in as many places in the township giving a correct description of such stray, and he must at the same time deliver a copy of said notice to the County Clerk of his county, who shall post the same on a bill-board in his office thirty days.

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

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

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

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

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

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

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

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

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

FOR WEEK ENDING MAY 31, 1888.

Leavenworth county—J. W. Niehaus, clerk.

COLT—Taken up by L. M. Thompson, in Sherman tp., May 8, 1888, one dark bay colt, 4 years old, 14½ hands high, some white hairs under mane; valued at \$65.

Butler county—T. O. Castle, clerk.

PONY—Taken up by J. A. Duncan, in Augusta tp., May 9, 1888, one bay pony mare, about 14 hands high, 6 years of age, branded on left shoulder and hip; valued at \$15.

Hamilton county—T. H. Ford, clerk.

COW—Taken up by J. A. Claypole, in Syracuse tp., one red cow, 7 years old, smooth crop off right ear, smooth crop off left ear with under-slope; valued at \$15.

CALF—By same, one red calf, 6 months old.

Montgomery county—G. W. Fulmer, clerk.

MARE—Taken up by John Bowersock, in Caney tp., one bay mare, 3 years old, white spot in forehead and white spot on left hind foot; valued at \$20.

Harvey county—R. H. Farr, clerk.

MARE—Taken up by Isalah Hobbie (P. O. Sedgewick), one sorrel mare, blind in right eye, 15 years old, 14½ hands high, left feet white, branded I on hip, branded A S A on left shoulder.

Brown county—N. E. Chapman, clerk.

MARE—Taken up by B. A. Williams, in Washington tp., one dun mare, age unknown, no marks or brands; valued at \$10.

COLT—By same, one bay stud colt, 2 years old, blaze in face, hind feet white half way up to hock; valued at \$40.

FOR WEEK ENDING JUNE 7, 1888.

Lincoln county—H. H. Gilpin, clerk.

MARE—Taken up by Henry Wacker, in Pleasant Valley tp., May 8, 1888, one dark bay mare, 15 hands high, weight about 900 pounds, no marks or brands; valued at \$40.

Pottawatomie county—L. D. Hart, clerk.

STEER—Taken up by Philip Wise, in Mill Creek tp., May 24, 1888, one red and white spotted 1-year-old steer; valued at \$14.

Lane county—T. J. Smith, clerk.

MARE—Taken up by John Gould, in Cheyenne tp., April 25, 1888, one brown mare, cross on left hip; valued at \$25.

Nemaha county—W. E. Young, clerk.

MULE—Taken up by A. H. Chilson, in Mitchell tp., (P. O. Seneca), May 15, 1888, one roan mule, 12 years old, sorrel harness marks, no other marks or brands; valued at \$15.

Butler county—T. O. Castle, clerk.

PONY—Taken up by T. R. Evans, in Lincoln tp., May 5, 1888, one bay mare pony, 10 or 12 years old, both ears split; valued at \$15.

Clay county—W. P. Anthony, clerk.

COW—Taken up by F. M. Clark, in Highland tp.,

May 14, 1888, one white and black spotted cow, holes in points of horns, had on bell when taken up, 10 years old; valued at \$15.

Rawlins county—E. A. Mikesell, clerk.

MARE—Taken up by James Kendall, (P. O. Atwood), May 11, 1888, one black mare, weight about 800 pounds, branded F on left shoulder; valued at \$30.

Jefferson county—E. L. Worswick, clerk.

2 STEERS—Taken up by J. M. Davis, in Jefferson tp., (P. O. Winchester), May 17, 1888, two medium-size red and white spotted steers, no marks or brands; valued at \$12 each.

MARE—Taken up by C. L. Waters, in Rural tp., (P. O. Williamstown), May 18, 1888, one dark brown mare, 14½ hands high, collar marks and white specks on hips, white specks on left fore leg and ankles, right hind foot white, tender-footed, 11 or 12 years old; valued at \$25.

Anderson county—S. Durall, clerk.

STEER—Taken up by Sophia Kolb, December 24, 1887, one white 2-year-old steer, crop off right ear, swallow-fork in left ear.

Johnson county—W. M. Adams, clerk.

STEER—Taken up by J. G. McKangham, in McCamish tp., (P. O. Edgerton), one 2-year-old red steer, ear clipped.

FOR WEEK ENDING JUNE 14, 1888.

Shawnee county—D. N. Burdge, clerk.

HORSE—Taken up by Jas. F. Hetzel, in Menoken tp., May 24, 1888, one roan horse, about 8 years old, 16½ hands high, collar-pinsches on shoulder, no marks or brands; valued at \$65.

Cherokee county—J. C. Atkinson, clerk.

PONY—Taken up by W. T. Gentle, in Garden tp., May 27, 1888, one dun mare pony, about 13 hands high, branded with Spanish brand on left hip, left hip down, black mane and tail, black stripe along back, about 6 years old; valued at \$15.

PONY—Taken up by J. H. Sackett, in Spring Valley tp., one dark brown horse pony, white on left hind foot and leg, no brands, about 3 years old; valued at \$20.

PONY—Taken up by J. H. Chubb, four miles east and two miles south of Baxter Springs, one black mare pony, 5 or 6 years old, white strip in face, no brands, in foal; valued at \$40.

PONY—By same, one black mare pony, hind foot white, shod all round, 5 or 6 years old, no brands; valued at \$40.

Butler county—T. O. Castle, clerk.

COLT—Taken up by Isaac C. Moreland, in Union tp., May 19, 1888, one bay mare colt, 2 or 3 years old, white spot in forehead, black mane and tail; valued at \$55.

Cowley county—S. J. Smock, clerk.

HORSE—Taken up by E. E. Hunt, in Beaver tp., (P. O. Winfield), May 15, 1888, one bay horse, white hind feet, branded 6 on left shoulder; valued at \$30.

Johnson county—W. M. Adams, clerk.

MARE—Taken up by Zack North, in Oxford tp., (P. O. Olathe), May 23, 1888, one chestnut sorrel mare, about 12 years old, white hind feet, bald face, brand on right shoulder; valued at \$10.

Pottawatomie county—L. D. Hart, clerk.

PONY—Taken up by W. D. Robbins, in Mill Creek tp., June 2, 1888, one chestnut sorrel horse pony, 5 years old, white spot in forehead, right hind foot white; valued at \$25.

Crawford county—J. C. Gove, clerk.

HORSE—Taken up by Peter Long, (P. O. Cherokee), April 16, 1888, one sorrel horse, 15 hands high, blaze in face; valued at \$15.

HORSE—By same, one black horse, 15 hands high, two white feet; valued at \$25.

COW—Taken up by D. J. Roberts, (P. O. Frontenac), May 15, 1888, one red and white cow, under-slope out of left ear and swallow-fork in end of same ear; valued at \$15.

Strayed or Stolen.

One bay horse, left hind feet white, 9 years old; and one gray-roan horse, front feet a little turned in, about 11 years old, right eye nearly blind. Both horses are pacers. They left Thursday night, May 13, 1888. Any one returning same or furnishing information leading to their recovery will be suitably rewarded.

AUGUST ROBERT, Osage City, Kas.

Too Late to Classify.

E. S. SHOCKEY, Hereford Cattle, TOPEKA, KAS. Bulls \$50 to \$100

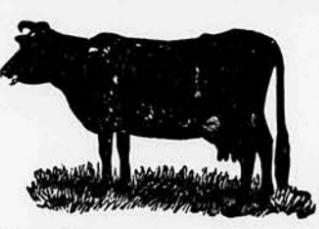
OAKWOOD HERD OF SHORT-MORN CATTLE—All recorded. Choice-bred animals for sale. Prices low. Terms easy. Imported Earl of Gloster 74522 heads herd. C. S. Elcholtz & Son, Wichita, Kas.

ZINN & LACKEY, Importers and breeders of HOLSTEIN-FRIESIAN CATTLE. Box 22, Topeka, Kas. Stock of all kinds for sale. Write for wants.

GIVEN AWAY. I will give my Double Cam HAY PRESS away if it will not fill the demand of my circulars. Send for Circulars and Price to the Manufacturer. JAS. KEMP, Kempton, Ill.

OPIUM Morphine Habit Cured in 10 to 20 days. No pay till cured. Dr. J. Stephens, Lebanon, Ohio.

SHERWOOD & ROHRER STOCK FARM



Home of HASSELMAN'S BROWNIE 28777. Tested on Island of Jersey at rate of 33 pounds 12 ounces in seven days.

BREEDERS OF A. J. C. C. JERSEY CATTLE,

Offer a few choice-bred Bull Calves by such noted sires as the St. Lambert Duke 76 bull, ST. VAL-ENTINE'S DAY 16278, whose sire was a son of Stoke Pogis 3d 2238, and a grandson of Victor Hugo 197; dam a daughter of the great prize bull, Duke P. 76 C.; and the in-bred Coomassie bull, HAPPY GOLD COAST 14713.

Several of these Bulls are old enough for service, and are out of tested cows. To responsible parties, will give time or exchange for cows or heifers.

SHERWOOD & ROHRER, VALLEY CENTER, KANSAS.



DAVID BRADLEY MFG. CO.
CULTIVATORS
P. O. BOX 578
CHICAGO, ILL.

The BEST Lock-Lever Rake
in the Market.

Has double coil steel teeth,
with spring temper.

RAKE

"BRADLEY No. 2"

SULKY

IS MADE
8 or 12 Feet Wide,
with Shafts or Poles.

Axles TRUSSED on two sides.

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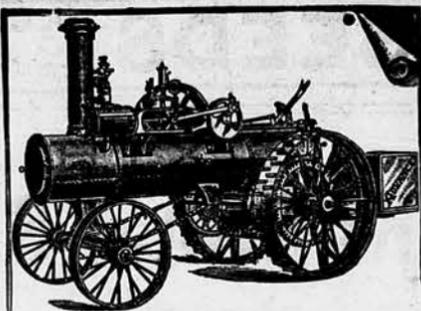
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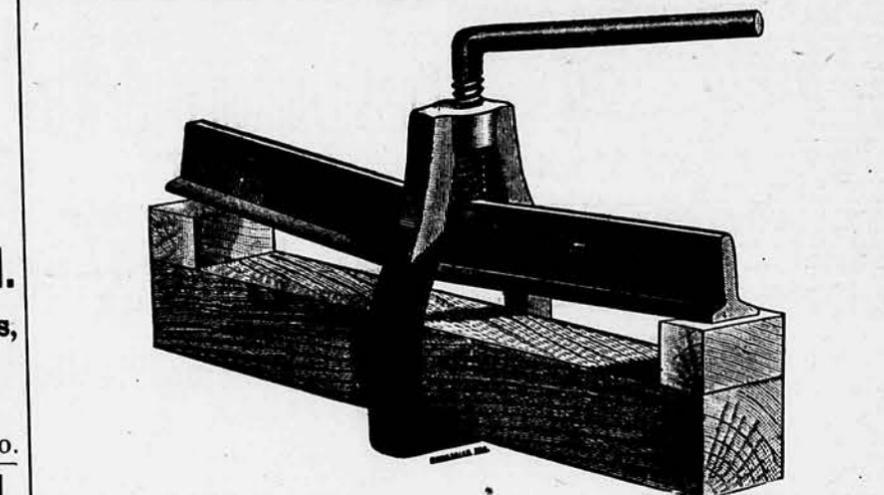
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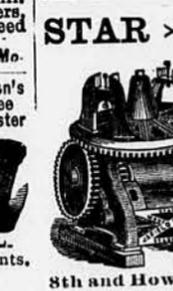
Write for Catalogue, Prices and Terms. **WEIR PLOW CO.,** Kansas City, Mo., State Agents for Kansas.



WOOD VS. STEEL.
Which is the Stronger in Proportion to Weight—A Simple and Interesting Experiment.

The relative weights of wood and steel in proportion to their strength is a matter which probably not one out of one hundred readers has ever had occasion to investigate. If the conundrum were propounded: "Which is the stronger—Wood or Steel?" ninety-nine out of a hundred would be likely to answer that steel possesses greater strength in proportion to weight than does wood. Experiments have recently been made in Ohio which show that wood weighing only half as much as steel will, when put under pressure, stand a greater strain than steel. The illustration on this page shows a piece of wood and a piece of steel (the latter weighing just twice as much as the former), under equal pressure, and in every instance the steel yields and is bent out of line. Any one can make this experiment. The device is extremely simple, and yet it illustrates an important point with which every intelligent farmer should familiarize himself, especially as there seems to be a disposition on the part of some manufacturers to change from wood to steel and iron. We are indebted to Messrs. Aultman, Miller & Co., of Akron, Ohio, for the accompanying illustration. It was the pleasure of a representative of this paper, while in Akron, a few days since, to witness this experiment. A piece of ash, such as is used in the Buckeye machine, was placed in a clamp along with a piece of steel of equal length, the same as is used in all steel Binders. The steel weighed just twice as much as the wood, and yet the steel invariably yielded and bent as the pressure was brought down. The wood was scarcely out of line, and when the clamp was removed it sprung back to its original shape. Not so with the steel. It not only bent under the pressure of the clamp, but remained bent when the clamp was taken off. This, it is claimed, is a clear illustration of the difference between wood and steel-frame Binders. When an all-steel machine is brought into sharp contact with some unyielding obstacle its frame is liable to spring, and when once sprung its usefulness is at an end. It cannot be straightened without resort to the shop for repairs. A wood frame is not thus affected. If bent under a violent strain, it at once springs back to its original shape. At the first glance it would seem that a steel Binder is lighter than a wood frame, and that it possessed greater strength. But it is an instance in which appearances are deceptive. A piece of steel one foot long and a half inch square, weighs double as much as a piece of seasoned ash one foot long and one and three-eighths inches square. In other words the steel, in proportion to bulk, is fifteen and one-eighth times as heavy as the wood. A steel frame of a machine which is one-fifteenth as large as a wood frame, weighs exactly the same as the wood. But even with this difference in size, the wood has four times the strength. These are simple problems which every farmer can solve for himself. He need not accept the word of any man whose interests would be subserved by having him believe one way or the other. Make the test yourself, and when an agent comes to you with a denial of this proposition, you can talk intelligently from personal knowledge.—Ohio Farmer.

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FOR SALE—A five-room house at slaughter prices, for half what it is worth. If you wish to make money, call on D. J. Boynton, 626 Kansas avenue, room 5.

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STRAYED—TWO COLTS.—One brown mare, 8 years old, both left feet white, white spot on right fore leg above the knee, and curl on neck. One bay horse colt, 1 year old, feet white, some white on belly, small star in forehead. Any person taking up such colts will confer a favor by addressing J. J. Nation, Myra, Woodson Co., Kas.

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TWO-CENT COLUMN—(Continued.)

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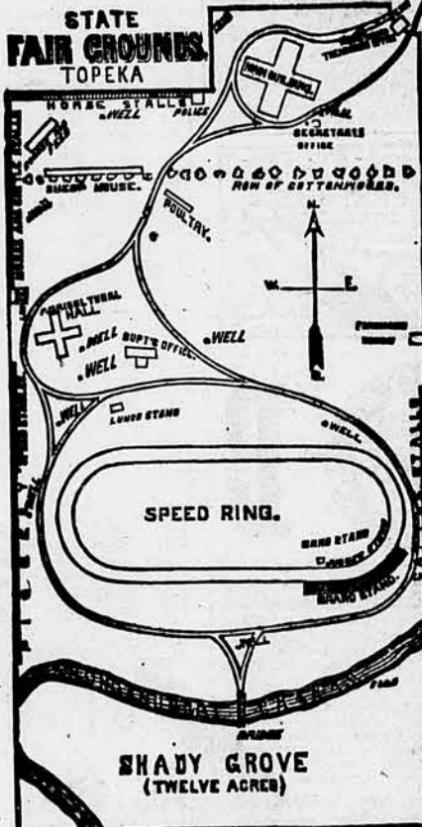
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