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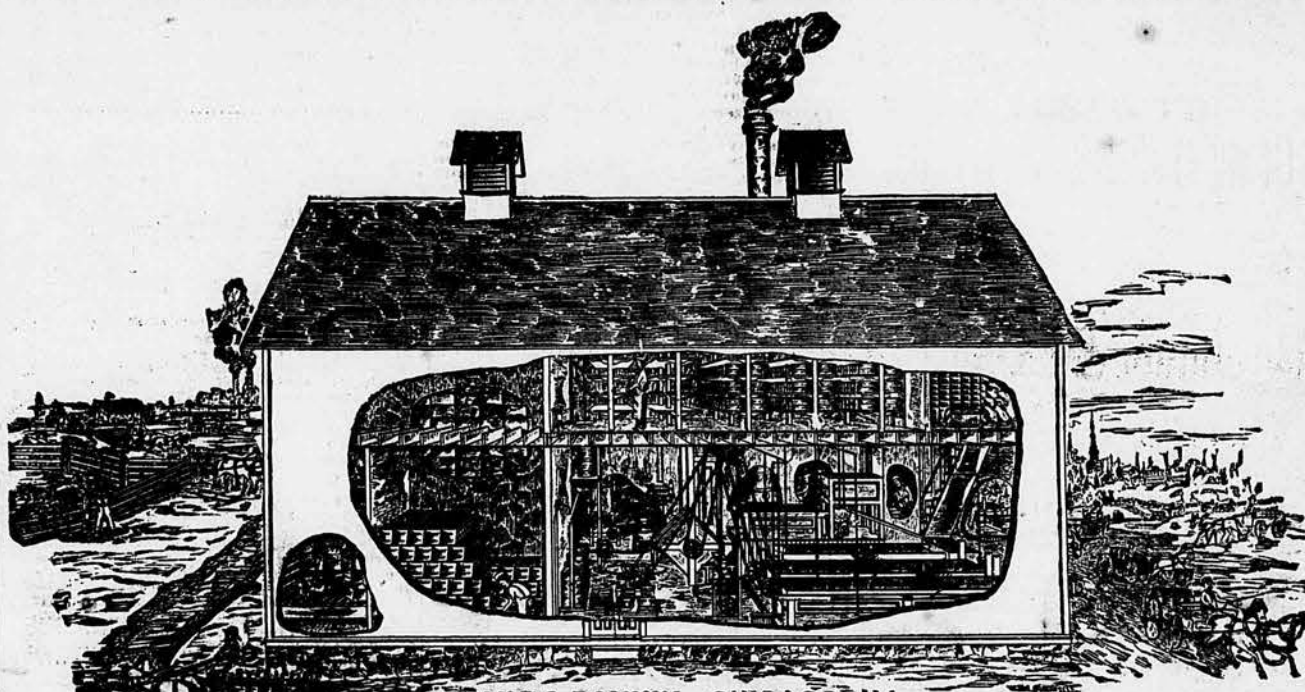
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(Continued on page 20.)

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TABLE OF CONTENTS.

PAGE 3—AGRICULTURAL MATTERS.—Silo-Building and Filling.
 PAGE 4—THE STOCK INTEREST.—How to Make Sheep—Raising Pay in the Older States.
 PAGE 5—IN THE DAIRY.—The Constitution of Milk, and Some of the Conditions Which Affect the Separation of Cream.
 PAGE 6—CORRESPONDENCE.—Culture of Sorghum Cane. The Lister Discussed. Cultivating With Fruits. Publishers' Paragraphs.
 PAGE 7—FARMERS' ALLIANCE NOTES. Inquiries Answered. Gossip About Stock. Weather-Crop Bulletin. Topeka Weather Report.
 PAGE 8—THE HOME CIRCLE.—St. Michael, the Weigher, poem. Among the Mexicans. How They Were Dressed. Protection From Clothes Moths. Household Hints. Fashion Notes.
 PAGE 9—THE YOUNG FOLKS.—Under the Violets, poem. Six War Ships Lost in a Storm (concluded).
 PAGE 10—EDITORIAL.—Another Farmer in Congress. A National Disgrace. One Way to Fight the Beef Combine.
 PAGE 11—EDITORIAL.—Boston Wool Market. The State of Trade. Condition of Kansas Crops.
 PAGE 12—HORTICULTURE.—Pecuniary Profits of Science in Agriculture. Shading Trees After Planting. Manures for Orchards. Strawberries for Profit. Scientific Fruit Culture. Early Garden Crops.
 PAGE 13—THE POULTRY YARD.—Value of Eggs as Food. Poultry on the Farm. To Tell if Eggs Are Fresh.
 PAGE 14—The New Land Law. Hog Cholera. Patents. The Markets.
 PAGE 15—THE VETERINARIAN.
 PAGE 16—THE BUSY BEE.—Subduing and Handling Bees.

Agricultural Matters.

SILO-BUILDING AND FILLING.

Extracts from Bulletin No. 19, Wisconsin Experiment Station, prepared by Prof. L. H. Adams.

LOCATION OF SILO.

When possible the silo should be located in the feeding barn, since it not only brings the cost of building within the reach of everyone who is really in need of a silo, but greatly facilitates the handling of the ensilage when feeding it out. Depth in a silo is always preferable to breadth, so that in the case of basement barns it is advisable to let the silo reach from the top of barn posts to the ground floor of the basement; a door or opening can then be made from the silo directly into the basement where the ensilage is to be fed. The next best location is adjoining the feeding stable. In most dairy stables the cows are stanchioned in two long rows facing each other, and, whenever it is possible, it should be arranged so that the silo can be entered from the end of this feeding alley; a wooden track can be laid along the center of the feed way and into the silo, upon which a low wheeled car can be operated to distribute the feed. If the silo building is located entirely separate, it should be planned to load the ensilage into a cart which can be driven into the feeding barn, thus delivering the ensilage with little labor directly to the cattle. The idea of convenience should not be lost sight of, for by exercising a little thought and judgment the labor of waiting on the stock through the long feeding season can be greatly reduced.

FORM OF SILO.

In a square silo less lumber is required, and less ensilage is exposed to the walls in proportion to the capacity, than in a long narrow building; it is the part of economy to retain as nearly the form of a cube as the location and other circumstances will admit. Theoretically a circular silo comes the nearest to perfection, for this form requires the minimum amount of material, and does away with the corners, in which there is always more or less decayed ensilage, but as we have had no experience with this form of building nothing can be said about it at this time.

BUILDING THE SILO.

The following detailed description of how to build will apply to the outside silo, built separately or as an annex to the stock barn.

It is always the part of wisdom to

provide substantial foundations for farm buildings that are intended to be permanent, and the silo is no exception. An eighteen-inch stone wall should be laid deep enough in the ground to be beyond the action of frost, and raised high enough above the surface to admit of sufficient grading to divert all surface water; if the location be a high and well drained one, there will be no necessity for raising the wall more than six inches above the surface. In digging the trenches, throw enough earth inside to raise the silo floor up to the top of the stone wall. Upon this stone foundation a sill made of three 2x10 planks should be bedded in mortar. In laying the sill, the top plank should not be fastened to the others, but left loose, for reasons soon to appear. The studding should be 2x10 plank, preferably eighteen feet long. After carefully sawing the studs to a uniform length and squaring both ends, arrange them in a horizontal position, resting on the edges, and placed sixteen inches apart; they should be supported on a level with and at right angles to the sill upon which the bent is to be raised. Then spike the loose plank of the sill to the foot of the stud; and when all have been firmly fastened as directed, they should be secured at the top in the same manner. After fastening the studding to sill and plate planks, the side or end, as the case may be, is ready for raising. After the bent has been raised in a vertical position to its place on top of the other two planks of the sill, the third one that was nailed to the foot of the studding before the bent was raised can be firmly spiked to the lower ones. This first bent can be held in place by temporary stays until the remaining sills are raised; the plates can then be nailed at the corners, and the skeleton frame is complete; two 2x10 planks will give all the strength necessary for the plate. It will be observed that by following this plan the studs are securely fastened, top and bottom, and the full strength of sill and studding is saved, there being no mortises cut in the sill and no tenons on the studding. After the frame is up, the next thing to be done is to bridge the studding. This is a very simple thing to do, but of so much value in strengthening the walls that it ought never to be omitted in a silo. In case the silo is eighteen feet deep, it would be advisable to put in two rows of bridging. By thus spiking planks between the studs, it makes it just as impossible for the studs in the center of the wall to spring out as it is for those nearest the corners. We are now ready to commence lining the silo. Each one can follow his choice as to the outside covering, since it plays an unimportant part in the preservation of the ensilage; some will prefer to use drop-siding or ship-lap, others common lumber, and in some parts of the State it is possible to put on a covering of low-grade shingles cheaper than any other way. It is not necessary, for the preservation of the ensilage, that paper be used on the outside of studding, but to keep out frost it is advisable to use it, since it makes the silo much warmer. Since a good deal of moisture rises from the ensilage, it is well to provide for ventilation at the roof. This can be done by openings in the gable ends of the building, or a dormer window in the roof. It is much better to carry off the moist air by ventilation than to have it congeal on the rafters during cold weather, and drop back again when mild days come.

LINING THE SILO.

Care should be exercised in lining the silo. The lumber for this should have no knot holes, and should be dressed on one side, and is better if edged so that the joint will be reasonably tight. The

lumber need not be of uniform width, but boards from eight to ten inches wide are preferable. The inside of the studding is first covered with boards, laid horizontally, ten-penny nails being used; building paper is then tacked over the whole surface. Upon the paper nail a second layer of boards. Care should be taken to break joints, which can be indicated by chalk marks on the paper. This double lining, with paper between, must reach from the top of the silo to the bottom of the sill.

The floor of the silo need be nothing but the earth; as already mentioned, it is a good plan to fill in the silo until the floor is on a level with the top of the stone wall; a layer of straw spread on the bottom before commencing to fill with corn will prevent the loss of any ensilage.

The silo should be tied across the top at two or three places with joists, or a cheap cable; this latter may be made by twisting three strands of galvanized wire which costs about 3 cents per pound; five pounds will make a cable sufficiently long to reach across an ordinary silo. If the silo is more than thirty feet long the sills should be secured at two or three places with a cable of this kind, which, as it rests on the ground, is entirely out of the way. The modern silo will not tolerate partitions of any kind; they are relics of the past. There are several methods employed for cutting off the four corners of the silo. Perhaps the simplest plan is to bevel the two edges of a foot wide plank and nail it securely in a vertical position in the corner. A dormer window in the roof of the silo affords a satisfactory means of getting the corn into the silo in the fall.

The doorway may be formed by cutting out a stud from the sill two-thirds of the way up to the plate. With large silos the doorway should be made sufficiently large to permit the entrance of a cart or some other vehicle for moving the ensilage from the silo to the cattle. There is no necessity for running the doorway to the top of the plate, since the ensilage always settles considerably, and even if it fills the silo above the top of the doorway there is little trouble in digging down just at that point and making an opening. Of the numerous doorways described, the simplest form is probably the best. Tack cleats on each of the studs which forms the sides of the doorway, so that boards six inches wide, running across the doorway come just flush with the inner lining of the silo. If the doorway is wide, set a stud in the middle to prevent the boards springing. Repeat the cleat and boards for the outside wall. During filling, as the ensilage accumulates, place a layer of paper across from cleat to cleat and tack on six inch boards until the doorway is closed; or it may be closed up at once when filling commences and the silo entered by a ladder reaching a doorway on top of the plate. In opening the silo the boards can be knocked off as the ensilage is fed down.

HOW TO PAINT THE INSIDE WALLS.

Now that the silo is built the question naturally arises, what is the best and cheapest wood preservative that can be applied to the parts of the silo that come in direct contact with the moist ensilage. An examination of one of the Station's silos that had been treated with a coat of coal tar shows that one season's exposure to the ensilage had not affected the wood in any manner. This coal tar possesses another great advantage over ordinary oil paints, there being so much body to it that it readily fills up all cracks in the lining, and aids greatly to make the silo air tight. It is one of the waste products in the manufacture of gas, and can or-

dinarily be obtained in any quantity at gas works at \$3 or \$4 a barrel. As it comes from the gas works it is a liquid of about the same consistency as molasses, and it is necessary to burn off considerable of the oil that it contains before it is in a condition to apply to a wall. This burning is a simple process: pour a quantity of the liquid into an iron kettle, set fire to a handful of straw and throw it in the kettle. The tar at once flashes up and burns with great heat. In order to tell when it has become sufficiently reduced, thrust a stick into the blazing kettle, then take it out and plunge it into a pail of cold water; when the tar clinging to the stick has become sufficiently cool to handle, take a particle in the hand and pull it out; if it will string out in fine threads a foot or more long, it has burned long enough, and the fire can be put out by placing any tight covering over the kettle. It usually takes from one-half to three-quarters of an hour to reduce the tar to the proper consistency. This preparation must be applied hot, and it will be necessary to swing the kettle up from the ground and keep a fire under it until the work is done. The odor and smoke from the hot tar is very disagreeable, but by taking small quantities of the liquid and applying it very hot with mops or whitewash brushes, the surface can be gone over rapidly.

A single season's experience with a wood preservative cannot count for much, but we think very favorably of the method here described, and intend coating the walls of a large silo with coal tar the coming season for an additional test.

HANDLING FODDER CORN.

The cost of putting corn into the silo depends largely upon the advantage we take of all the little devices that are calculated to lighten and reduce the labor of harvesting and drawing to the silo. By the use of the old self-rake reaper for cutting in the field, and conveniently equipped wagons for hauling, corn can be cut into the silo for from 50 to 75 cents per ton, and there will be no more hard work connected with it than there would be in harvesting a clover or grass crop. Many farmers are supplied with low-wheeled wagons or trucks, but when silo-filling time comes there is usually a greater demand for vehicles of this kind than the ordinary farm can supply. A very simple and practical rack for drawing fodder corn is made of 2x8 plank, sixteen feet long, one end of each being placed on top of the forward bolster, the other ends pass under the rear axle and are chained or bolted up tight to it; these two pieces make the foundation of the rack. The wagon is coupled out as far as these planks will allow. On top of the plank are placed four cross pieces, equally distant from each other. These cross pieces are 2x4 and should be about seven feet long; upon these are laid inch boards parallel with the wagon. The load is, of course, placed wholly in front of the rear wheels, but the rack is sufficiently large, and low enough to enable a man to put on a ton of green corn from the ground without having to climb up on the load, or hand it to a second person to deposit.

LENGTH TO CUT.

While it is true that ensilage cut fine may pack somewhat closer than that cut long, it is doubtful whether there is any material gain in the operation; by cutting fine more of the inner parts of the stalks are exposed to the air, and perhaps more fermentation induced than with longer cuts. So far as our experience goes there is nothing gained by cutting fodder fine instead of coarse.

(Continued on page 6.)

The Stock Interest.

THOROUGHbred STOCK SALES.

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

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

How to Make Sheep-Raising Pay in the Older States.

The candid shepherd admits that his day of large profits is past; and now he is asked if there is any profit at all in sheep-raising on the hills and in the meadows where once it yielded such large returns. It is a question worthy of study for another reason. We hope for better days, and if a profit can be made under the present depressed condition of the industry, the lessons of economy we are forced to learn to day will surely enable us to make a handsome profit should better days return.

The balmy days of wool growing fostered a false idea in the mind of the shepherd. Profit or interest is composed of two parts—the intrinsic value of the money and the risk. Money of itself is not worth more than 3 per cent., as is seen in U. S. bonds, where there is virtually no risk. Is the risk on sheep so great as to justify a man in selling his flock if the capital invested no longer yields 8 to 10 per cent? Shall he exchange for 3 per cent. bonds, or loan on personal security for 6 per cent.? Considering the risk, as long as sheep-raising makes a return of 5 per cent., it is as profitable an investment as either of those mentioned. The wool crop is the surest crop of the farm. A good flock makes annual returns of both interest and gain on the capital invested. Would it not be well before sacrificing our flock to ask, what is there that would be more profitable?

Recognizing that a business question must be treated in a business way, we will offer a few plans for increasing the profit of sheep-raising in the older States:

DECREASE THE COST OF PRODUCTION.

Herein lies the great advantage of our competitors; and while we cannot hope to equal them in cheapness of production, we have abundant room for economy. We must have cheaper feed. If it can be bought for less than it costs us to raise it, then let us buy our feed and keep our land in pasture. But by improved methods and increasing yields we can have cheaper feed of our own production. The fact that the crops of our best farmers are double the average crops of their respective communities points out the way of reform. If the average yield of hay were two tons instead of one, and the average yield of corn were seventy bushels instead of thirty-five, we would be better prepared to solve the question at issue. We must make feed cheaper by making it more abundant. The principle of imitation will never lead us astray if we follow that which is best among our fellow farmers.

Another item vastly increasing the cost of production in the older States is disease. On farms where there is no foot-rot there is more profit in wool at 30 cents than there is at 35 cents on farms where the nuisance exists. Every sheep that dies of "paper skin," "grub in the head," or of kindred diseases, adds so much to the cost of the remaining part of the flock. This is the hydra-headed monster that destroys the profit on many a farm in the older States. The time is passed when a sheep could not die in its owner's debt. It is true that oftentimes there is apparently no remedy for these diseases, but for the most part they are caused by neglect. A thrifty sheep has no time to be sick.

The careful, saving and intelligent

application of the manure would do much on many farms toward reducing the cost of production. Many thousand loads are annually wasted in the older States, and every load wasted is a loss of \$1. Although sheep-raising has for many years been a prominent occupation in the older States, many sheep still pass their winters without shelter of any kind. If any confidence is to be placed in common sense and experience, it may safely be affirmed that adequate shelter will diminish the cost of production.

DECREASE THE TIME OF PRODUCTION.

By this it is not meant that a process has been discovered by which wool can be grown in less than a year, for in our climate the sheep requires the summer's growth for its winter's protection. But we think it is not necessary to wait until the wethers of the flock are four years old before they are ready for the market. We would diminish the time of production one-half. A grade Merino lamb, well fed on oats and bran, will weigh forty or fifty pounds when three months old. Does it seem unreasonable to say that a lamb weighing fifty pounds at three months should weigh one hundred at twenty-four? On the supposition that the older States sent their sheep to market at two years old instead of four, as at present, let us compute the gain on the 20,000 sheep sent to Pittsburgh in one week. It is evident that 40,000 2-year-olds could be sent to market in the time required to produce the 20,000 4-year-olds; or, in other words, if the 20,000 sheep were worth \$80,000, \$160,000 worth of mutton could have been produced in the same time, on the same pastures, without doubling the amount of feed. Count the sheep sent to other markets, and calculate the gain of every step taken in this direction. All progress is in that way. Machinery has shortened the time of production in the mechanical world. Pork is now made in six months, when once two years were required. Baby beef is the demand of the market, and soon it must be supplied with baby mutton.

INCREASE THE AMOUNT OF PRODUCTION.

While the last suggestion would do much to increase the production of mutton, it is also possible to increase the production of wool. This is apparent when we glance at the fact that while many flocks shear their six and one-half or seven pounds, the average of the older States is not more than four or four and one-half pounds. Advancement must be along the line of possibilities, and the possibilities in this case show that the average fleece of wool may be increased in weight at least two pounds. This would be no small gain, and indeed, on a great many farms, would turn the present loss into a substantial profit. There is but one way in which this can be done, and that is by increasing the average of individual flocks. Let no man rest content while his flock is below the average, and all should be above it.

In the present state of wool-growing we cannot afford to keep sheep for any one object. They must produce a variety of products. A sheep kept for wool or mutton alone will not pay its board. The wether that is not making a good growth, or the ewe that is not raising a lamb is not enriching its masters.

The immense trade in sheep pelts demands attention. Pelts are always sold at less than cost. Let sheep-owners exert themselves to diminish this traffic by giving extra care to the weak members of the flock. The reputation of being a good pelt-raiser is not difficult to establish, nor does the frequent calls

of the pelt-buyer speak well for the condition of the flock.

In passing from this part of the subject it may be well to observe that the production of wool and mutton would be greatly increased if the "dog crop" were infinitely diminished. Were the value of the sheep killed in one year, in the older States, given to some poor farmer, it would make him a millionaire.

INCREASE THE SELLING PRICE OF PRODUCTION.

Here is an opportunity to discuss the tariff question, but it is needless to discuss a question which was so prominent in the last political campaign. Let us consider what the farmers can do to help themselves. If wool-growers were to buy more woollens, especially when the market was slack, they would do much to sustain the price of wool. A greater demand for woollens would increase the price of wool more surely than any tariff. The law of supply and demand has much to do with even the price of wool.

It is a fact, no less strange than true, that there is a great uniformity in the selling price of wools in very various conditions. One clip may have been washed in the most approved manner while another may contain more dirt and grease than it did before it was washed; yet one commands as much as the other. Are we to conclude that the manufacturers paid the true market price for the good clip, and more than the market value of the bad one? Had they done so, they would have made assignments long ago. The unequal condition of wools is an immense advantage to the manufacturer, who can thus often buy the cleanest wools at the market price of the dirtiest. The remedy is to wash all in the most approved manner, or else to wash none. In order to realize the most for our wools, when there is the the present uniformity of price, we must have uniformity of condition. It is required by our interest and demanded by justice.

There are many times when holding back is a means of progress, and the present season bids fair to be one of these times. The present tariff will remain unchanged. The last clip is nearly consumed. Foreign wool is almost as high as the domestic fleece. The manufacturer has had his own way for two or three years. Is it not time for a change? If we are not in a position to profit by the tariff this year, we never will be. Let us hold the next clip in our own hands, and see if we cannot do something to increase the selling price of production.

Sheep-raising is an honest and honorable occupation—one worthy, in every way, of our best efforts to place again on a paying basis. Other branches of stock-raising cannot be taken up in a day by the man who has spent his best days among his flock. The industry has outlived other depression, and we hope to see it emerge from the present one. If it does, let the lessons we are to-day learning not be forgotten; then the double profit of the future will more than compensate for the losses of the present.—John G. Ickis, in *Sheep Breeder and Wool Grower*.

One of the greatest banes of early lambs is constipation, induced by too much dry feed given to the mothers. If a lamb is seen to mope and sleep a great deal, lying on one side and uneasily throwing its head to and fro on the other, ten chances to one the milk in its bowels, if examined, would be found coagulated in tough, pasty rolls like vermicelli. This cannot be voided; unless soon relieved the lamb will die. The very best remedy is an injection of warm water, given carefully with a

bulb syringe. After the bowels have been well filled, let the lambs be held up by the heels for several minutes, to allow the water to flow as far down as possible. The preventive is obvious: Change the ewes at once to a more succulent, laxative diet—anything, even to small potatoes, apples, roots, green rye, etc. The flockmaster may think himself fortunate if he escapes further trouble and losses. Where the ewe receives only corn and timothy, the lamb has a slender prospect for health. If constipation is the Scylla, "cholera" is the Charybdis.—*Ex.*

Horses.

EDITOR KANSAS FARMER:—Cleanliness is a very important item in the feeding and management of the horses. This applies as well with their quarters as well as their bodies. It is even of more importance to have their quarters clean during the summer than in the winter. The hot weather induces disease when there is more or less filth and it is an important item to keep in good health. The stables should be cleaned out regularly and sufficient clean bedding be provided to absorb all the liquid voidings, and at the same time keep the stock clean. There is no necessity for using a large quantity of bedding, as this only increases the work of handling without any increase in the benefit. Another important item is to groom thoroughly. Sweat and dust close up the pores of the skin and the animals cannot be kept in the best condition unless care is taken to brush and curry thoroughly every day. The brushing is the most important. The currycomb only needs to be used when cleaning off mud or dirt, the brush being much the best for cleansing the skin and keeping the pores open. Working in the soft ground, plowing and cultivating, the dust and sweat will cover up the pores, and thorough work will be needed to cleanse.

It is always a good plan, and especially so when the teams are kept up at night, to give them a good bucketful of fresh water before feeding in the morning. They will relish their feed better and will keep them in a better condition to feed, and then give them all they will drink immediately afterward. To allow an animal of any kind to drink a considerable quantity of water immediately after eating is certain to lose more or less of the benefit that otherwise might be derived from the feed.

Horses that are kept for doing farm work principally and are used but very little upon the road will be all the better if they are not shod during the spring and summer. In localities where there is considerable rock it may of course be best to have the teams that are used upon the road kept shod, and very often during the winter the teams that are used about the farm or on the road should be shod, but at this time the shoes are rather an injury than a benefit. Feed oats, bran, hay, barley, and some corn, but as far as can be avoided do not make corn an exclusive feed. Give a good variety and feed them all they will eat up clean at each meal. So far as possible it will be best to feed so that they will be kept in a good thrifty condition, and when they are kept at work good feed and care will be necessary.

N. J. SHEPHERD.

Eldon, Miller Co., Mo.

If you are suffering from Malaria, ask your druggist for Shallenberger's Antidote for Malaria. If he don't have it, and tells you he has something just as good, don't believe him, but send one dollar to Dr. A. T. Shallenberger, Rochester, Penn'a, and get the Antidote by mail. A few doses will restore you to perfect health. The Medicine is in the form of pills, but is not a purgative. It not only destroys Malaria, but is an excellent tonic.

In the Dairy.

THE CONSTITUTION OF MILK.

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

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

THE CONSTITUTION OF MILK.

Milk when fresh is a thin emulsion of butter fat, in a watery solution of albuminous matter, milk sugar and mineral matter. Under the microscope

portion of the milk that is not fat and consists of an aqueous solution of all of the milk solids except the fat. It is a viscous liquid, extremely well adapted for emulsifying fat, and upon its character largely depends the value of milk for butter production. When the proportion of solids it contains is very high its viscosity is sufficient to materially retard the creaming and to diminish the efficiency of the churn. The composition of the serum is usually very constant for the same cow, the solids rarely differing more than 1

amount of cane sugar, while the nitrogenous matter (casein, albumen, etc.) has about three and a half times the influence of an equal quantity of sugar. The viscosity of the milk serum is therefore largely influenced by the amount of casein and albumen which it contains and, as the facility with which cream separates from the milk depends upon the consistency of the serum, the amount of these substances in the milk has a direct and important bearing upon its value for butter production. Cream will separate slowly from



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containing it, and on these points mass. Coagulated by microscope a ce, the threads regularly, forming net-work grading in its meshes which are thus characteristic groups. s caused by the rin is shown by not found in the doe it occur in ances have been coagulation. n is retarded by rapid freezing. er, takes place d. It may also rtain chemical a may be men lies, magnesium um nitrate. If otly into a satu- nesium sulphate. the solution sha fourth the volum- ulation will take mixture be diluted water and allowed time, a clot will in every respect at formed from mixture of blood te be permitted ew hours in a corpuscles will. leaving at the ored liquid from be obtained, by uite free from the

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list, despaired when one Falls—it was so cunning. So there of beauty in the tem- he grand "American ch are at once the pair of painter and comparison is the e South Park Divis-

Sugar.

Solids exist partly in solution. partly in semi solution & partly in suspension of water.

Milk for the various classes of animals has the same general constitution and properties & various general constitution & properties.

Cows milk is typical milk.

Different milk have different qualities.

Dairymen should seek select a uniform type of cows.

The milk serum comprises all that sugar about the same effect as an equal always begins at the surface and at the lon of the Union Pacific in Colorado.

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Colostrum.

When a cow is milked she very often falls away in her milk & a microscope shows the presence of colostrum corpuscles. By or due to understand this we must find out what colostrum is. Dairy writers differ widely in their opinion. Dr. Reid states that the colostrum of the cow is yellow, mucilaginous & is occasionally mixed with blood. It only contains traces of butter fat but appears to contain albumen as one of its ingredients. This does not turn sour like milk but putrefies. Another writer says that it gives butter a very yellow color and when heated gives it a color of the white of an egg. Colostrum contains many large cells filled with oil globules resembling those which are floating free in the surrounding fluid. Dr. Reid differs on this. Some say this disappears in other

—Cleanliness in the quarters of the horses. Their quarters is even of their quarters than in the induces disorder less filth to keep in should be sufficient absorb all the same There is no quantity of as the work increase in tant item is and dust n and the the best n to brush day. The tant. The used when brush be-ansing the en. Work-owing and sweat will ough work

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SPHERD.

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It not only destroys Malaria, but is an excellent tonic.

In the Dairy.

THE CONSTITUTION OF MILK.

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

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

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portion of the milk that is not fat and consists of an aqueous solution of all of the milk solids except the fat. It is a viscous liquid, extremely well adapted for emulsifying fat, and upon its character largely depends the value of milk for butter production. When the proportion of solids it contains is very high its viscosity is sufficient to materially retard the creaming and to diminish the efficiency of the churn. The composition of the serum is usually very constant for the same cow, the solids rarely differing more than 1 per cent and it does not vary much in

amount of cane sugar, while the nitrogenous matter (casein, albumen, etc.) has about three and a half times the influence of an equal quantity of sugar. The viscosity of the milk serum is therefore largely influenced by the amount of casein and albumen which it contains and, as the facility with which cream separates from the milk depends upon the consistency of the serum, the amount of these substances in the milk has a direct and important bearing upon its value for butter production. Cream will separate slowly from milk that



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Guernsey Cattle give a heavy flow of milk which is highly colored and shows a large percent of butter fat. It is undisputed today that the Guernsey butter has the highest natural color of any kind & that they are the most economical butter producers. A good dairy cow should give at least 5000 lbs of milk during the period of lactation. The quality and quantity of milk varies greatly from the different breeds. The yield of fat is better to go by than the milk given during the period of lactation. $\frac{3}{4}$ of a lb of butter fat a day is considered a good yield. Many dairy farmers aim to have their dairy cows produce a pound of butter fat a day on an average for every day in the year. To do this a cow's milk must test 4% & give as an average 3 gal. a day for the year round.

Color of milk is the highest some time after calving but is not generally as rich. It is known to have tested as high as one percent more the last couple of months than it did at first milking.

MILK SERUM.

The milk serum comprises all that

ter having little influence, the milk always begins at the surface and at the bottom of the Union Pacific in Colorado.

Containing it, and on these points. Coagulated by microscope. The threads regularly, forming net-work grading in its meshes which are thus characteristic groups. Caused by the film is shown by not found in the blood it occurs in places have been coagulation. It is retarded by rapid freezing. It takes place. It may also contain chemical. It may be made. It contains magnesium nitrate. It is directly into a saturated solution. The solution should be diluted with water and allowed to stand for some time. A clot will form in every respect. That formed from mixture of blood should be permitted to stand for a few hours in a warm place. The corpuscles will settle, leaving at the bottom a colored liquid from which the serum may be obtained, by quite free from the

next week.)

Call."

se to the uninitiated understand it. The gives a certain price stated on the. It is often a serious but there is a more than this: when you have a severe cold and a physician. Avoid all house Dr. Pierce's. The great cure blood disease. It cures the worst chronic. For Weak Blood, Short Breath, sweats, and kindred all other medicines.

artist, despaired when he saw the Falls—it was so cunning. So there of beauty in the temple the grand "American" which are at once the despair of painter and comparison is the the South Park Division.

The Stock Interest.

THOROUGHbred STOCK SALES.

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

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

How to Make Sheep-Raising Pay in the Older States.

The candid shepherd admits that his day of large profits is past; and now he

application of the manure would do much on many farms toward reducing the cost of production. Many thousand loads are annually wasted in the older States, and every load wasted is a loss of \$1. Although sheep-raising has for many years been a prominent occupation in the older States, many sheep still pass their winters without shelter of any kind. If any confidence is to be placed in common sense and experience, it may safely be affirmed that adequate shelter will diminish the

of the pelt-buyer speak well for the condition of the flock.

In passing from this part of the subject it may be well to observe that the production of wool and mutton would be greatly increased if the "dog crop" were infinitely diminished. Were the value of the sheep killed in one year, in the older States, given to some poor farmer, it would make him a millionaire.

INCREASE THE SELLING PRICE OF PRODUCTION.

bulb syringe. After the bowels have been well filled, let the lambs be held up by the heels for several minutes, to allow the water to flow as far down as possible. The preventive is obvious: Change the ewes at once to a more succulent, laxative diet—anything, even to small potatoes, apples, roots, green rye, etc. The flockmaster may think himself fortunate if he escapes further trouble and losses. Where the ewe receives only corn and timothy, the lamb has a slender prospect for health.

"cholera"

—Cleanliness in the quarters of the horses. Their quarters should be kept as clean as possible. There is no quantity of work that can be done in a stable if the quarters are not kept clean. The work of the stable is to keep the horses in good health and to produce the best results. The work of the stable is to keep the horses in good health and to produce the best results. The work of the stable is to keep the horses in good health and to produce the best results.

Especially at night, the work of the stable is to keep the horses in good health and to produce the best results. The work of the stable is to keep the horses in good health and to produce the best results. The work of the stable is to keep the horses in good health and to produce the best results.

Doing farm work but very all the better. The work of the stable is to keep the horses in good health and to produce the best results. The work of the stable is to keep the horses in good health and to produce the best results. The work of the stable is to keep the horses in good health and to produce the best results.

PIERD.

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In the Dairy.

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THE CONSTITUTION OF MILK.

Milk when fresh is a thin emulsion of butter fat, in a watery solution of albuminous matter, milk sugar and mineral matter. Under the microscope it appears to be a clear liquid in which is suspended an immense number of small fat globules that are more or less collected into groups. These globules vary considerably in size; the smallest being about one ten-thousandth of an inch in diameter and the largest about one two-thousandth of an inch. The average diameter for cows' milk is about one five-thousandth of an inch. Twenty-five fat globules, placed side by side, in contact with each other, would span a distance just about equal to the thickness of the paper upon which this bulletin is printed.

The size of globules varies considerably with different cows and with different breeds. It is characteristic of the fat globules of Jersey and Guernsey milk to be large and quite uniform in size; of the Ayrshires to be small and variable, while the Holstein globules are small but quite uniform in size.

Milk containing large globules will cream more rapidly and efficiently than milk with small globules. Uniformity in the size of globules is also desirable, as globules of the same size will reach the surface in about the same time.

The average composition of cows' milk is approximately as follows:

	Per cent.
Fat.....	8.5
Milk serum	
Nitrogenous matter (casein, albumen, etc.).....	4.3
Milk sugar.....	4.5
Ash.....	7
Water.....	87.0
	100

COMPOSITION OF FIRST MILK AND STRIPPINGS.

The first portion of milk drawn at any milking contains much less fat than the last portion. Numerous analyses of such milk show that the first milk drawn from the udder rarely contains more than 2 per cent. of fat and often falls below 1 per cent., while it is not uncommon for the strippings to contain 8 to 10 per cent. of fat. Seven samples of the first milk drawn from cows in the station herd, the whole milk from which contained from 3 to 4 per cent. of fat, contained on the average 1.51 of fat with a range from .98 to 1.99 per cent. Five samples of strippings averaged 9.40 per cent. of fat ranging from 6.40 to 11.90 per cent. This phenomenon has been explained by a partial creaming of the milk in the udder of the cow previous to milking, also by the fat being more retarded in the small vessels of the udder than are the other portions of the milk, and by the secretion of the fat being stimulated by the act of milking. Perhaps each of these contribute somewhat to the result. I am of the opinion that much of the milk is elaborated during the milking, and that in its passage through the small vessels of the udder the fat is retarded and consequently more of it is obtained at the end of the milking.

The difference in the composition of the first and last portion of the milking is confined almost entirely to the fat, as the milk serum has practically the same composition from the beginning to the end of the milking, so that the same ratio exists between the water and the solids, not fat, throughout the whole milking.

MILK SERUM.

The milk serum comprises all that

portion of the milk that is not fat and consists of an aqueous solution of all of the milk solids except the fat. It is a viscous liquid, extremely well adapted for emulsifying fat, and upon its character largely depends the value of milk for butter production. When the proportion of solids it contains is very high its viscosity is sufficient to materially retard the creaming and to diminish the efficiency of the churn. The composition of the serum is usually very constant for the same cow, the solids rarely differing more than 1 per cent. and it does not vary much in different cows. I have found no normal milk in which the serum solids did not fall between 8.5 and 11 per cent., although my analyses include milks having a range of more than 10 per cent. of fat. I believe its composition to be fully as constant as is the blood of the animals giving the milk. It is characteristic of the serum of Jersey and Guernsey milk to contain a large proportion of solids, while the serum of Holstein milk has a small proportion of solids, Ayrshire, Short-horn and other breeds are between these. The solids of the serum increase slightly with the period of lactation; the amount being about .04 per cent. per month.

MILK FAT.

Milk fat consists essentially of an intimate mixture of the glycerides of certain fatty acids, chief among which are oleic, palmitic, stearic and butyric.

MILK SUGAR.

Milk sugar is only found in milk, and in considerable quantity only in the milk of herbivora. It is much less soluble than cane sugar and its sweetening power is comparatively feeble. By the action of the lactic ferment it is readily changed into lactic acid, the effect of which is to coagulate the casein of the milk. As this ferment ceases to act when the amount of acid reaches about 0.8 per cent., there may remain even in sour milk considerable sugar. Milk sugar does not readily undergo the alcoholic fermentation.

THE ASH.

The mineral constituents of milk are composed chiefly of neutral phosphates and chlorides of potash, soda and lime. Although comprising but a small proportion of the milk solids, they appear, according to the researches of Hammersten, to have an important influence upon the character of milk, as when less than a certain amount of the neutral phosphates are present the casein cannot be coagulated by the action of rennet.

THE NITROGENOUS CONSTITUENTS OF MILK.

The nitrogenous portion of milk consists chiefly of casein and albumen, but there are always present small quantities of other constituents containing nitrogen, none of which, however, will be considered in this bulletin except fibrin. It is probable that in absolutely fresh milk all of these substances are in perfect solution. The coagulation of milk upon standing until sour is due to the effect of lactic acid upon the casein, and may be prevented by the addition of alkali to neutralize the acid as it is formed.

Casein is precipitated from the milk by dilute acids and by the action of rennet. It is not precipitated by heat. These characteristics distinguish it from albumen, which is precipitated by heat but not by acids, nor by rennet.

The milk serum always has more consistency or body than water, which property is called viscosity. This is due to the substances which it holds in solution, but the different constituents are by no means alike in imparting viscosity to the milk, the mineral matter having little influence, the milk sugar about the same effect as an equal

amount of cane sugar, while the nitrogenous matter (casein, albumen, etc.) has about three and a half times the influence of an equal quantity of sugar. The viscosity of the milk serum is therefore largely influenced by the amount of casein and albumen which it contains and, as the facility with which cream separates from the milk depends upon the consistency of the serum, the amount of these substances in the milk has a direct and important bearing upon its value for butter production. Cream will separate slowly from milk that contains a large amount of casein and albumen and will have a larger volume in proportion to the fat which it contains than the cream from milk containing a small amount of these substances. This fact is very noticeable in colostrum milk from which the cream separates slowly, and far exceeds in quantity the cream from normal milk containing the same amount of fat. Not only do excessive amounts of casein and albumen interfere with the creaming of milk, but unless removed from solution in the cream or their effect neutralized in some way they make the churning difficult and prevent an economical recovery of butter by the churn. As a rule, a larger proportion of the milk fat will be recovered in the butter when the milk serum contains a small amount of these solids than when the amount is large.

If the casein be separated from the milk serum either by rennet or dilute acid, and the albumen be removed by heat, the resulting whey will have lost nearly all of its viscous properties and will no longer be capable of making a permanent emulsion with fat.

The ill effects of a large amount of solids in the serum upon the creaming of the milk may often be obviated by diluting the milk just previous to setting with a little warm water, thus reducing the viscosity of the milk serum to a point where the cream will readily separate. Care must be taken not to add a very large portion of water, as this acts not only to reduce the viscosity, but also to reduce the specific gravity. Usually one quart of water to three or four gallons of milk will be sufficient.

FIBRIN.

Of the other nitrogenous principles found in milk only fibrin will be considered in this bulletin, as this appears to be the only one which has a marked influence upon the creaming of milk. Until recently fibrin has not been recognized as a constituent of normal milk, so it will not be out of place to present here, in detail, the evidence of its presence. In order that the tests may be better understood the properties of blood fibrin will be first considered. Blood fibrin is that principle which causes the spontaneous coagulation of the blood shortly after it is removed from the body. No other nitrogenous substance, so far as I am aware, has this property. It was formerly supposed to be one of the normal constituents of the blood, that was held in solution so long as the circulation was maintained in the living organism, but which coagulated spontaneously when removed from the body, or when subjected to certain abnormal conditions. According to present ideas, however, fibrin does not exist in the living organism, but is a product of the decomposition of the blood, which decomposition takes place if the blood be drawn from the body, or under certain conditions if the circulation be arrested for a time. Its coagulation is facilitated by warmth, by exposure to air, by agitation and by contact with foreign substances, especially if such substances have a rough surface. The coagulation always begins at the surface and at the



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sides of the vessel containing it, and gradually extends from these points throughout the whole mass. Coagulated fibrin has under the microscope a thread-like appearance, the threads crossing each other irregularly, forming a fine net-work. This net-work gradually contracts, entangling in its meshes the blood corpuscles which are thus collected into characteristic groups. That this grouping is caused by the coagulation of the fibrin is shown by the fact that it is not found in the living organism, nor does it occur in blood to which substances have been added that prevent its coagulation.

Coagulation of fibrin is retarded by cold and is prevented by rapid freezing, the coagulation, however, takes place when it is again warmed. It may also be prevented by certain chemical reagents, among which may be mentioned the caustic alkalies, magnesium sulphate and potassium nitrate. If blood be received directly into a saturated solution of magnesium sulphate, in such quantity that the solution shall not be less than one-fourth the volume of the blood, no coagulation will take place; but if the mixture be diluted with several parts of water and allowed to stand for a short time, a clot will form which resembles in every respect, except its firmness, that formed from pure blood. If this mixture of blood and magnesium sulphate be permitted to stand quietly for a few hours in a deep vessel, the blood corpuscles will, to a great extent, settle, leaving at the top a clear amber-colored liquid from which the fibrin may be obtained, by dilution with water, quite free from the blood corpuscles.

(To be concluded next week.)

A "Put and Call."

This is a funny phrase to the uninitiated but all the brokers understand it. The use it when a person gives a certain percent. for the option of buying or selling stock on a fixed day, at a price stated on the day the option is given. It is often a serious operation to the dealer, but there is a more serious "put and call" than this: when you are "put" to bed with a severe cold and your friends "call" a physician. Avoid all this by keeping in the house Dr. Pierce's Golden Medical Discovery. The great cure for pulmonary and blood disease. Its action is marvelous. It cures the worst cough, lingering, or chronic. For Weak Lungs, Spitting of Blood, Short Breath, Consumption, Night-sweats, and kindred affections, it surpasses all other medicines.

Moran, the great artist, despaired when he saw the Great Shoshone Falls—it was so far beyond his pencil's cunning. So there are wonderful dreams of beauty in the tempestuous loveliness of the grand "American Alps" in Colorado, which are at once the aspiration and the despair of painter and poet. Splendid beyond comparison is the superb scenery along the South Park Division of the Union Pacific in Colorado.

(Continued from page 3.)

provided that the cattle eat it equally well in both cases; the gain in cutting, which is often very great, comes mainly from getting consumed that which would otherwise be wasted. In the case of ensilage, there being no necessity for cutting the fodder in order to have it eaten, the length of the cut appears to turn upon somewhat closer packing, on the one side, and extra expense of fine cutting on the other. It is recommended that cuts as long as two or three inches be tried with some of the fodder and the results reported; if such long cuts are satisfactory the expense of making ensilage will be considerably decreased. With ample power and a good feed cutter it will be more economical to cut fodder and run it into the silo by a carrier, than to attempt to fill with long fodder.

USE OF A CHUTE.

The carrier should deliver the cut corn as near the middle of the pit as possible. Until the silo is nearly filled a chute can be used to convey the ensilage still further toward the desired position in the pit. The chute should have sufficient slant so that the cut corn slides off readily. By changing the direction of the chute from time to time the labor of distributing the cut corn can be reduced to the minimum.

FILLING THE SILO.

When corn has reached the proper stage of maturity, it is not necessary that it be wilted before putting into the silo in order to make the so-called sweet ensilage; only the immature fodder needs wilting; such should be wilted from twenty-four to forty-eight hours, if possible, before cutting into the silo. Varieties that mature, if left until the ears begin to glaze, can be put into the silo immediately after being cut, with satisfactory results, provided there is no outside moisture on the corn as it goes into the silo, nor is it necessary to suspend operations every other day in order to let the ensilage in the silo reach a certain temperature before filling can be continued. If the corn is sufficiently mature, and is put into the silo without rain or dew, there need be no fears about the quality of the ensilage, whether put in slowly or rapidly. At the Station last fall we filled a pit with fresh, sufficiently matured corn in one day and had first-class sweet ensilage. Recent experience has taught that there is a limit to putting dry or excessively wilted corn into the silo, beyond which we dare not go. When the corn has lost enough water to cause the leaves to rustle and break in handling, it does not pack closely enough in the silo to exclude the air, and, on opening the pit, it will be found that the ensilage is fire fanged and permeated all through with a white mould. There is another reason why the corn should not be allowed to become so dry even if there was no trouble about its keeping in the silo; when we put dry corn into the silo we have lost the succulent feature of the ensilage that makes it especially desirable. Having once commenced to fill the silo the work can be crowded right along by observing the conditions mentioned.

The practice, each morning during filling, of removing the cold ensilage from along the walls and corners, and substituting that which is warm from the middle of the mass, seems a reasonable one and worthy of further trial. That it is not essential, however, to good sweet ensilage, our own experience has proved.

In case of an accident or breakdown it will do no harm to suspend work for a day or two, but if left longer than this the ensilage to a depth of two or three inches, usually begins to mould. When

filling is completed a foot and one-half of chaffed straw, marsh hay or corn stalks will make a sufficient covering. The use of weights is now about obsolete. The silo should be examined daily for a couple of weeks, and the covering pressed down until the settling has ceased.

TWO CROPS IN THE SAME SILO.

The question is often asked if one crop can be placed on top of another in the silo, provided that the first has only partially filled it? Most certainly, if one crop, as clover, for example, only partly fills the silo, when the corn crop has matured, the covering of the clover can be removed or left on as desired and the other crop placed on top of it. By filling at different times much more can be got into the silo than if a single crop is placed therein by rapid filling. Even with the slow filling, ensilage settles considerably after the silo is closed up; with very rapid filling it may settle as much as two-fifths or even one half. Under any system it is well to allow two or three days' settling at the last and filling up again so as to get in all the feed possible.

Correspondence.

Culture of Sorghum Cane.

EDITOR KANSAS FARMER:—It may not be in order or good taste for one up here in Iowa to offer suggestions to the farmers in Kansas. But if acceptable to you, I would like to offer a few through your paper. As it appears now that sorghum is to be one of the most important products of your State, and corn, but little, if any, behind it, and as both crops depend largely upon the cultivation that they get while growing, as well as on the preparation of the ground for, and planting the seed, I wish to make some remarks on that portion of that industry. In doing so, I shall base my remarks on my personal experience and careful observation, the results obtained by myself as well as many others.

In 1858, I commenced growing cane, and not knowing anything about it, I at once commenced experimenting in its culture, and continued to experiment, until after many years' trial, I became convinced that I had struck the true principle, and in the main I have adhered to it. Realizing that one success or one failure did not prove a system, correct or incorrect, I continued experimenting and carefully noting and studying the growth of the roots for many, many years before I would claim its correctness to be an established fact. Too much reliance is frequently based on theory.

First.—I found that seed covered very shallow with fine dirt, well pressed on it, was the best system for planting. Then it would germinate and come up in the shortest time; and even, so it is easier cultivated and matures more evenly. If it is planted on closely unprepared ground, some of it is covered deep, some shallow, and some not covered at all. Then some comes quick, some is a long time in coming, and some does not come at all. Not unfrequently, if the weather is unfavorable, and the seed is covered deep, small duplicate roots come out near the surface, and the stalks below them turn black and die, so the plant has only the weak duplicate roots to forage in the soil for food for its support, and it becomes a spindling worthless stalk.

Second.—I found that in planting in drills, having the stalks stand separate, was better than having them crowded together in hills. It gave the roots a better chance to expand and appropriate the nutritive elements in the soil, and I also found that the leaves were much larger, increasing its facilities for securing atmospheric support.

Third.—I found that the shallow cultivation that I could give it and keep the surface fine, loose and light, gave much the best results. The belief that has generally prevailed that deep culture and cutting of the roots is best, is erroneous. It is generally thought that the cutting of the roots promotes the throwing out of more fibrous roots, a mistake that has caused much injury, and in many instances has been fatal to the crop.

Any one carefully examining the roots will find more fibrous rootlets on a single lateral leader that has been permitted to grow naturally in a good soil, than he will on a whole hill that has been cultivated deep and the roots butchered. Some claim that by cultivating deep and cutting off the root near the surface, more roots run deep. This, too, is an error. Careful examination reveal the fact that where all the roots are preserved, is found the most deep running roots, and the largest and strongest stalks.

The same general principle applies to the culture of corn. In a dry season, or a dry country, it is to be highly recommended. As a rule the dryer the season, the better the crops, if well cultivated on this system. I write this hoping it will lead some to study. There is no branch of business in which study will benefit more than in agriculture.

D. J. BISSELL.

Anamosa, Iowa.

The Lister Discussed.

EDITOR KANSAS FARMER:—I am glad to see so many take interest in the subject of raising corn with the lister, as it certainly is a subject the farmers of Kansas should consider, and find, if possible, the best and most practical way or plan to follow, in preparing the ground and cultivating the corn.

It is a question with many farmers, whether it is the best plan or not, to try to keep the ground from rolling back into the furrow, in order to keep the weed seed out. It is impossible to keep them all out, and enough ground generally rolls back to seed the furrow, especially so in rich land. Some say, list deep, and allow the ground to roll back in, or rather work it back in before you drill. This gives a good seed bed of the top soil, which contains the most fertilizer or food for the young corn. Also the ground warms up quicker, which gives the corn a quicker start, and if this is done with a lister harrow, the clods are all pulverized, and the ground in nice condition to work, and no trouble is had to keep the weeds down. This seems to be practical, and I would like to have others experience on the point.

I know from experience that there cannot be too much said in favor of harrowing, and agree with Mr. Gandy, that the common harrows are "worse than useless" on listed ground. I wish to say, however, that I have used the "Bradley listed harrow" he speaks of, (or Gandy, as it is generally known,) but prefer the "Clippinger's Perfect" for many reasons. The "Bradley" lies straight across the furrows and knocks the clods or corn stubs into the furrow ahead of the harrow, which are liable to be mashed on the young corn, while the "Perfect" harrow is built specially to obviate this fault; the sections are built in A shape, and the front of the section gets ahead of these clods, mashing them before they can roll in. It also is adjustable, and can be held at any angle desired, or the sections made narrower for narrow rows. This harrow must be seen and tried by the farmer to be appreciated.

I agree with Mr. Hewlett in regard to using the single lister and pony drill in preference to the combined machines, and think it will be but a year or two until the combined will be a thing of the past. The only combined lister and drill that should be used is these that the drill part attaches, so that the drill works independent, and behind the subsoiler, the same as if it were detached and run separate. There are several of this kind made and all very handy, as they can be used as two separate machines, early in the season, or combined in one for late listing.

Alpha says he wants the rows four feet apart, he gives his reasons for it, and they may be good for the extreme western Kansas. I think three feet and a half about right for this section. Then all the center between the rows will be cultivated.

R. M. KINCAID.

Centralia, Nemaha Co., Kas.

Cultivating With Fruits.

EDITOR KANSAS FARMER:—It is best usually to cultivate the orchard for three or four years at least after setting out. But as the trees grow, care should be taken to only stir the surface so as not to disturb the roots, and to keep reasonably level, and thoroughly destroy the weeds, and keep in a good tilth.

Usually the greater part of this cultivation should be given before the first of July, and especially so, if any other than level cultivation is to be followed, as there is an increased

danger of injury from the soil drying out. With thorough work in cultivating a healthier, thriftier growth of trees can be secured, as by frequent stirring of the soil, not only is the amount of available plant increased, but the weeds can be thoroughly kept down. With widely set trees especially, whether fruit, shade or ornamental, a very good plan of management is to give whatever cultivation is considered as being necessary, and then before hot, dry weather sets in apply a good mulch in order to retain moisture already in the soil. Usually, if thorough work is done in giving good cultivation, there will be but very little of it needed after dry hot weather sets in.

With small fruits, as a rule, but very little if any cultivation should be given early in the season, at least not until after the plants have sprouted. It may be necessary to pull up some of the worst growing weeds in order to prevent their going to seed, or interfering with the work of maturing of the fruit. This is especially the case with that class of fruits that is generally mulched late in the fall. This mulch should be allowed to remain until after fruiting, and then it can be removed, and thorough cultivation be given. It always pays to give such cultivation as may be necessary to keep down the weeds thoroughly, and have the soil in sufficiently good tilth to keep the plants thrifty. If necessary to do this before the fruit has matured, the better plan will be to give it, but if not necessary, the better plan is not to disturb. It is necessary if the best yield as regards quality and quantity is secured that clean cultivation should be given with fruits as well as with any other class of products grown on the farm; and generally in preparation as this is done at the proper time and in the proper manner, the better will be the results that may be realized.

Publishers' Paragraphs.

Our extra sales of the KANSAS FARMER this week amount to 2,000 copies, which is of itself a significant fact for our customers. It is a conceded fact that this paper gives more for the money expended by its subscribers and advertisers than any other journal in America.

We desire a club agent and special representative in every neighborhood of the West, and desire to hear from every one in sympathy with the objects of this journal to that effect. We are determined to secure an immense circulation, so that we can make the best farm journal in the United States.

We hope that every reader of this paper will act upon the suggestion of J. G. McKeen, of Russell, Kansas, who writes: "If every reader would consider himself a self-appointed missionary, year list would be a big one." By little personal effort, he was able to promise us ten new subscribers, although as he says, "times are hard and dollars are not very plenty, or nearly every farmer in this vicinity would subscribe." This is suggestive and encouraging. See our special offer for new subscribers elsewhere. We promise to recognize as a personal favor, and to reward every reader who may send us one or more new subscribers.

Rheumatism is caused by an acid in the blood; therefore, external treatment affords no permanent relief. To eliminate the poison and make a thorough cure of the disease, nothing else is so efficient as Ayer's Sarsaparilla. Give it a trial. Price \$1. Worth \$5 a bottle.

NEW ADVERTISEMENTS.

Blymyer Iron Works...Cane Mills.
Beecham, Thomas...Beecham's Pills.
Barteldes & Co., F...Sweet potato plants.
Chicago Vet. College...Veterinary College.
Compton, O...Cattle sale.
Carpenter, Geo. B...Binder Twine.
Campbell University...Special Summer Term.
Forshee & McMakin...Books.
Mulvane, Munk & Co...Topeka Medical and Surgical Institute.
Mulvane...Sweet potato plants.
Pixley, N. H...Topeka Business College.
Roudebush, E. E...Cattle sale.
Van Osterhout, M. P...Cattle sale.
Valle, H. M...Cattle sale.

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

Bulls for Sale.

Fifteen choice Short-horn bulls, from 8 to 20 months old; also a number of choice heifers. Will sell at reasonable prices on terms to suit purchasers. Address T. P. Babst, Dover, Shawnee Co., Kas.

Farmers' Alliance Notes.

[Part of these notes were made ready for last week's issue, but was laid over on account of a pressure of other matter coming in late. —EDITOR.]

Morris Alliance, Morris county, adopted the following: *Resolved*, That we as an Alliance use no binding twine this coming harvest unless it can be secured at reasonable rates so that we can afford it.

The Portland, Sumner county, Alliance adopted the following resolutions: 1st. That we as members of this Alliance shall not pay more than 12 cents for sisal twine or 18 cents for manilla twine. 2d. That we as members of this Alliance will make harvesters of our binders and bind with straw and harvest our wheat as best we can before we will pay more than the price stated in these resolutions. And be it further agreed by the members of this Alliance that have small harvests that they will assist those having large harvests to carry out these resolutions.

J. B. French, Secretary Farmers' State Alliance, Burrton, Kas., sends in the addresses of Secretaries of sub-Alliances organized since last previous report: H. A. Shelton, Latham, Butler county; D. W. Gilbert, Clearwater, Sumner county; W. F. Alteberry, Perth, Sumner county; G. H. Goodhue, Drury, Sumner county; A. B. Tuggle, Rock, Cowley county; I. L. Jones, Bitter Creek, Sumner county; G. G. McCleary, Corbin, Sumner county; Ira Pringle, Sterling, Rice county; Mrs. Alice Tucker, Dalton, Sumner county; Wm. Russe (Secretary Sumner County Alliance), Mulvane, Sumner county; Chas. Robbins, Holton, Jackson county; G. W. Miller, Winchester, Jefferson county; E. J. Edwards, Valley Falls, Jefferson county; Edwin Smith, Netawaka, Brown county; Mrs. Ella Keener, Valley Falls, Jefferson county; L. H. Root, Meriden, Jefferson county; J. W. Budd, Leeds, Chautauqua county; W. H. Whittall, Canton, McPherson county; Ira Cook, Newton, Harvey county; T. L. Humble, Spring Valley, McPherson county; Wm. H. Hanne, W. T. Jones, J. J. Jackson, N. W. Mahaffey, all of McPherson, McPherson county; J. F. Talbot, Conway, McPherson county; J. J. Barnes, Galva, McPherson county; Thos. D. Benson, Cherryvale, Montgomery county; J. H. Butrick, Leon, Butler county; Mrs. A. Ruddle, El Dorado, Butler county; Miss Ada Blakey, Freedom, Butler county; Geo. M. Tedrick, Kent, Reno county; W. E. Smith, Oxford, Sumner county; J. M. Lemmons, Wellington, Sumner county; James Somers, Oxford, Sumner county.

Mr Bourdette, Organizer, wrote us under date of April 23 as follows: "I thought I would drop you a few lines from this section of our State (Cowley county). We are alive and working like beavers for the Alliance and Co-operative Union down here. I organized two sub-Alliances Monday and Tuesday evenings. We have in this county now forty-six sub-Alliances with a total membership of 2,300, 1,500 males and 800 females, all working harmoniously. We realize the necessity of trying to help ourselves and not rely on others to carry us. We have a county exchange here, organized with a capital of \$500,000; it is doing a splendid business—far exceeding our expectations. I like and highly appreciate your efforts in our behalf and recognize a friend indeed in the KANSAS FARMER. Your article on the petition of dressed beef packers was just to the point and deserves to be read by every farmer in the State. If any one thinks the farmers are not getting wide-awake to their interests let him come down to this county and converse with Alliance men and he will soon conclude that the Alliance has come to stay. From the way the people are falling in it will be but a short time till all who are eligible are in line. Wishing you success in your efforts in seeking to educate our people to a true sense of their duty as agriculturists, I pledge you my hearty support in my humble way to the furtherance of the good work. P. S.—Our business manager is J. McIlwain, Winfield, Kas. Parties wishing information in regard to the Exchange should address him. He will be glad to give any information that he can."

The horse-shoeing competitions at leading English horse shows have been developed into one of the leading features of such exhibitions, the entries in this contest at a re-

cent show numbering nearly 100. Each smith is supplied with fuel, forge, anvil and iron, but furnishes his own tools and makes and sets the shoe, and the man who best performs this work in the shortest time wins the award.

Inquiries Answered.

SALT.—A correspondent inquires whether the people in general are benefited by the Kansas salt industry.

—Yes. But it may take some time yet to develop and establish its business status. An effort has been begun to get the salt industry of the entire country under control of one management. The principal object is said to be to regulate the distribution, rather than the product or price, so that each salt district shall, as nearly as practicable be supplied by manufacturers in that district. This is a mild and plausible way of presenting a plan to make the most money out of the manufacture of salt. Mr. Burt, the great salt-maker of Michigan, and Democrat candidate for Governor in 1898, is reported to be at the head of the movement, backed by a syndicate of English salt-makers. Just what Mr. Burt's scheme will amount to cannot be now definitely stated, but it looks to us as if Kansas would be benefited at least to the extent of the difference in cost of transportation a long and a short distance. Then there is another advantage: If the salt combine does not give us salt as cheap as we can make it ourselves, the Grange, or the Alliance, or companies of farmers will take hold of it in their own district. The time is now at hand that man will not submit to any injustice which, by continued effort, they can avoid. We are benefited in the discovery of salt, and in learning how to secure the brine, and to proceed in the further process of manufacture, if nothing else.

HOG CHOLERA.—Here is a remedy now going the rounds of the press—burnt corn: The best way is to take a pile of corn and effectually scorch it and give the affected hogs free access to it. This remedy was discovered by E. E. Duke at the time his distillery was burned in Leiston, Ill., together with a lot of stored corn, which was so badly injured as to be unfit for use. It was greedily eaten by the hogs, several of which were daily dying. After the second day not a single hog was lost, and the disease entirely disappeared. The remedy has been tried in a number of cases since and has never failed.

Gossip About Stock.

Wm. Brown, Lawrence, Kas., has disposed of his entire herd of Holstein-Friesian cattle, numbering twenty-one head of all ages, to a Texas ranchman, at an average of \$125.

Hon. H. M. Valle, of Independence, Mo., announces this week his public sale of thirty-four Bates and Bates topped Short-horns to occur on May 29. Catalogues are now ready.

Every Western breeder should as soon as possible place a permanent advertisement or Breeders' Card in the KANSAS FARMER. It will prove the best possible investment. Try it and be convinced.

LaCygne Journal: G. D. Alexander shipped from Pleasanton two carloads of Short-horn dehorned cattle, about 2 years old, which averaged 1,200 pounds in weight. They were raised by A. W. Hall, of Trading Post. Mr. Alexander said they were the first lot of dehorned cattle he ever shipped.

W. D. Paul, of Pauline, Shawnee county, announces that on Wednesday, May 22, he will hold an auction sale of stock, consisting of thirty-five high-grade 2 and 3-year-old steers, twenty head of fine high-grade Clyde and Hambletonian brood mares with colts at side, also young mares and geldings. This is a splendid offering of desirable stock.

The Breeder's Gazette reports that Luther Adams' Short-horns averaged for sixty-six head the neat sum of \$289.69; forty-nine females averaging \$253.67 and seventeen bulls \$393.20. G. & J. Geary's Aberdeen-Angus' averaged \$252 for sixty-five head; forty-four females averaged \$280.90 and twenty-one bulls \$195.

Wellington Standard: C. E. Davis, of King & Davis, is becoming a noted fine stockman. He has just received from Campbell Brown's Springfield (Tennessee) stock farm a four-month-old Parmenter strain Jersey bull, which cost him \$1,250. It is a

perfect beauty and the representative of a family celebrated the world over for its butter-making qualities.

Attention is directed to the important Holstein-Friesian sale to be held at Lincoln, Neb., Tuesday, May 21, by Martin P. Von Osterhant, Osage City, Iowa. The day following this sale of fifty Holsteins, at same place, Orville Complin, Bennett, Neb., will offer thirty-five head of Jersey cows and heifers. Dairymen should look up these advertisements and attend the sales.

It affords us pleasure to introduce to our readers the new swine advertisers, Dietrich & Gentry, proprietors of Highland herd of Poland-Chinas, Ottawa, Kas. Breeding animals for this herd have been purchased from the well-known and reliable herds of F. M. Lall, I. L. Whipple, Levi Arnold and other noted breeders. Their advertisement shows the standard families represented in their herd.

Our esteemed advertiser of the Hog Sanitarium, E. M. Crummer, Belleville, Kas., writes: "The Sanitarium is coming along finely. Am getting very flattering testimonials from all parties having built it, many writing me that it is all I claim for it and more, too. Every man using it is eager to testify to its merits, and I have heard the same story from so many that it would be rather entertaining to have some one 'kick' once. I shall withdraw my special proposition on July 1 next, so all wishing to so apply will do so before that time."

Weather-Drop Bulletin

of the Kansas Weather Service, in co-operation with the United States Signal Service, for the week ending Saturday, May 4, 1889:

Precipitation.—There has been an abundance of rain across the larger part of the State from northwest to southeast. An excess in Cheyenne, Rawlins, Decatur and Norton, trending southeasterly and expanding to include Saline, Dickinson and Marion, then contracting so as to leave Harvey and Sedgwick in the normal belt; it rapidly expands from Cowley northeastward to Johnson, with a very decided excess in Chautauqua, Montgomery, Labette and Cherokee. A deficiency in the extreme northeast counties, and in Clark, Meade, Seward, Stevens and Morton, the central part of Butler and southern portion of Gove. The rain of the 29th was a cold one, and was accompanied by snow in the far west and northwest, Sheridan and Thomas reporting a snowfall of two inches. Hall storms on the 26th in Montgomery and 29th in Lyon. Frosts in all but extreme southeast counties.

Temperature and Sunshine.—Cloudy weather has been the rule in the western part of the State, while in the central and eastern an average amount of sunshine was received, yet the week has been a cold one for the season.

Results.—In all sections the weather has proved favorable for wheat, rye and oats, leaving them in prime condition. In the southern counties wheat continues heading out finely. Rye is heading as far north as the Kaw. The rainfall has been very favorable to all crops except the corn, proving too cold for that cereal, and exhibiting the same effect on the chinch bug. Farm work is being seriously retarded in the southeastern counties by the excessive rains. The hail storms did some damage to growing crops, and to window glass. On the 30th ice formed in Greeley nearly half an inch thick, on the 1st and 2d it formed in water troughs one-eighth of an inch thick as far south as Coffey. The frosts cut down beans, tomato and sweet potato plants and other tender garden plants in the central and western counties, including the corn in some of the latter. Tame grasses are making a rapid growth while the wild grasses are slow.

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

Topeka Weather Report.

For week ending Saturday, May 4, 1889:

Date.	Thermometer.		Rainfall.
	Max.	Min.	
April 28.....	66	31	..
" 29.....	57	40	.58
" 30.....	61	32	Trace
May 1.....	63	31	+
" 2.....	60	30	+
" 3.....	70	35	+
" 4.....	74	40	..

+ Frost on the night before.

BRECHAM'S PILLS act like magic on a weak stomach.

Creameries in Kansas.

(Correspondence Live Stock Indicator.)

Live men make live towns. One thoroughly business man who can foresee advantages and disadvantages, and who will set about to obtain the benefits of the one and avert the bad effects of the other, will do more good for a community than one hundred passive individuals who go on the "happy go lucky" plan.

The most striking example of the above statement that has ever come under our notice, is the case of one John O. Wolf, of Cheney, Kansas, who has for some time been engaged in the mercantile business. About one year ago he began to complain about the heavy loss he was continually sustaining by handling the large quantities of unsalable butter which he was compelled to handle at his store. Every merchant who has ever tried taking country produce in trade, knows of the heavy losses, to say nothing of the worry and trouble to handle the thousand and one kinds of mysterious mixtures that come to his store under the general name of butter. Still every merchant must handle it to save his customers; he must take it at the highest market price regardless of quality. He is always at a loss to find a market for it, much of which is sold only to be returned, and which finally finds its way to the back yard, a total loss to the merchant, all of which he must bear in silence, for to make complaint he hazards his chances of retaining a good customer.

But now to the story: This John Wolf deplored his lot. He thought a creamery would be a good thing; for if nothing else it would cut off a portion of his unprofitable butter trade. He began to talk creamery, and he talked and read about creameries, and the more he talked the more he wanted one, and the more he wanted one the more he talked. It was a long time before he could get any one interested enough to talk with him. The people had all known of several creameries of the old cream-gathering system that had been established in the State, all of which had in a great measure failed, and some had gone entirely under, so he found it hard work to convince the people that a creamery would pay, but still he talked until the people began to think that he had become a crank on the creamery question. The only questions that seemed to puzzle him were: Whom can we get to build it, and where will we get the money to pay for it? At length, by some means he heard of Davis & Rankin, of Chicago, builders of creameries and cheese factories. He wrote them a letter, and before long a representative of the firm called on him but nothing could be done, as no one was interested. They knew nothing about the benefits of a creamery, and seemed to care less. He finally elicited the attention of the editor of the *Cheney Blade*, and by his persistent efforts, strong arguments got him interested. Davis & Rankin were sent for again, a meeting of the people was called, the representative of Davis & Rankin met with them, and explained to them that there had been a revolution in the creamery business, that the old cream-gathering system had been entirely supplanted by the new separator process. The people were pleased, and our hero was in ecstasy. He talked creameries by day-light, and dreamed of creameries by night. The enthusiasm began to spread, everybody was more or less interested. An offer was made by Davis & Rankin, a stock subscription paper was started at once, and in about three weeks the entire stock was raised, and in less than ninety days from the first meeting, the town of Cheney was the happy possessor of a full-fledged creamery with a capacity of 14,000 pounds of milk per day. Then it was that John Wolf was happy, he had accomplished what he considered, and what really was, and is to-day the greatest institution for the town and country that could have been thought of.

We speak of this by way of encouragement to those who have bright ideas of what would be a good thing for their town or country that they persevere in their efforts. The creamery has now been running about six months, and the men who thought John Wolf a maniac nine months ago, are "raising up and calling him blessed." They have a market for their produce; they get hard cash every thirty days for their milk. The cows that would have been dull sale at \$20 a head six months ago, would now readily bring \$30. They have begun to reason this way: "Why, I can always raise cow feed, and as long as I can raise cow feed I can have milk to sell, and I can always sell my milk as long as we have a creamery, and we can always have a creamery as long as a good article of butter will sell, and good butter will sell till Gabriel toots his horn." So we have a sure thing. The neighbors are becoming interested, and every day new customers are added to the list of creamery patrons, and although it is now making over 300 pounds of butter per day, they have standing orders for three times that amount. It is now found to be necessary to increase the capacity of the Cheney creamery, and another separator is now being put in. Everybody is pleased and happy. Our merchants in Cheney who six months ago were exchanging their goods for dirty butter, are now selling their goods for cash in thirty days. A miserable dead town has been resuscitated and "where once was death there is life."

The wise acres who said that Kansas was not a dairy State, are beginning to wilt; a demonstration of what can be done is setting their ungrounded reasoning to naught. So much for having one good rustler in a town. There are thousands of towns in Kansas and other States, that could by the proper efforts have a creamery. Have you a rustler? Get out and learn the ways of the world. Read, reason and think for yourself. See what other towns are doing. From what we have seen in Cheney, we are constrained to believe that a Kansas town that has no creamery will get left, and badly left. That because a creamery did not pay forty years ago is no evidence that one will not pay now. Railroad trains would have run six thousand years ago as well as now, if the people had had sense enough to have constructed them. Because you do not know how a thing can be done is no reason that the thing cannot be done. We all thought that a creamery could not pay, and we would have known no better to this day had we not investigated, and we probably would not have investigated only that John Wolf would never let us alone until we did.

W. FOSTER.

Cheney, Sedgwick county, Kansas.

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.

St. Michael, the Weigher.

Stood the tall archangel, weighing
All man's dreaming, doing, saying,
All the failure and the gain,
All the triumphs and the pain,
In the unimagined years,
Full of hopes, more full of tears,
Since old Adam's conscious eyes
Backward searching for Paradise,
And, instead, the flame blade saw
Of inexorable Law.

In a dream I marked him there,
With his fire gold flickering hair,
In his blinding armor stand,
And the scales were in his hand;
Mighty were they, and full well
They could poise both heaven and hell.
"Angel," asked I humbly, then,
"Weighest thou the souls of men?
That thine office is, I know."
"Nay," he answered me, "not so,
But I weigh the hopes of man
Since the power of choice began
In the world of good or ill."
Then I waited and was still.

In one scale I saw him place
All the glories of our race,
Cups that lit Belshazzar's feast,
Gems the wonder of the east,
Kublai's scepter, Caesar's sword,
Many a poet's golden word,
Many a skill of science, vain
To make men as gods again.

In the other scale he threw
Things regardless, outcast, few,
Martyr-ash, arena-sand,
Of St. Francis' cord a strand,
Beechen cups of men whose need
Fasted that the poor might feed,
Disillusions and despairs
Of young saints with grief-grayed hairs,
Broken hearts that break for man.

Marvel through my pulses ran,
Seeing then the beam divine
Swiftly on his hand decline,
While earth's splendor and renown
Mounted light as thistle-down.

—James Russell Lowell, in America.

Hear how the birds on every blooming spray,
With joyous music wake the dawning day!
Why sit we mute when early linnets sing,
When warbling Philomel salutes the spring?
Why sit we sad when Phosphor shines so clear,
And lavish nature paints the purple year?
—Pope.

The spider's touch, how exquisitely fine!
Feels of each thread and lives along the line!
—Pope.

AMONG THE MEXICANS.

CITY OF MEXICO, April 2.—To one unaccustomed to travel, and perhaps to the old tourist as well, a trip through Mexico over the Mexican Central railroad is a strange and delightful experience. Lifted one moment to thoughts of heaven by the exquisitely tinted haze which always drapes the mountains on either side of the narrow tableland which we pass, only to be brought down the next to a realizing sense of man's misery by the plaintive cries of "Centavo, Centavo," by the less than half-clothed children and beggars who crowd every station—truly this beautiful sun-land, this sister republic of ours, is full of contradictions.

One cold damp evening in March, after having our trunks examined by the custom house officials, we left Paso del Norte, and the rain, for the City of Mexico with its perpetual sun. For three nights and two days we rode, for the most part over a dry and dreary tableland, but always made beautiful by the indescribable glow of the mountains and by the haciendas which every now and then we passed. Wherever water can be had these oases in a desert of dry earth and cacti bloom like gardens. The delicate green of the fields and trees, contrasted with the rosy flush of what we supposed were orchards of peach trees, formed a picture fair to see and made our hearts bound as did the newly-discovered pussy willows years ago when spring released the brooks and called back the birds from this same South towards which we were hastening. We were told that the pink blossoms were of the almond tree, great quantities of these nuts being raised in Mexico.

At one station we bought of a little boy what appeared to be English walnuts, but they tasted different. At every station every one rushed to the windows or platform, and were always rewarded by sights of a strange, new life, for the peons for miles about crowd around every station and eye us curiously, for we are doubtless as odd in their sight as they are in ours. They are untiring in their efforts to sell whatever they may

have—milk, coffee and chocolate; dreadful looking messes of vegetables and meat, patted down upon lettuce leaves and garnished with bits of raw carrot; tropical fruits never seen in the North, and after tasting which one hopes never will be; beautiful baskets of all kinds; and they will even sell the drawn-work napkins which cover their baskets of dulces. The Mexicans as a nation, living, dying or sleeping, always are eating sweets, and their sugar, which is brown, makes the most delicious candies.

WONDERFUL BABIES.

One morning as the train slowed up at a little way station we saw sitting on the earth under a shed almost touching the track three little girls, almost babies. Each had on a white slip which never by any possibility had covered their brown bodies. They made a picture for a painter, and a murmur of admiration arose from the gathered passengers. Centavos and reales fell quickly about them, and one gentleman, a Colonel stationed at Santa Fe, who has babies of his own away down in Massachusetts, jumped off the steps and kissed one sweet little face. As he stepped back no wonder a tear glistened in his eye. It was of no use for the conductor to tell us those children were posed for our benefit and to add a little to their parents' purse. We all still believe in those babies.

And "faith had her perfect work" at other times as well. When we gave a dollar in exchange for 25 cents' worth of strawberries and stood waiting while the man went after the change, the porter smiled and pitied us, and the accommodating conductor offered to run after the absconder. We refused all offers of assistance and waited in dignified calm, firm believers in universal honesty. What matter that the bare-footed Mexican rushed up just as the train was starting and handed up the 75 cents all in great copper pennies? Human nature as represented by the poor, half-enslaved peon was vindicated. We found it so wherever we went in Mexico. All the people with whom we came in contact were

HONEST AND INDUSTRIOUS.

Honest on 18 cents a day, their ordinary wages! At a hotel in Mexico one of our party, upon leaving one morning for the usual round of sight-seeing, left a diamond pin under her pillow. Upon her return she found it pinned up in a conspicuous place where Pedro had placed it. All the chamber-maids are men, and are mostly named Pedro or Jesus. We never locked a trunk or valise, and one careful gentleman left his gunny-sack filled with Mexican silver dollars lying on the table in his room for five days and never missed one. So courteous and kind are all these people that one's love for poor human nature takes a long stride forward. We met what seemed to be only one exception, and he was an American from Texas. He said he had sold a volcano for \$1,500,000; that as we went farther into the country we should find lemons as large as tubs and squashes growing in trees. One young person of our party, who remembered seeing a similar character on the stage, remarked: "There must be millions in it." As quick as thought the Texan laughed and said: "Yes; Colonel Sellers' eyewater is nowhere." Thereafter all that was needed to subdue that young person was to breathe the name of Sellers.

We were told that at

QUERETARO STRAWBERRIES

were to be had every day in the year; so before reaching the city we placed ourselves on the platform in order to waylay any belated boy who might present himself. Upon nearing the station we saw innumerable lights dancing in every direction and heard a murmur of countless voices, and soon found ourselves in the midst of a "sea of upturned faces." Each face was brought clearly out of the darkness by a tiny taper placed in the center of a mass of rich red, gleaming berries and leaves. The fruit was filled into pretty wickerwork baskets holding a quart or two, and six or eight of these baskets, arranged among feathery green leaves of some kind on large flat basket trays, and with a candle in the center of each, were held up high for our inspection. The scene was one never to be forgotten and the soft plaintive voices not to be denied. We bought basket after basket as we would buy bouquets of flowers, for the sole pleasure of possessing them and having their fragrance near us, and we wished with all our hearts for some occult power which

could transport them thousands of miles away to the supper tables of our home friends—friends who seemed to become dearer the greater the distance between us grew.

Charles Dudley Warner states in his "Mexican Notes" that he found his basket of berries filled in at the bottom with cabbage leaves. Our berries were all berries, and good ones, too.

A way up among the mountains we wound around the quaint, beautiful

CITY OF ZACATACAS

one evening just as the last rays of the setting sun came glinting from between the hills. It was a scene full of quiet and peace. The great windlasses of the mines were motionless. The men and donkeys had left their work, and were slowly winding their way down toward the city, along the macadamized roads and over the arched bridges of solid stone work which span every ravine. Away down to the left was a figure in bright red driving a drove of burros, and further along before the door of an adobe hut was resting a group of peons in their parti-colored serapes. Nearer us was a party of children, clad mostly in the attire God gave them, playing "hide and seek." No bit of a dress peeping out exposed their hiding places, and their laugh rang out as joyously as did that of a group of little American children whom the writer remembers twenty years ago among the hills of western New York. At the station we noticed a young mother holding her baby as tenderly as only a mother can, and talking to it in the language all babies understand. Its little bare toes were curling and twisting in perfect satisfaction, and while we were watching, baby's father came up, took it in his arms and tossed and kissed it and passed it around among his friends to be kissed, and they all admired and laughed and talked in their soft, mellow voices. Baby is king even among the descendants of the vanquished Aztecs. Friends who have lived in Mexico for years told us that never have they seen a child whipped or slapped or abused in any way. When the children cry, which is seldom, they are soothed and quieted in the most gentle manner. Their dogs and birds and pets of every kind are treated with universal kindness. Truly these people are better than their national game, for bull-fighting and cruelty are synonymous.—F. R. W., in Chicago Journal.

How They Were Dressed.

Our lady readers, doubtless, will be interested in the following descriptions of dresses worn by the wives of the President and Vice President as they witnessed the opening of the Centennial ball in New York city the night of April 29 last: As the Presidential party made the circuit of the hall, Mrs. Harrison, of course, attracted much attention. She looked well and happy. Her dress was of heavy gros grain cut with a princess train. The waist was trimmed with pearl and silver, the corsage being filled with gauze held in place with ostrich feathers, as was also the skirt. The front embroidery of the skirt was in a key pattern, worked in silver and pearls, meeting panels of silver brocade and feathers and a shower of silver ornaments fell from the skirt.

The most notable figure in the quadrille was Mrs. Levi P. Morton, the wife of the Vice President. Her costume was of heavy white brocade silk, the design being very ancient. Clusters of pink and wild strawberries were half hidden behind festoons of lilac, fringed with yellow interwoven material. The empire coat fronts were of lilac silk falling over a princess front of white crepe de lisse. The corsage was of the brocade, trimmed with lilac, broad sash ends of the lilac silk being fastened to the back.

Protection from Clothes Moths

During the latter part of May or early in June a vigorous campaign should be entered upon. All carpets, clothes, cloth-covered furniture, furs and rugs should be thoroughly shaken and aired, and, if possible, exposed to the sunlight as long as practicable. If the house is badly infested or if any particular article is supposed to be badly infested, a free use of benzine will be advisable. All floor cracks and dark closets should be sprayed with this substance. Too much pins cannot be taken to destroy every moth and every egg and every newly-hatched larva, for immunity for the rest of the year

depends largely—almost entirely—upon the thoroughness with which the work of extermination is carried on at this time. The benzine spray will kill the insect in every stage, and it is one of the few substances which will destroy the egg. I would, however, repeat the caution as to its inflammability. No light should be brought into a room in which it has been used until after a thorough airing and until the odor is almost dissipated.

The proper packing away of furs and winter clothing through the summer is a serious matter. A great deal of unnecessary expenditure in the way of cedar chests and cedar wardrobes and various compounds in the way of powders has been urged by writers on these pests. But experience fully proves that after a thorough treatment in May or June, garments may be safely put away for the rest of the season with no other protection than wrapping them closely in stiff paper.

An excellent plan is to buy for a small sum from a tailor a number of pasteboard boxes in which they deliver suits, and carefully fold and pack away all clothes, summing a strip of wrapping paper around the edge of the cover so as to leave no crack. These boxes will last for a lifetime with careful use. Others use for the same purpose ordinary paper flour sacks or linen pillow-cases, which answer well. The success of these means depends entirely on the thoroughness of the preliminary work. Camphor, tobacco, naphthaline and other strong odorants are only partial repellants and without the precautions urged are of little avail.—Good Housekeeping

Household Hints.

Salt pork sprinkled with red pepper is excellent for sore throat.

Never take warm drinks and then immediately go out in the cold.

Fresh milk boiled with cut sugar will soothe a cough when other things fail.

Marble should always be washed with ammonia and water, rather than with soap and water.

The luster of morocco is restored by varnishing it with the white of an egg. Apply with a sponge.

Boiled starch is much improved by the addition of a little sperm, salt or gum arabic dissolved.

A strip of flannel or a napkin wrung out of hot water and applied round the neck of a child that has croup will usually bring relief in ten minutes.

A towel folded several times and quickly wrung out of hot water and applied over the seat of the pain in toothache or neuralgia will generally afford prompt relief. This treatment in colic works like magic.

To make sealing-wax for fruit cans, take eight ounces of rosin, two ounces of gum shellac and a half ounce of beeswax. Melt all together. This will make quite a quantity, and may be melted for use when wanted.

To raise the pile on plush that has been pressed down flat, first hold over some steam a few moments, wrong side down, and then run it tightly across a hot iron. Then brush the crushed place with a stiff bristle brush.

Fashion Notes.

The ferrule at the top of the new parasols is very long and pointed in parasols that have cane handles.

A great deal of yellow, either in metal, with golden effect, or in silk, appears in all the newest embroideries.

From four to six inches is a suitable width for skirt hems that have insertions or tucks above them.

A variation of the real Tartan plaids now so fashionable shows the lengthwise stripes of the Tartan, the crosswise stripes being entirely omitted.

Deep-bordered goods in embroidered or brocaded patterns are a novelty in all-wool fabrics. These borders range from twenty to thirty-eight inches in depth.

Silk-covered wire frames are provided for bonnets of thin materials, which latter are puffed, plaited or looped over them in such a way as to render them invisible.

Fichus of white mull are edged with frills of empire lace; those of colored silk muslin have insertions of white net and lace edges; while those of net, tulle, crape or China silk are finished with finely-crempled platings of the material.

Mamma (to her little boy). "Now, Bennie, if you'll be good and go to sleep, mamma'll give you one of Dr. Ayer's nice sugar-coated Cathartic Pills, next time you need medicine." Bennie, smiling sweetly, dropped off to sleep at once.

The Young Folks.

Under the Violets.

Her hands are cold; her face is white;
No more her pulses come and go;
Her eyes are shut to life and light;
Fold the light vesture, snow on snow,
And lay her where the violets blow.

But not beneath a graven stone,
To plead for tears with alien eyes;
A slender cross of wood alone
Shall say that here a maiden lies
In peace beneath the peaceful skies.

And gray old trees of hugest limb
Shall wheel their circling shadows round
To make the scorching sunlight dim,
That drinks the greenness from the ground,
And drop their dead leaves on the mound.

When o'er their boughs the squirrels run,
And through their leaves the robins call,
And, ripening in the autumn sun,
The acorns and the chestnuts fall,
Doubt not that she will heed them all.

For her the morning choir shall sing
Its matins from the branches high;
And every minstrel voice of spring,
That thrills beneath the April sky,
Shall greet her with its earliest cry.

When, turning round their dial track,
Eastward the lengthening shadows pass,
Her little mourners, clad in black,
The crickets, sliding through the grass,
Shall pipe for her an evening mass.

At last the rootlets of the trees
Shall find the prison where she lies,
And bear the buried dust they seize
In leaves and blossoms to the skies—
So may the soul that warm'd it rise!

If any, born of kindlier blood,
Should ask, "What maiden lies below?"
Say only this: "A tender bud,
That tried to blossom in the snow
Lies withered where the violets blow."

—Oliver Wendell Holmes.

Whole years of joy glide unperceived away,
While sorrow counts the minutes as they pass.
—Harvard.

SIX WAR SHIPS LOST IN A STORM.

[We thought our young readers would be pleased to read the following graphic sketch of a storm which carried away six ships of war and dashed some of them to pieces on coral reefs.]

(Continued from last week.)

The Vandalla was a quarter of a mile from the Nipsic, and she was obliged to run along the edge of the reef the whole distance in order to reach the sandy beach beyond. Every one on shore crowded down near the point where it was expected she would strike and watched the vessel steam across the harbor. The Vandalla's draught was much greater than the Nipsic's, and it was known that she would not be able to get very close to shore. She came on until her bow stuck in the soft sand about a hundred yards off shore, and probably forty yards from the stem of the Nipsic. Her engines were stopped at once, and every man who was below rushed on deck. The Vandalla swung around broadside to the beach, and at first it was thought her position was comparatively safe, as it was hoped the storm would abate in a few hours, and that the 230 men aboard could be rescued then. It was nearly 11 o'clock when the steamer struck, and, notwithstanding her easy position, it soon became apparent that her officers and crew were in great danger. Nearly all the officers were on the top deck in sight of every one on shore. The men were scattered about on the gun deck and fore-castle, holding on to the masts and sides of the ship. In a half hour it was noticed that the vessel was filling with water and settling down. Lying as she did almost broadside to the wind, the sea broke over her furiously and the water poured down the hatches. By noon the whole of the gun deck was under water, and from that time on the condition of the men was the most pitiable that could be imagined. The torrents of water that swept over the rails knocked the men from their feet and threw them violently against the sides. Several were badly injured. Most of the men sought refuge in the rigging, and to those on shore it seemed as if all available space on the rattlins and yards and in the tops was occupied. A few of the officers still remained upon the poop deck, but a number of them had gone aloft. The wind seemed to increase in fury. People on shore shuddered as they saw the sea break across the stem of the vessel. The force of the water would break the grasp of the officers on deck and throw them against the rail. Nearly every one aboard had cast away most of his clothing, and some were entirely naked. A few provided themselves with life preservers, but these could not be obtained for all, as the vessel had filled so rapidly.

As the hull of the steamer sank lower in

the water the force of the waves was more violent. The men on shore seemed willing to render assistance, but were powerless. No boat could have lived a moment in the surf, and it was impossible to get a line across to the steamer, as there was no firing apparatus on shore. Lieutenant Shearman, Ensign Purcell and Jones, and Consul Blacklock procured a long hawser, to which they attached a small cord. Three natives were found who were willing to venture out in the surf with the cord and attempt to reach the Vandalla. The men entered the water a quarter of a mile above the spot where the steamer lay, and waded out as far as they could go, and then struck out into the current with the cord tied to their bodies.

SHOUTS OF ENCOURAGEMENT

went up from the shore and the men struggled bravely to reach the sinking ship, but expert swimmers as they were, they were unable to overcome the force of the current which rushed down like a cataract between the Vandalla and the shore, and the men were thrown upon the beach without being able to get within fifty yards of the vessel.

It was evident that many of the men on board would not be able to stand the force of the waves much longer and would be swept into the sea. The natives waded into the water and stood just in the edge of the current, ready to grasp any one who should float near enough to them. The seas continued to break over the vessel, and it was not long before several men were swept over the side. As soon as they touched the water they swam for the Nipsic, which was the nearest object to the Vandalla, most of them reaching the Nipsic, where they grasped the ropes hanging over the side and attempted to draw themselves up on deck. A number succeeded in doing this, but others were so weak that after hanging to the ropes a few minutes their grasp was broken by the awful seas which crashed against the side of the vessel and they would fall back into the current.

The first man who came ashore was Chief Engineer A. S. Greene. He was standing on the poop deck and was among the first washed off. He was swept from the deck three times, but twice he succeeded in catching a rope as he fell and drew himself back on the steamer. He had not removed any of his clothing, but had put on a life-preserver. The third time he was washed from the deck he was swept so far from the side of the vessel that he was not able to reach her again. He then swam to the side of the Nipsic and caught hold of a rope. He hung here for several minutes and tried in vain to draw himself up. Finding his strength failing he let go of the rope and drifted back near the bow of Vandalla. A piece of floating wreckage passed by which he caught and clung to with all the strength he had left. He soon drifted into the current and was swept down along the shore. The natives saw his head above the water, and they clasped each other's hands and formed a long line stretching out into the current. As Greene swept by the native farthest out clutched him by the arm and brought him to shore.

THE TRENTON.

From 10 o'clock in the morning until 6 in the evening, when she grounded, the Trenton held out against the storm without steam or rudder, and her escape from total destruction on the reef was miraculous. The skillful management of her navigating officer, Lieutenant R. M. G. Brown, was all that saved the lives of every man on board. A few days after the storm Captain Farquhar made an official report to Admiral Kimberly, in which he paid a high tribute to the skill with which the navigating officer maneuvered the vessel, and declared that Lieutenant Brown had on one occasion at least kept the Trenton off the reef, and saved all of the 450 lives. Admiral Kimberly, Captain Farquhar and Lieutenant Brown stood upon the bridge the whole day and directed the movements of the ship.

As soon as steam gave out the mizzen storm sail was set with the greatest difficulty. Oil was also poured overboard, but it had no effect in stilling the waves. The Trenton maneuvered in this way all the time and succeeded in keeping clear of the reef until the middle of the afternoon, when the force of the wind and waves bore her down almost upon it. She came broadside on toward the reef, and it seemed as if the great vessel with her 450 men was lost. Lieutenant Brown ordered every man into the port

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rigging, so that the compact mass of humanity could be used as sails and at the same time keep the weight of the vessel on the side next to the storm. The novel experiment was all that saved the Trenton from destruction. The wind struck against the men in the rigging and forced the vessel out into the bay again. She remained there only for a short time, however, and commenced to drift back against the Olga, which was still standing off from the reef, and holding up against the storm better than any other vessel in the harbor had done. The Trenton came down slowly on the Olga, and this time it seemed as if both vessels would be swept to pieces. The crowds on shore rushed down to the water's edge and peered through the blinding storm to hear the crash which would send both men-of-war and their loads of human freight to the bottom. Suddenly the stars and stripes were seen floating from the gaff of the Trenton. Previous to this no vessel in the harbor had raised a flag, as the storm was raging so furiously at sunrise that the ceremony was neglected. It seemed now as if the gallant ship knew she was doomed, and had determined to go down with the flag of her country floating above the storm. The stern of the Trenton was nearing the Olga's bow, and Captain Von Erhard, believing that sure destruction was upon him, let go his anchors and attempted to steam away. He was too late, however, for just as the Olga commenced to move up against the wind her bow came into contact with the starboard quarter of the flagship. The Olga's bowsprit and figurehead were carried away, and the heavy timber on the Trenton's quarter were shivered. Several boats were torn from their davits, and the American flag which had floated from the Trenton was carried away and fell to the deck of the Olga. Fortunately, the vessels drifted apart after the collision, and the Olga steamed ahead toward the mud flats in the eastern part of the harbor.

Captain Von Erhard had determined to run her aground. The engines were worked to their fullest capacity, and it was only a moment before the Olga's prow struck, and the steamer lay imbedded in the soft mud in the safest part of the bay. No life was lost. The waters beat over her all during the night, but the only damage they did was to flood her decks and carry away several boats. The Trenton was not able to get out into the bay again after her collision with the Olga. She was about 200 feet from the wreck of the Vandalla and was slowly drifting towards the shoal. A new danger now arose. The Trenton was sure to strike the Vandalla, and to those on shore it seemed that the huge hull of the flagship would crush the Vandalla to pieces and throw the hundred men still clinging to the rigging into the river. It was now after 5 o'clock, and the light was beginning to fade away.

In half an hour the Trenton had drifted on to within a few yards of the Vandalla's bow, and the men who were in the rigging of the latter vessel trembled with fear as they saw the Trenton approach. Feelings hard to describe came over the hundreds who watched the vessels from shore. Presently the last faint ray of daylight faded away and night came down upon the awful scene. The storm was still raging with as much fury as at any time during the day. The poor creatures who had been clinging for hours to the rigging of the Vandalla were bruised and bleeding, but they held on with the desperation of men who hang by a thread between life and death. The ropes had cut the flesh on their arms and legs, and their eyes were blinded by the salt spray which swept over them. Weak and exhausted as they were, they would be unable to stand the terrible strain much longer. They looked down upon the angry water below them, and knew that they had no strength left to battle with the waves. The final hour seemed to be upon them. The great black hull of the Trenton could be seen through the darkness almost ready to crush

into the stranded Vandalla, and grind her to atoms. Suddenly a shout was born across the waters. The Trenton was cheering the Vandalla. The sound of 450 voices broke upon the air, and was heard above the roar of the tempest.

"Three cheers for the Vandalla," was the cry that warmed the hearts of the dying men in the rigging. The shout died away upon the storm, and there arose from the quivering masts of the sunken ship a response so feeble that it was scarcely heard upon the shore. The men, who felt that they were looking death in the face, aroused themselves to an effort, and united in a faint cheer for the flagship. These who were standing on the shore listened in silence, for that feeble cry was the saddest they had ever heard. Every heart was melted to pity. "God help them," was passed from one man to another. The sound of music next came across the water. The Trenton's band was playing the "Star Spangled Banner." The thousand men on sea and shore had never before heard the strains of music at such a time as this. An indescribable feeling came over the hundred Americans on the beach who listened to the notes of the national anthem, mingled with the howl of the storm.

The collision of the Trenton and Vandalla, which every one thought would crush the latter vessel to pieces, proved to be the salvation of the men in the rigging. Notwithstanding the tremendous force of the waves, the Trenton dragged back slowly, and when her stem finally struck the side of the Vandalla, there was no shock, and she gradually swung around broadside to the sunken ship. As soon as the vessels touched the men in the mizzen rigging crawled out of the yards and jumped on deck of the Trenton. The men escaped just in time, for as the last left the yards the mizzen mast of the Vandalla fell with a crash on the side next to the shore. The men in the main mast next escaped in the same way.

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Wheat harvest will begin in May this year in southern Kansas, if the favorable weather continues.

Snow in Cheyenne county—northwest, on the 29th, and frost in Grant county—southwest, on the 30th of April.

The usual order was issued by the Chicago police department that public gambling will not be permitted in that city.

The number of United States pensioners who are totally blind is reported to be 858. They received pensions of \$72 per month.

Weather in this part of the State last week was cool, with considerable rain. Vegetation grew vigorously. Blue grass was in head May 1, and cherries were as large as peas.

From the report of the Missouri State Board of Agriculture, under date May 4, inst., it appears that wheat in that State advanced about 4 per cent in condition since the April report. It is still 10 per cent. behind Kansas.

Experiments made by Prof. Shelton, at the Kansas Experiment Station, tend to show that the addition of grain rations to good pasturage for cows, while it increases the flow of milk and the yield of butter, the increase is not enough to pay for the added expense.

DON'T FRET.—This is the title of a short poem sent in for publication. The thought is excellent, but the rhythm is faulty. There is a sort of mechanical nicety in good poetry which gives it an easy flow when read. In rhyme corresponding lines must have equal numbers of syllables in them, and the syllabic accent must be uniform and regular. "Don't Fret," if put in prose, would be very good.

Heavy frosts were reported in Illinois and Indiana last Friday morning. Dispatches, May 3, from Decatur, Galesburg, Monticello, and Tuscola, Ill., and Wabash, Crawfordville and Covington, Ind., report heavy frosts the past two nights. In many places small fruits were killed and vegetables and potatoes were frozen to the ground. In some parts snow fell and at Crawfordville ice formed a quarter of an inch thick.

ANOTHER FARMER IN CONGRESS.

The convention at Emporia last week, on the 218th ballot, nominated Harrison Kelley, a farmer of Coffey county, as a candidate for Congress, to take the place made vacant by resignation of Thomas Ryan. Of the eleven counties in the district, all but two presented candidates, and Mr. Kelley was the only one who is exclusively a farmer. All the others except one are lawyers. Mr. Finch, of Osage, is a farmer and trader. Mr. Kelly was born in Wood Co., Ohio, 52 years ago. He has been in Kansas ever since 1857, in Coffey county, a farmer all his life. He has had a good deal of public experience; was a member of the State Senate four years, and has served on important State commissions.

The KANSAS FARMER congratulates the people of the district in particular, and all the people of Kansas in general on this event. It adds one more to the list of actual farmers in Congress. We do not believe that to be a farmer fits a man for Congress, but we rejoice in the selection of a competent man who is a farmer as a Congressional candidate. Mr. Kelly will not take rank among the foremost men in public life, but he will make a safe, honest, sensible, practical representative. He will not discredit his constituents by any act of dishonesty; he will not engage in money-making schemes. The first thing he will do on reaching Washington will be to see "Uncle Jerry" Rusk, Secretary of Agriculture, and have a chat with him about matters of special interest to farmers and stockmen. He will make agriculture his chief study, and wherever he can put in a good word or deed for that, the first and best of industries, he will do it.

We assume Mr. Kelly's election because no opposition candidate has yet been announced, and he belongs to a party which has a very large majority of votes in the district. But the votes are neither cast nor counted yet, and will not be until the 21st inst. Let every farmer in the district make it a personal matter to be awake and on duty that day. Let no snap judgment be taken. If you do not like Mr. Kelly's politics (Republican) that is another matter; but if you do, see that he gets your vote. His election will be another victory for farmers, and there never was a time in our history when farmers were so much in need of friends in Congress as now. We hope to see Mr. Kelly triumphantly elected, and when his election is secure, we shall offer some suggestions for his consideration.

A dispatch from Plainville, Rooks county, dated May 3, states: We have been having good rains for the last few days, with wind in the northeast and cold with frost and a freeze last night that will kill all the fruit, and corn that has been planted and up, is froze to the ground. This is very discouraging to our fruit-raisers, as our prospect up to last night for fruit never was better. Wheat and rye looks much better than an average. Some species of wheat are nearly two feet high. Oats never looked better, and a large acreage is sown.

Corn that was planted early is now up and looked fine until the freeze last night. All kinds of stock has been on pasture for the last two weeks and doing well. Farmers have an abundance of hay and enough feed left on hands. Plainville is booming, new houses going up every day and business is lively.

A NATIONAL DISGRACE.

The whole people of the United States were disgraced by the scandalous proceedings at the Centennial ball in New York city. A reporter of the *New York World* says the scenes in the supper room cannot be described safely in a newspaper. Never since the palace of the Tuilleries was invaded in 1779 by the Sans Culottes of the Seine department have such startling contrasts been witnessed in any circumstances. When it is said that the waiters, policemen and messenger boys drank most of the free champagne, the situation at midnight may be suggested. Justices of the Supreme court, Governors, staff officers, club men, lawyers, poets, millionaires, with beautiful and refined women, crowded blankly along the supper counter and demanded in vain the attention they were accustomed to receive. The functionaries around the place showed undisguised contempt for the "free lunch fiends." Waiters who did not have to account for the unlimited wine, took occasion to neglect guests and treat themselves. The excellent supper was largely wasted. There was no responsibility for anything to anybody. The "gentlemen's dining room" idea was shown to be an utter fallacy. By 12:30 a. m. the supper room had been given over to people whose ideas of enjoyment had been learned in free and easy resorts. Drunken men invaded the ball room flourishing bubbling bottles of champagne. In the corridors free fights were of constant occurrence. Gamblers and women dozed or made merry on the staircases. Never once did an accredited officer of the evening interfere to anybody's knowledge. The policemen who were sober were helpless. They could not tell the dress coated waiters from the guests. By 1 o'clock most of the respectable element were making frantic and supperless efforts to get away. A well-known citizen said: Of the ladies I met, one's dress was ruined by a plate of salad thrown over it by a drunken brute, and the shoulder of another was cut from a bottle which a stranger had broken upon it. I saw more respectable women insulted in the supper room than I ever saw accosted at the French ball. I knocked down a man who tried to kiss the daughter of a leading lawyer. The ticket takers had no check placed upon them and there is no question they made lots of money letting in people who never should have been there. The policemen lost their temper completely and cleared people out at the end of their clubs. Hundreds of bottles of wine were passed out of doors and sold by waiters and others. One man was drunk, fell down stairs, and was so badly hurt that he had to be carried off in an ambulance. Many flags and potted plants were stolen, and some of the boxes were shockingly soiled after their first occupants had left. The supper room was cleared by clubs shortly after 1 o'clock. The lights were turned out in the ball room long before the crowd had left the building.

There is nothing in language which will fitly express the pain which every decent, self-respecting person in the country feels over this disgusting affair. That the whole nation should be thus disgraced by a pack of hoodlums is humiliating indeed. And when we say hoodlums, we do not mean "waiters"

and "servants" and "disreputable persons;" we mean the persons who were drunk at that ball, and that includes a good many people whose names would not look well in print in such a connection. The waiters are not responsible, nor are the servants, nor the gamblers and libertines; but the "gentlemen" who had charge of the affair. Gentlemen indeed! Well-dressed rowdies moving among decent people on equal terms because they have money and good clothes. A man who gets drunk anywhere or under any circumstances is beastly; but when he openly, publicly, and at a meeting in honor of a great national event which arouses the patriotism of the people, thus degrades himself and insults every decent person in the country, he throws himself outside the pale of social recognition. Such fellows ought to be banished utterly from all places where people meet. Language cannot express the public contempt for this scandalous affair. And still we have men who openly advocate dram-drinking.

One Way to Fight the Beef Combine.

Our excellent contemporary at Pittsburgh, Pa., the *National Stockman*, thinks the development of the last few months have made it extremely doubtful whether farmers can fight the dressed beef monopoly through the means of legislation, and it suggests the following which is at least worth careful consideration:

"Among the more feasible plans which present themselves is that of meeting competition with competition in kind. This is to say, if slaughtering beeves in the West and sending the carcasses east is the rock on which farm beef raising is to split, the way to overcome this difficulty may be for farmers to band together and furnish beef in the same way to the consuming public. It perhaps is not practicable for farmers circumstanced in every way to contemplate a union of this kind in a struggle for the possession of the beef market. But there are many beef-makers so situated that a union of this kind is clearly feasible; and a matter for them to determine is whether or not it is desirable, and whether it can be made profitable. A suggestion of an old cattleman is for those living within a reasonable distance of towns of a few thousand population to band together and slaughter their own cattle, and sell their beef in the open market of the towns, in competition with that offered by dressed beef men and local butchers. An enterprise of this kind conducted by an energetic board of managers, can be made something of a success. On the other hand it can be made a colossal failure. As one of the expedients for fighting the Western monopoly this is probably worthy of a trial.

Volume IX of the American Hereford Record is out. The book is well bound, and contains entries from 32,600 to 35,500 inclusive, with illustrations of prominent representatives of the breed in America. Mr. Secretary C. R. Thomas, Independence, Mo., will please accept our thanks for a copy. He will answer all questions concerning this and earlier volumes, as to price, rules of entry, etc.

A correspondent in Gray county writes: "We have good prospects at present. I am putting in a mixed crop of 150 acres composed of field corn, sweet corn, pop corn, Irish and sweet potatoes, millet, cane, milo maize, Kaffir corn, white and black rice corn. Also five acres of black-eyed peas. All kinds of stock like them. I put in five acres of walnuts last fall that are topping well now. What wheat was sown is looking well."

The *Western Rural*, answering a correspondent, says horse radish is partial to moisture, and if there is a low place on the farm and some slips are planted it will grow enough to supply domestic demands, and more, too. It is cultivated, however, by the gardeners, and is said to be a profitable crop. One thing is very sure—it is not always easy to procure it pure in the market. It is adulterated with turnips and perhaps some other things. When it is cultivated it does best on land that has been cultivated and heavily manured. It should have a deep loam with free subsoil. It is planted from early spring to the 1st of June in this climate. The slips are dropped into holes a foot and a half apart in rows far enough apart to admit of free cultivation. It is advisable to cover the whole slip three or four inches when planting. It is ready for use after one year's growth.

From Walter Brown's wool circular, under date May 1, we quote the following:

"There has been no change in the general status of the wool market since our report of April 1, which may be especially attributable to the small stock of domestic wool at present offering in seaboard markets. Manufacturers have not had a very satisfactory season on their heavy-weight goods, the mild winter leading to light orders for their productions and foreign competition on certain descriptions of fabrics, have led them to run their mills cautiously and keep purchases of raw material down to current requirements. Also, although present prices of wool are lower than a few months ago, the undesirable character of most of the 1888 clip still on hand, has offered no inducement for them to buy in excess of present wants. However, the heavy purchases of last fall are being consumed and the necessity of replenishing certain qualities has brought about a fair demand as compared with the stock available, hence prices have generally remained steady. This might not have been the case had the volume of wool on the market been otherwise than very small. The London sales have continued favorable to sellers, an advance of from 5 to 15 per cent. on the various classes over the previous series being established. These prices preclude further importations on the basis of present quotations for domestic wools, and our mills will apparently have to depend upon the home-grown clip for their supplies during the coming summer and fall. Under these circumstances we see no prospect of any decline from present values and it is reasonable to expect a steady and healthy market for the new clip as soon as it arrives in sufficient quantity to attract the favorable attention of manufacturers. The generally mixed character of most of the stock now on hand, makes quotations mostly nominal; hence we repeat the range of scoured values given in our last circular for sound stapled wools from the Territories, Texas, etc.: Fine, 60 to 62 cents; fine medium, 56 to 59 cents; medium, 51 to 54 cents; low medium, 45 to 48 cents.

KANSAS AND NEBRASKA—LIGHT.—Fine, 18 to 20 cents; fine medium, 20 to 23 cents; medium, 22 to 25 cents. Ordinary—Fine, 15 to 17 cents; fine medium, 17 to 19 cents; medium, 20 to 22 cents.

The Centennial celebration in New York city interfered with trade in that place a good deal. Accumulated orders gave a surface appearance of greater activity on Thursday and Friday, and reports from other cities, though nearly all hopeful in turn, do not represent the expected improvement. The situation seems at Milwaukee satisfactory; at Omaha good; at Cleveland good as to most branches, but questionably as to iron; rather dull at Kansas City and St. Paul, and less encouraging at the chief centers of the grain, iron, coal and leather trades. Collections are far from satisfactory at Milwaukee and not improved at Detroit. But in other lines there, and in other cities generally, they have been fairly satisfactory, and at New York some drygoods' dealers complain that recollections are "too good," and reports about the wool trade are contradictory.

So reported R. G. Dunn & Co., of New York city, Friday evening. And they added: A report that the treasury may not decide the woolen worsted question for months disturbs importers who have quantities of goods closed up because dealers are waiting for a de-

cision. Silks are quiet, but linens are quite active. A fair business in boots and shoes continues. The paper trade is active. The slow improvement continues in drugs and chemicals. Recent signs of improvement in iron and steel have not been sustained. Here and a Boston Southern No. 1 pig has been offered at \$16 and also by new companies to introduce their products. The effect on the price of other iron is felt at Philadelphia, though sales are "hard to make." It is said there is a very remarkable feeling of confidence, but at Pittsburgh prices are lower. Sales of manufactured are more difficult, and a large sale of steel rails at \$25 is reported here to have been made at a Pittsburgh mill. At Philadelphia, structural plate, sheet and boiler iron are in good demand. At Cleveland and here coal is dull. The reported increase in stocks for March of 6,000 tons and a strike at Pittsburgh is expected. Copper still waits. Tin is still lower abroad, and \$20.40 for prompt delivery here. Lead is very much demoralized. Wheat goes lower, yet having sold at 82 cents. Corn has declined $\frac{1}{2}$ and oats 1 cent since last week. Pork is unchanged, with hogs and lard a shade higher. Coffee and sugar are unchanged, but oil is $\frac{1}{2}$ cent higher. In general, the course of prices still tends downward, but many products of large importance are now so low that not much further decline is expected, while a quick advance might follow a revival of demand or speculative confidence.

Stocks have been neglected and dull, but a little stronger in prices with a disposition to believe that the next considerable move must be upward. The future of the market probably depends upon the movement of money and feeling. Merchandise exports are still large. The treasury has taken in during the week \$1,800,000 more than it has paid out.

The business failures number 214 for the week, against 213 for last week and 246 the week previous. For the corresponding week of last year the figures were 234.

Mr. Secretary Mohler, under date of May 3, reports: There has not been a time in many years when the condition of crops, fruit, etc., has been at this date so uniformly good throughout every portion of the State as now. About 500 correspondents of this Board, representing 103 of the 106 counties of the State, report the condition of wheat, rye, oats, grass and fruit of all kinds above the average condition for a term of years, and the indications everywhere seem to warrant the belief that the farmers generally throughout the State will reap an abundant harvest this year.

Winter wheat.—In a few counties in northwest Kansas, a small portion of the earlier sown wheat was seriously demoralized by the extended drouth in the fall and is reported plowed up, but as no reports of like character come from any other portion of the State the area thus plowed up in proportion to the total amounts practically to nothing, and the estimated acreage of wheat sown in the fall of 1888 (1,336,427 acres, as given in March quarterly), will probably be the acreage harvested this year. The average condition for the State, as compared with general averages for a term of years, is 108 per cent.

Spring wheat.—The increase in area sown to spring wheat in 1889, as compared with that sown the previous year, is estimated at 33 per cent., which gives a total area for the year of 44,820 acres, or an excess over that of last year of 13,644 acres. The average conditions, compared with the general average for a term of years, is 110 per cent.

Rye.—Condition of rye for the State.

compared with general average per cent.

Oats.—The increase in acreage of oats in the spring of 1899, as compared with that sown previous year, was 10 per cent., which gives a total of 1,901,463 acres, or 244,000 more than that of last year of 2,145,463. The average condition compared with the general condition is 105 per cent.

Tamegrasses.--Tamegrasses out the State which had suffered the effects of drought the past year seem to have fully recovered average condition of these grass reported at 103 per cent.

Fruit.—Fruit of all kinds the State is reported in unusual condition, and unless some calamity befalls it there will be an abundance of fruit in Kansas.

Rain and chinch bugs.—A month of April rain has fallen over a large portion of the State in sufficient quantities to meet all the requirements of plant life. In some sections in the south and southeast of the State, there has been an excessive rainfall which has in some instances retarded farm operations, particularly the planting of corn. While in some counties the abundant rainfall is reported in large numbers of cases to be disastrous to the crop, and if the season continues to be so, it is probable that a thrifty growth of the crop will be damaged to a considerable extent.

The number of fires in
ing the twelve months en
and to which the fire de
sponded, was 110, the cause
being as follows: Ashes
against wood work, 1; children
with matches, 10; chimneys
3; curtains too near gas
lessness, 8; defective flues
fire-place, 1; electric light
crackers, 1; flue cap out of
false alarms, 4; gasoline st
cendary, 25; oily waste
placed, 3; oil lamp explos
slacking, 1; miscellaneous
placed too near stove, 1
locomotive, 3; soot on
shingle roof, 1; sparks from
1; spontaneous combustion
pipes in contact with wood
stove pipes improperly
smokehouse fires careless
unknown, 7; wooden spi

The Court of Queen's Bench, a few weeks ago, held that cattle is unlawful. A man was summoned before the court for cruelty to cattle by detaining them, but he was acquitted. A writ was taken to the Court of Common Pleas, London, and the Lord Justice Mr. Justice Hawkins said they would reverse the judgment, and would grant judgment on the case at the next term.

"For peculiarly soft yet of color, marvelous group tastic, solemn and tender cliff and mountain and a tinglished artist, "the wo Colorado stands peerless scenery along the line of Division of the Union Pa the most magnificent in t

Perhaps in no other place as on the farm that the te and intelligent. The far many ways and places dangerous to use a half-able team. On the road has a better chance to co-cause of a smooth track, the lines in hand; but t the farm, and the farm's safety of his boys by horse.

Horticulture.

profits of Science in Agriculture.

prize offered by an Eastern horticultural society for the largest product from a given area of land was awarded to a strawberry whose sales from two counties amounted to more than \$1,700; P. Roe, in *Play and Profit in Gardening*, has told us how he got a gross return of slightly more than \$1,000 from the same amount of land. The report of the last annual meeting of the New Jersey Horticultural Society gives as follows the yields obtained by its members during the season had been "bad." Early cabbage proper acre; early tomatoes, 10; a paragon, four acres; 10; seven acres, \$1,000; four acres, and some instances 100 per acre.

Henderson tells of an owner near Atlanta whose three successive years a \$1,500 per acre; and as in partures from old methods, of a farmer residing near who half a dozen years ago the attempt of growing a his fifty-acre farm in a village market. His so satisfactory that he leased his area, so that he of his fifty acres mostly bages for the Rochester ther informed me that on the cabbage garden \$6,500, or a little over \$200 that it was not a very good bages at that." And for ment of those not "to the the same authority gives case as being within his vation: "A college-bred ing in health from office ed a farm of sixty acres long Island. The second ew acres in vegetables which he found sale of Northport at most es. I was on his farm of 1883, and I must man who had got his ost wholly from books, ed as if it would be a s." In the dairy region atral New York, where hood was passed, and agricultural attractions y undulating landscape nticing trout streams, ming community have es compelled to live the bone." A rise or wit per quart in the tharket of New York enient to turn the de to the other of loss account. Yet shber is a Princeton thl of whose work I f, who by the applica-ral science to the the manufacture of afeeding of stock is he "even tenor of is to harvest an annual es in excess of the of his State.—James's Magazine for May.

After Planting.

After planting, trees, protectors are at them for protection. Systems of the trees pliage is sufficient to wt purpose the best protector yet used is pstrips that come six ic placed three inches

apart, and bound with iron hoops; this gives the necessary shade to the stem, and at the same time allows free circulation of air. The shading is all-important, for when trees are growing in forests or in the nursery they shade one another, and it must be evident that if set out in the streets of a city without any protection from the blazing sun, they must suffer. Many thousands of deciduous trees, both fruit and ornamental, perish annually the first year of planting from this cause, as from the closely-planted nursery rows the change is too great, unless the season is especially favorable, no matter how carefully the planting may have been done. Trees in orchards and other enclosures can be shaded by wrapping the stems up to the lower branches with straw or anything that will shade the trunk from the sun; the grand success in planting the avenues in Washington is no doubt due largely to the persistent use of this precaution, for it is never omitted, and the results attest its value. And there all trees for two years after planting are cultivated, by the soil being stirred up by a pronged hoe for four or five feet from the stem in all directions.—*Peter Henderson, in Harper's.*

Manures for Orchards.

There is not now the rage for extensive orcharding that prevailed a few years ago. The fact is being learned that it requires a great deal of labor, manure and skill to properly care for even a few acres in fruit, and that as in other kinds of farming it is not the amount of land cultivated that gives the profit, but what is done to it. Trees uncared for soon become a nuisance, cumbering the ground to the exclusion of other crops on the surface they occupy. If too many are planted this becomes almost an inevitable result. Additional help may be hired and trained to do the work, though this is difficult. The hardest part of the business, especially after the trees come into bearing, is to provide plenty of manure to promote fruitfulness.

Fruit-growing can therefore be most successfully combined with a system of husbandry requiring the keeping of much farm stock and the making of large piles of manure. It must be good stock, too, for only such will pay for feeding. Manure made by keeping unprofitable stock is the dearest that the fruit-grower can get. If he be an enthusiast and visionary about the profits from his fruit trees, the probability is that his manure pile will cost too much for any profit to warrant. In an orchard of bearing apple trees, pigs or sheep to eat the falling fruit, and thus destroy the codling moth, are a double advantage, as at the same time they help to fertilize the ground. Pigs are best, because if unringed they will root up the ground, and thus keep the surface loose as well as rich. With plenty of suitable food there is scarcely a limit to the number of pigs that may be kept in a bearing orchard through the summer. Fattening should not be attempted. No corn especially should be given, but an abundance of milk and wheat bran will make the pigs thrifty, active and healthy. Those that are to be fattened may be put up after the falling of the wormy fruit has stopped, and made their active service no longer necessary.

Pigs in the orchard, liberally fed, will supply the needed fertility, besides keeping the surface in good tilth. But how about the smaller fruits, berries and grapes? We know that the manure question is a most perplexing one to owners of large vineyards. By the continued cultivation which is necessary for the good of the grape vines, the vegetable matter in the soil is dis-

sipated. It either burns out by summer heats, or is washed away by rains and melting snows. Some in their eagerness to restore vegetable matter to the soil grow clover and plow it under; but this greatly injures the grape vines. In some places the Canada thistle has been encouraged to grow, as its roots help to keep the soil dry and mellow; but this is a most unsatisfactory remedy for the evil.

Mulching the surface between rows of blackberry and raspberry plantations is an excellent plan. Berries thrive all the better under a cool mulch, as also do currants and gooseberries. But grape vines want more heat, and mulching is only advisable during winter. The grape vine when fruiting is a great consumer of mineral manures, more especially of potash; though phosphates also enter into the composition of the fruit and seeds. Both of these mineral fertilizers are useful for the vineyardist; but some kind of green manure as a fertilizer is also important to help keep the soil in proper mechanical condition. It is a somewhat expensive way to furnish green manure, but it will perhaps pay for grape vines to sow oats or barley in spring between the rows, and when grown a foot or so high plow it under. This, with mulching in winter, and plowing the mulch under for manure in the spring, will keep the surface soil mellow. As for the subsoil, the grape roots, if the vines are in full bearing, will so fill that as to make any further intrusion of roots of any kind a nuisance rather than an advantage.—*American Cultivator.*

Strawberries for Profit.

Profitable small fruit growing depends more upon location than the tree fruits, on account of their easy perishability, says E. W. Wood, in *Farm and Home*. Southern competition has not injured our home production, demand for the native fruit having increased. Clean cultivation is of more importance than any special skill or fertilizer. A strong, well-enriched, moist, thoroughly-drained soil affords the most favorable conditions. For the general crop of strawberries, the matted row system is generally adopted and the plants should be set as early as possible in the spring in rows three to four feet apart and eighteen inches apart in the rows. The soil should be stirred at least once in two weeks. This may be done with cultivator or harrow, using the hoe between the hills. The first flower stalks should be nipped off. As the runners commence to grow they should be trained so as to give an equal growth and should not be allowed to run together, but a space of a foot should be kept clear between the rows. Other crops can be grown at the same time, if space is scarce.

Fancy growers set the plants in August two feet apart and one foot apart in the rows. The following season these plants will throw out runners earlier than spring-set plants. After the fruit is picked, alternate rows are eliminated and if the ground thus bared is well enriched, the remaining plants will make an evenly-covered matted bed. After these plants have made their growth the old plants are taken out, leaving the beds of new plants three feet in width.

About the last of November the bed is covered with three tons to the acre of meadow hay or evergreen boughs. This covering is carefully and thoroughly removed in April.

Opinions differ as to fruiting more than one season, but the second crop is usually inferior. Among the highest quality berries are the La Constante, Wilder, Hervey, Davis and the Jacunda, but with market growers the tendency

has been more for the size than quality. If only a single variety is grown, one having perfect flowers must be selected. If the pistillate varieties are grown, every fourth or fifth row should be a staminate. This point is receiving much attention, especially in the West, as of great importance. About 200 bushels to the acre is a good crop, though we have records of more being grown.

Scientific Fruit Culture.

A correspondent of *Colman's Rural World* says some very good things on this subject, among others the following: "The fruit-grower of the future cannot afford to make mistakes, that can be avoided, by profiting by the mistakes and failures of those who have already made the costly experiment. One prominent source of error, is in the selection of varieties. He must select for extensive planting only such varieties as have proven to be adapted to his locality and soil. Not only shall the variety be one of established character as regards productiveness, but must have a character in the market he would supply. Having made his selections, and planted, and cared for them, according to methods advocated by our most advanced horticulturists, he has now presented to him the greatest problem of all, and that is the gathering, handling, and sale of the product of the orchard, vineyard and berry patch. It is a mistake to suppose that fruit invariably sells at a profit to the grower. There is a very large part that does not, and a very small part, indeed, that brings such a price as it would under the best conditions. And those conditions are such that it is almost impossible for the average fruit-grower to apply them. To call attention to this state of affairs is the intent of this article. That community which has supplied itself with all the modern appliances for the preservation of fruits, which means with canning and evaporating establishments, with cold storage rooms, and refrigerator cars, in a word, are prepared to grow, to handle and to preserve fruits in a scientific manner, have a measure of success guaranteed them such as but few individuals could ever hope to attain, on account of the expense involved. Therefore, it seems absolutely essential that to obtain the best results we must have organization of some kind, either through horticultural societies or by forming companies with sufficient capital to not only grow fruits extensively, but to be able to supply themselves with the best of facilities to care for the same in whatever manner their judgment at the time would consider advisable. In order to more plainly point out in detail some of the advantages of such a system we need only apply it to the handling of the small fruit crop. With a means at hand to can or evaporate strawberries, raspberries, blackberries, cherries, etc., an overcrowded market need not be dreaded."

Early Garden Crops.

There is serene satisfaction in securing garden crops earlier than ever before. Market gardeners have not only the spirit of rivalry to spur them; the profit from extra early products, that will realize a good price in a scant market is something to strive for. Lettuce seed planted in boxes can be brought along till, having three leaves, they can be transplanted to flats or two-inch pots, and when the ground is well warmed they can go out one-quarter grown, a great gain over planting seeds in the open ground. Beets planted in two-inch pots, three or four seeds in each, will bear transplanting well, and come in two weeks ahead of those

grown from seed planted outdoors. Tomatoes, peppers and egg-plant can be brought forward easily in this way, if the plants are kept warm and given fresh air daily near a window that can be opened on warm days. Beans and corn can be started in pots, and transplanted to open ground; well-ripened seeds of sweet corn will endure and grow in rich land earlier than people suppose. I have seen the snow cover the first planting of sweet corn.

Lima beans are forwarded about two weeks by this treatment. Sometimes the early crops are destroyed by some untimely wind or frost, but not always; the risk is something, but, as neighbor McCroun says, "you have to run some risk if you want to make in this business." He had his fourth acre of early tomato plants out about May 10, while most gardeners keep theirs in until June 1. As it happened, last year there was no frost after May 10, and he got some very early tomatoes. I have seen a half acre of sweet corn up and hoed the first time when others were planting. June 1 that year there came a hard frost. Anticipating the frost, the day before the stalks that were six inches high were bent over and covered with soil. After the danger was passed, the covering was taken off, and he had sweet corn three weeks ahead of others.

Cabbage and anything of that family can be secured early by planting the seeds and growing in mild heat and keeping them in the air enough to make them strong and stocky. Onions can be set in open ground without fear of frost. Hills of summer squash in three-inch pots can be transplanted, and make squashes earlier than those in the open ground; the age of a squash plant determines the time of the first bloom, and so of the first fruit. Such processes are an important factor in successful gardening operations, and it is those having facilities for the glass-culture of early plants who can compete successfully in gardening for profit.

The greenhouse, as well as the hot-bed, is now necessary for any extended operations in the culture of vegetables for market, and also for the kitchen garden. The conservatory, no matter how small, can be used to bring forward early vegetable plants, without harm to the flowers by a person fortunate enough to have such an attachment to the residence. In the absence of this the hot bed is a great help to early forwarding of vegetables. — *Hampden County, Mass., Cor. N. Y. Tribune.*

The Poultry Yard.

Value of Eggs as Food.

Eggs are most invaluable food for they contain all that is required for building up and maintaining the body. The white of an egg is almost pure albumen and water, while the yolk, the richer part, consists of albumen with minute particles of oil in it—and small amounts of salts. Albumen, which is 51.3 carbon, 7.1 hydrogen, 15.8 nitrogen, 21.0 oxygen, and 1.8 sulphur, exists in the blood in the proportion of seventy-five parts to one thousand, in less quantities in the lymph and chyle, juices formed in the process of digestion, and in trifling amounts in other juices of the body. To supply this albumen in the body it is necessary to use aliments that contain it. That group of foods, of which eggs are the foremost, are called albuminoids. The characteristic common to all is that they all contain nitrogen, an important element in the body. Eggs, which are easy of digestion, both when raw and properly cooked, are never too costly a food *per se*. The pure nutriment in

them is one-third of their entire bulk, while that in beef is only one-quarter, and that of oysters one-eighth their respective bulks. So that with eggs at 25 cents a dozen, round steak at 16 cents, and mutton chops at 20 cents a pound, both food and money are saved by eating the eggs. — *Good Housekeeping*

Poultry on the Farm.

There is probably no place where poultry could be made to pay better than on a farm, with unlimited range; yet, strange to say, there is hardly a place where poultry is kept but what their interests are looked after much better than on a farm. Chickens to a farmer seem very small things, things intended for women and children. He will go to great expense in improving his horses, cattle and swine; provide good quarters for them, etc., yet never give a thought to his poultry. Still the fowls bring him in many a penny that he is unaware of. They provide him with many a good meal in the shape of eggs and meat; that, if he had them not he would have to provide something to take their place. The trouble with him he does not keep an account of what his poultry brings him because it comes in such small quantities at a time, but it comes all the same, surely and steadily, and nets up a good round sum by the end of the year. We know farmers who pay for all the groceries they use in large families out of the eggs they take to the store, and they will average only about 10 cents a dozen, at that. Were the farmer, instead of keeping scrub fowls, to breed thoroughbreds, he might realize as much from his poultry as from his cattle. His fowls on a large farm, and especially where they raise small grain, will almost keep themselves by foraging around and eat only that which would have been wasted. We hope our farmer readers will take more interest in this industry by improving their stock and providing better quarters for them. — *Western Poultry Breeder.*

To Tell if Eggs are Fresh.

Hold the egg to the light and look through it. Fresh eggs are more transparent in the center—old eggs at the ends.

Or, dissolve a tablespoonful of salt in a quart of water. Good eggs will sink; indifferent ones will swim and bad eggs float in this solution.

Or, shake the eggs gently at your ear. If you hear a gurgle or thud the egg is bad.

It was evident, under the tariff of 1867, even to the casual observer, that the home supply of wool in a very few years would have been sufficient to have supplied all demands at the annual rate of increase of flocks. But this very desirable attainment, in an economic sense, has been at least postponed many years by the act of 1883, if it has not been made a practicable impossibility.



How to Cure
Skin & Scalp
DISEASES
with the
CUTICURA
REMEDIES.

THE MOST DISTRESSING FORMS OF SKIN and scalp diseases, with loss of hair, from infancy to old age, are speedily, economically and permanently cured by the CUTICURA REMEDIES, when all other remedies and methods fail.

CUTICURA, the great Skin Cure, and CUTICURA SOAP, an exquisite Skin Beautifier, prepared from it, externally, and CUTICURA RESOLVENT, the new Blood Purifier, internally, cure every form of skin and blood disease, from pimples to scrofula. Sold everywhere. Price, CUTICURA, 50 cents; SOAP, 25 cents; RESOLVENT, \$1. Prepared by the POTTER DRUG AND CHEMICAL CO., BOSTON, MASS. Send for "How to Cure Skin Diseases."

Pimples, blackheads, chapped and oily skin prevented by CUTICURA SOAP.

Relief in one minute, for all pains and weaknesses, in CUTICURA ANTI-PAIN PLASTER, the only pain-killing plaster. 25 cents.



CHEERFUL JULIA.

Why is Julia now so cheerful,
Who for months has seemed so sad;
And her face, of late so tearful,
All aglow with smile so glad?

Not a doctor knew what ailed her,
And of hope they gave no ray;
Life was ebbing, strength had failed her
As she faded fast away.

Haunted, she, with apprehensions,
Of what Fate had still in store;
Fears of magnified dimensions
O'er her spirit, threatening, lower.

Want of sleep her nerves had shaken;
Grim forebodings made her sad;
Sleeping potions, vainly taken,
Drove the victim nearly mad.

Suffering pain beyond description,
Money spent was spent in vain;
Till the "Favorite Prescription"
Placed her on her feet again.

This is why she's now so cheerful,
Though for months she seemed so sad,
And her face, of late so tearful,
Glowing again with smile so glad.

GUARANTEED.

Dr. Pierce's Favorite Prescription is the only medicine for woman's peculiar ailments and weaknesses, sold by druggists, under a positive guarantee from the manufacturers, that it will give satisfaction in every case, or money paid for it will be refunded.

As a powerful, invigorating tonic, Dr. Pierce's Favorite Prescription imparts strength to the whole system. For overworked, "worn-out," "run-down," debilitated teachers, milliners, dressmakers, seamstresses, "shop-girls," housekeepers, nursing mothers, and feeble women generally, it is the greatest earthly boon, being unequalled as an appetizing cordial and restorative tonic.

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DR. PIERCE'S PELLETS: PURELY VEGETABLE and PERFECTLY HARMLESS.

Unequaled as a Liver Pill. Smallest, cheapest, easiest to take. One tiny, Sugar-coated Pellet a dose. Cures Sick Headache, Bilious Headache, Constipation, Indigestion, Bilious Attacks, and all derangements of the Stomach and bowels. 25 cents, by druggists.

Dr. WHITTIER

ORIGINAL Dr. Whittier in Kansas City.
OLDEST Dr. Whittier in Missouri, and
Dr. Whittier in Kansas City who has
ONLY practiced medicine over 15 years.

CURES Syphilis, Scrofula, Rheumatism, Gout, Eczema, etc., causing ulcers, eruptions, pain in bones, swelling of joints, enlarged glands, mucous patches in mouth, falling hair, and many other symptoms. All poison thoroughly and permanently eradicated from the system by purely Vegetable Treatment.

Spermatorrhea, Impotency, Nervous Debility, etc., resulting from youthful indiscretion, excesses in matured years, and other causes, inducing some of the following symptoms, as dizziness, confusion of ideas, defective memory, aversion to society, blotches, emissions, exhaustion, Varicocele, etc., etc., are permanently cured.

URINARY, KIDNEY and BLADDER troubles, Weak Back, Incontinence, Gonorrhea, Gleet, Stricture, etc., are quickly and perfectly cured.

Consult the OLDEST DR. WHITTIER in person or by letter first. No promises made that age, integrity and experience do not justify. Medicines sent anywhere by mail or express, secure from observation. Consultation free and invited. Office hours, 9 to 5, 7 to 8; Sunday, 10 to 12.

NO FEE UNTIL CURED, from responsible persons.

NEW BOOK on diseases of men, free. Address,

H. J. WHITTIER, M. D.,
10 W. Ninth St., Kansas City, Mo.

Special Club List.

A SAVING OF 25 TO 50 PER CENT

Prices given below are for both Papers.

The KANSAS FARMER, one year, and the Breeder's Gazette—both.....\$3.00
Kansas Democrat (Topeka).....1.50
Shoie Breeders' Journal.....2.00
Weekly Capital-Commonwealth.....1.75
Weekly Kansas City Times.....1.75
Poultry Monthly.....2.00
Popular Gardener and Fruit-Grower.....1.80
Kansas State Journal (Topeka).....1.50
National Horse Breeder.....1.50
Ladies' Home Companion.....1.25
The Home Magazine.....1.25

- CANCER! -

The only institution in the world where Cancers and Malignant Tumors are permanently removed without using knife, ligature or caustics, and in all cases a permanent Cure is Guaranteed. Consultation free. Call or address

KOEHLER CANCER HOSPITAL CO.,
1480 Grand Ave., Kansas City, Mo.

FAT FOLKS
using "Anti-Compulsive Pills" lose 15 lbs. a month. They cause no sickness, contain no poison and never fail. Particulars (sealed) &c. Wilcox Specific Co., Phila., Pa.

The New Land Law.

The following is a copy of the law approved March 2, 1889:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SECTION 1. That from and after the passage of this act no public lands of the United States, except those in the State of Missouri, shall be subject to private entry.

SEC. 2. That any person who has not heretofore perfected title to a tract of land of which he has made entry under the homestead law may make a homestead entry of not exceeding one-quarter section of public land subject to such entry, such previous entry or filing to the contrary notwithstanding; but this right shall not apply to persons who perfect title to lands under the pre-emption or homestead laws already initiated; provided that all pre-emption settlers upon the public lands whose claims have been initiated prior to the passage of this act may change such entries to homestead entries and proceed to perfect their titles to their respective claims under the homestead law notwithstanding they may have heretofore had the benefit of such law; but such settlers who perfect title to such claims under the homestead law shall not thereafter be entitled to enter other lands under the pre-emption or homestead laws of the United States.

SEC. 3. That whenever it shall be made to appear to the Register and Receiver of any public land office, under such regulations as the Secretary of the Interior may prescribe, that any settler upon the public domain under existing law is unable by reason of a total or partial destruction or failure of crops, sickness or other unavoidable casualty, to secure a support for himself, herself, or those dependent upon him or her, upon the lands settled upon, then such Register and Receiver may grant to such settler a leave of absence from the claim upon which he or she has filed for a period not exceeding one year at any one time, and such settler so granted leave of absence shall forfeit no rights by reason of such absence, provided that the time of such actual absence shall not be deducted from the actual residence required by law.

SEC. 4. That the price of all sections and parts of sections of the public lands within the limits of the portions of the several grants of lands to aid in the construction of railroads which have been heretofore and which may hereafter be forfeited, which were by the act making such grants or have since been increased to the double minimum price, and, also, of all lands within the limits of any such railroad grant, but not embraced in such grant lying adjacent to and coterminous with the portions of the lines of any such railroad which shall not be completed at date of this act, is hereby fixed at \$1.25 per acre.

SEC. 5. That any homestead settler who has heretofore entered less than one-quarter section of land may enter other and additional land lying contiguous to the original entry, which shall not, with the land first entered and occupied, exceed in the aggregate 160 acres without proof of residence upon and cultivation of the additional entry; and if final proof of settlement and cultivation has been made for the original entry, when the additional entry is made, then the patent shall issue without further proof; provided, that this section shall not apply to or for the benefit of any person who at the date of making application for entry hereunder does not own and occupy the lands covered by his original entry; and provided, that if the original entry should fail for any reason, prior to patent, or should appear to be illegal or fraudulent, the additional entry shall not be permitted, or if having been initiated shall be canceled.

SEC. 6. That every person entitled, under the provisions of the homestead laws, to enter a homestead, who has heretofore complied with, or who shall hereafter comply with the conditions of said laws, and who shall have made his final proof thereunder for a quantity of land less than 160 acres and received the Receiver's final receipt therefor, shall be entitled under said laws to enter as a personal right, and not assignable, by legal subdivisions of the public lands of the United States subject to homestead entry, so much additional land as added to the quantity previously so entered by him shall not exceed 160 acres; provided, that in no

case shall patent issue for the land covered by such additional entry until the person making such additional entry shall have actually and in conformity with the homestead laws resided upon and cultivated the lands so additionally entered, and otherwise fully complied with such laws; provided, also, that this section shall not be construed as affecting any rights as to location of soldiers' certificates heretofore issued under section 2306 of the Revised Statutes.

SEC. 7. That the "Act to provide additional regulations for homestead and pre-emption entries of public lands," approved March 3, 1879, shall not be construed to forbid the taking of testimony for final proof within ten days following the day advertised as upon which such final proof shall be made, in cases where accident or unavoidable delays have prevented the applicant or witnesses from making such proof on the date specified.

SEC. 8. That nothing in this act shall be construed as suspending, repealing or in any way rendering inoperative the provisions of the act entitled "An act to provide for the disposal of abandoned and useless military reservations," approved July 5, 1884.

The best and surest dye to color the beard brown or black, as may be desired, is Buckingham's Dye for the Whiskers. It never fails.

Bathe a sprain with arnica diluted with water, and bandage with soft flannel moistened with the same. A sprained wrist thus treated will grow well and strong in a few days.

Many men of many minds;
Many pills of various kinds.

But for a mild, effective, vegetable purgative, you had better get Dr. Pierce's Pleasant Purgative Pellets. They cure sick headache, bilious headache, dizziness, constipation, indigestion, and bilious attacks; 25 cents a vial, by druggists.

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

Consumption Surely Cured.

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

Consumption Cured.

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

Hog Cholera.

The Bureau of Animal Industry at Washington has just issued a condensed review of experiments conducted by Dr. D. E. Salmon, Chief of the Bureau.

The more important facts definitely determined by these investigations may be stated as follows:

1. The disease is a contagious and infectious one, and may be contracted by healthy hog from a diseased one, or from infected premises and the contagion may be carried from farm to farm in various ways.

2. It is a bacterial disease, the germ having been first accurately figured and described in 1885, and studied almost constantly since that time.

3. The germ is readily cultivated in various media, is transmissible to other animals than hogs, from which it may be retransmitted to swine and produce a fatal form of the disease.

4. A fatal disease similar to hog cholera, which has been named "swine plague" to distinguish it from the disease first met with, was discovered during the progress of these investigations. It is also a germ disease, widely distributed and fatal, and may exist as a complication in outbreaks of hog cholera.

5. The disease may generally be prevented by isolation of the animals, and by cleanliness combined with simple measures of disinfection.

6. Outbreaks of hog cholera are to be checked by separating the well from the diseased animals, and practicing disinfection.

7. Infected premises may be made safe for the admission of a new herd by disinfecting with lime or other disinfectants, and

allowing three or six months to elapse after the disease has disappeared.

8. Medicines have not been found to greatly influence the course of the disease.

9. Inoculation has been tested in almost every form as a preventive without satisfactory results.

10. Hog cholera is apparently identical with a disease which has recently been described in various parts of Europe.

Nearly every conclusion is based upon carefully conducted experiments, and the work as a whole is a valuable contribution to agricultural and veterinary literature.

Patents.

The following list is reported through the official records for the week ending April 23, 1889, by Higdon & Higdon, Patent Lawyers, office rooms 55 and 56 Hall Building, Kansas City, Mo., and room 29 St. Cloud Building, Washington, D. C. By applying to them at either office a printed copy of any patent here named can be obtained for 25 cents.

MISSOURI.

Cable grip—Charles S. Chapman, Kansas City.

Lifting jack—Louis J. Crecellus, St. Louis.

Grinding machine for mower and reaping knives—Epriam H. Fenton, Kansas City.

Construction of water tank—William H. Harrelson, Kansas City.

Wood screw—Herman Kaeuppel, St. Louis.

Break head and lever for operating the same—George H. Poor, St. Louis.

Combining zinc vapors and collecting the metallic zinc therefrom—Edward Marsh, Jr., St. Louis.

Vending apparatus—John A. Williams, Kansas City.

Wrecking car—Morris Wuerpel, St. Louis.

KANSAS.

Finger shield and fountain attachment—James Patmore, Pittsburg.

Cultivator—Robert Insley, Bateham.

Broom making machine—George H. Baldwin, Grand Summit.

Seeding attachment for plows—James S. Hibbets, Ludell.

THE MARKETS.

(MAY 4.)

New York.

WHEAT—No. 2 red, 82½c in store, 84c afloat.

CORN—No. 2, 43a44c.

Chicago.

WHEAT—Cash, 81a82½c.

CORN—83½c.

CATTLE—Market steady. Choice beefs, \$4 10a4 30; steers, \$3 35a4 05; stockers and feeders, \$2 50a3 60; cows, bulls and mixed, \$1 90a 3 35; Texas steers, \$3 00a3 60.

HOGS—Market steady. Mixed, \$4 50a4 70; heavy, \$4 40a4 65; light, \$4 60a4 85; skips, \$3 50a 4 50.

SHEEP—Market steady. Natives, \$3 75a5 00; Western, corn-fed, \$3 75a4 80; Texas, \$3 25a3 75.

St. Louis.

CATTLE—Choice heavy native steers, \$3 80a 4 40; fair to good native steers, \$3 00a4 00; stockers and feeders, fair to good, \$2 10a3 00; rangers, corn-fed, \$2 80a3 40; rangers, grass-fed, \$1 90a2 90.

HOGS—Choice heavy and butchers' selections, \$4 50a4 65; packing, medium to prime, \$4 40a4 50; light grades, ordinary to best, \$4 45 a 4 60.

SHEEP—Fair to choice, \$3 00a4 75.

Kansas City.

WHEAT—No. 2 red, cash, 2 cars sold at 69c.

CORN—No. 2, May, 1 car at 26c; July, 26½c asked.

OATS—No. 2, cash, 20c asked.

RYE—No. 2 cash, 1 car at 37c.

CATTLE—Beef steers, \$3 15a3 90.

HOGS—Heavy, \$4 20a4 50.

SHEEP—\$2 50a3 65.

The Old Doctors

Drew blood, modern doctors cleanse it; hence the increased demand for Alteratives. It is now well known that most diseases are due, not to over-abundance, but to impurity, of the Blood; and it is equally well attested that no blood medicine is so efficacious as Ayer's Sarsaparilla.

"One of my children had a large sore break out on the leg. We applied simple remedies, for a while, thinking the sore would shortly heal. But it grew worse. We sought medical advice, and were told that an alterative medicine was necessary. Ayer's Sarsaparilla being

Recommended

above all others, we used it with marvelous results. The sore healed and health and strength rapidly returned."—J. J. Armstrong, Weimar, Texas.

"I find Ayer's Sarsaparilla to be an admirable remedy for the cure of blood diseases. I prescribe it, and it does the work every time."—E. L. Pater, M. D., Manhattan, Kansas.

"We have sold Ayer's Sarsaparilla here for over thirty years and always recommend it when asked to name the best blood-purifier."—W. T. McLean, Druggist, Augusta, Ohio.

"Ayer's medicines continue to be the standard remedies in spite of all competition."—T. W. Richmond, Bear Lake, Mich.

Ayer's Sarsaparilla,

PREPARED BY

Dr. J. C. Ayer & Co., Lowell, Mass.

Price \$1; six bottles, \$5. Worth \$5 a bottle.

LADIES' INSECTS & FRUIT TREES

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

TREES.

Deciduous and Evergreen, for Ornament, Hedges, Screens and Timber. Large variety, lowest prices.

NEARLY 100 varieties. Fresh, sound and cheap. Catalogues free.

GEO. PINNEY, Evergreen, Door Co., Wis.

STARTLING DISCLOSURES, giving stern facts regarding your PAST, PRESENT and FUTURE, FREE, by wonderful clairvoyant. If sick, send one leading symptom and two 2-cent stamps for diagnosis. Address THE BANNER OF LIFE, G'd Rapids, Mich.

FARMS WANTED!

A large number of farmers in the Northern and Eastern States and Canada want to buy farms in the West and South. If you have a farm to sell, send your address to

TEOS. H. CHEW & CO., ST. LOUIS, MO.

Refer to the editor of this paper.

SECRETS OF LIFE FREE.

A Private Adviser for those contemplating marriage and for men suffering from Private, Nervous or Chronic Diseases. Send 6c. for sealed copy.

Consult the old Doctor confidentially.

L. R. WILLIAMS, M. D.,

68 Randolph St., Chicago.

PAINLESS BEECHAM'S EFFECTUAL GREAT ENGLISH PILLS WORTH A GUINEA A BOX

For Bilious and Nervous Disorders, such as Wind and Pain in the Stomach, Sick Headache, Giddiness, Fulness, and Swelling after Meals, Dizziness and Drowsiness, Cold Chills, Flushings of Heat, Loss of Appetite, Shortness of Breath, Costiveness, Scurvy, Blisters on the Skin, Disturbed Sleep, Frightful Dreams, and all Nervous and Trembling Sensations, &c. THE FIRST DOSE WILL GIVE RELIEF IN TWENTY MINUTES. This is no fiction. Every sufferer is earnestly invited to try one Box of these Pills, and they will be acknowledged to be a Wonderful Medicine.—"Worth a guinea a box."

BEECHAM'S PILLS, taken as directed, will quickly restore females to complete health. For a WEAK STOMACH; IMPAIRED DIGESTION; DISORDERED LIVER; they ACT LIKE MAGIC:—a few doses will work wonders upon the Vital Organs, Strengthening the muscular System; restoring long-lost Complexion; bringing back the keen edge of appetite, and arousing with the ROSEBUD OF HEALTH the whole physical energy of the human frame. These are "facts" admitted by thousands, in all classes of society, and one of the best guarantees to the Nervous and Debilitated is that BEECHAM'S PILLS HAVE THE LARGEST SALE OF ANY PATENT MEDICINE IN THE WORLD. Full directions with each Box.

Prepared only by THOS. BEECHAM, St. Helens, Lancashire, England. Sold by Druggists generally. B. F. ALLEN & CO., 365 and 367 Canal St., New York. Sole Agents for the United States, who (inquire first), if your druggist does not keep them,

WILL MAIL BEECHAM'S PILLS ON RECEIPT OF PRICE, 25 CENTS A BOX.

The Veterinarian.

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

F. P. Goodan, Astor, Kas.—After a run of grass a few months, this scurfy and scaly condition of skin will disappear. The cause of it no doubt, was in the food, confinement, and surroundings. Give plenty of green stuff and slops, washing the body with soap and water occasionally, and keeping cracks greased, they will soon heal.

A. D. Hall, Sabetha, Kas.—The enlargement on joint may be of the nature of a new growth, or it may be a distension of the bursa of the tendons, which play over joint as the result of an injury or strain. If the former, can only be removed by the knife; when the latter, its absorption can partially be effected by the repeated use of following blister: Beniodide of mercury, 1 drachm; lard, 1 ounce. Mix; make ointment; rub on the size of a hickory-nut; afterwards keep greased; repeat in two weeks.

Charles E. Betts, Williamstown, Kas.—A form of eczema known as grease, a chronic inflammation of skin on or in neighborhood of fetlocks. Vesicles form, break, followed by a fetid discharge. Cut away as much of hair as possible about the sores. Poultice the sore parts for a couple of days with a warm flax-seed poultice. This removes the scabs. Touch up all tardy looking sores with stick of silver nitrate; afterwards dress parts with following ointment: Oxide of zinc, 4 drachms; lard 4 ounces. Mix; make ointment; about every three days wash thoroughly with castile soap and water, wipe dry, and again apply ointment. Feed bran mashes, and give plenty of grass.

R. B. Kerr, Oatville.—Have your animal examined by a competent veterinary surgeon. Do so as early as possible. The case is suspicious of farcy—a form of glanders. Isolate him from the other animals, and use great care in handling him yourself until go examined. When examined, if it proves to be a case that will respond to treatment, give following: Barbadoes aloes, 4 drachms; calomel, 1 drachm; powdered nux vomica, 1 drachm; powdered ginger, 2 drachms; mix; make ball. Open mouth draw out tongue, and pass ball back on base of tongue. Give plenty of soft feed and grass. When physic has operated, give following powders: Powdered Ltrate of potash, 4 ounces; colchicum seeds, 6 drachms; arsenic, 1 drachm; mix. Make 12 powders; give one every night in soft feed. If swelling continues around throat, blister with powdered cantharides, 1 drachm; lard, 1 ounce. Mix; make ointment; feed upon warm bran mashes.

C. L. Walker, Cunningham, Kas.—Leucorrhoea or catarrh of womb or vagina. It may be a sequel of difficult parturition, retained afterbirth, or it may have been caused by exposure, that would cause catarrhal discharges from any of the mucous surfaces. The discharge is usually whitish and generally odorless. When the catarrhal discharge has its source in the womb it is hard to treat; when in outer organ it is more simple. From your description of case, I judge the former is present, as the straining and periodical ejections would indicate. By means of a catheter or tubing, you can be able to wash out womb with tepid water injections, afterwards injecting some of the following: Chloride of zinc, 1 drachm; water, 1 quart. Give following powders daily for some weeks. Give run at pasture. Sulphate of iron, 1 ounce; powdered gentian, 2 ounces; powdered ginger, 2 ounces. Mix; make eight powders. Give one daily in soft feed.

H. J. Mitchell, Winsboro, Wood Co., Texas.—Barrenness or Sterility—Among the various causes are, that of a phlegmatic temperament, impoverished state of system, excessive fatness. Some of the causes of a mechanical nature are those of a stricture or obliteration in a measure of some of the female genital organs, the presence of tumors, the spasmodic closure of neck of womb, or some diseased condition of some of genital organs. Most frequent of these causes is that of occlusion of mouth of womb, either from a spasmodic condition or as the result

of disease. The hand should be oiled and an examination made. Pass hand back to neck of womb; shape hand in form of cone, and by a screwing or half rotary motion endeavor to work hand through into cavity of uterus. The animal should be put to male on same or following day. Those cases of barrenness which are most likely to yield to treatment are those where signs of heat occur at regular intervals. But when the animal never shows signs of heat the prospects of its appearance are very unfavorable. We have no drugs that seem to act specifically in this direction. However, by way of experiment, $\frac{1}{2}$ ounce doses each of fluid extract of damiana and tincture of cantharides in half a pint of gruel has been tried with varying success.

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

SEED SWEET POTATOES—3,000 bushels, eight best varieties—first-class—for sale. N. H. PIXLEY, Wamego, Kas.

SEED SWEET POTATOES—A large quantity of seed and eating sweet potatoes. Plants in season. B. F. JACOBS, Box 122, Wamego, Kas.

500,000 Sweet Potato Plants For sale. Eight best kinds. Inquire of N. H. PIXLEY, Wamego, Kas.

Millet and Hungarian Seed. One hundred bushels each Millet and Hungarian for seed. Samples and prices wanted. D. M. TALBOTT, Sioux City, Iowa.

SHAWNEE NURSERY & FRUIT FARM. J. F. CECIL, Prop'r, North Topeka, Kas.

Fruit and Ornamental Trees, Vines, Plants and Shrubs. Cherry Trees and Small Fruit Plants a specialty.

STAYMAN'S No. 1 Strawberry. Large and fine. Produced at the rate of 30,000 quarts per acre. Price, \$2.00 per dozen; \$10.00 per 100. JEWEL The earliest and best Black Grape known. Equal to the Delaware in quality. Price, \$1.50 each. Send for testimonials. STAYMAN & BLACK, Leavenworth, Kas.

THE 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 FORT SCOTT, KAS.

Established 1865. 460 Acres. Full line of Nursery Stock. Forest Seedlings for Timber Claims and Apple Trees for Commercial Orchards a specialty. Large Premium for planting forest trees in spring of 1889. Treatise on cost and profit of apple orchard, free on application. Good salesmen wanted.

10,000 BUSHELS SWEET POTATO SEED

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

Bulbs!

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

Lee's Summit Nurseries

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

Red Cedars! Hardy Catalpas!

FOREST TREE SEEDLINGS—all kinds, Fruit Trees and Plants, Mammoth Dewberry; Black Walnuts, \$1 per barrel. Lowest prices, largest stock! Write for free Price Lists. Address GEO. C. HANFORD, (Successor to Bailey & Hanford), Makanda, Jackson Co., Ill.

Mount Hope Nurseries

—SPRING, 1889.— Established twenty years in Kansas. Reliable resident Agents in every town. The most complete stock of Trees, Vines and Shrubs, Ornamental, Shade and Evergreen Trees ever offered in the West. Understand this is grown here. Dealers and planters can depend on it. Orders packed and shipped on short notice. Let all who want nursery stock correspond with us. State your wants. Catalogues free. A. C. GRIESA & BRO., Lawrence, Kas.

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 55, LA CYGNE, LINN CO., KANSAS

IMPORTANT TO HORSE OWNERS

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

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DOES IT PAY TO HAVE A LAME HORSE? If it does not, why not avoid lameness or why treat a lame horse improperly and thereby delay or prevent recovery, when Dr. Wood's book teaches how to avoid and how to treat every form of lameness, however trifling or infrequent. It is devoted exclusively to the prevention, cause, symptoms and treatment of every form of lameness and of wounds of every description. It is the only book that gives the true symptoms manifested in every form of lameness. The manner of locating the disease or injury, determining its character and the mode of treatment in this book is the same as that practiced by all eminent veterinary surgeons and taught in all veterinary colleges. 100 closely printed pages, 35 fine engravings, 50 cents postpaid. Satisfaction guaranteed. Write for a copy to FRANCIS WOOD, Veterinary Surgeon, P. O. Box 614, Washington, D. C. Please mention this paper.

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The Busy Bee.

Subduing and Handling Bees.

Many persons would be glad to commence bee-keeping were it not for a natural dread of being stung. The stings of bees were given them for the protection of their stores, and they are seldom disposed to sting unless they are in danger. Bees under any circumstances cannot resist the temptation to fill themselves with liquid sweets, and with their honey sacs full they never sting unless they are injured. They also, on being alarmed, immediately rush to their combs and gorge themselves with honey. It will therefore be seen that to make bees harmless it is simply necessary to frighten them into gorging themselves with honey, when they may be handled with impunity. This may be effected in various ways, the simplest of which is to blow into the hives a few puffs of smoke. Brown paper, rags or decayed wood answer the purpose; but care should be taken not to stupefy the bees by giving too much. One of the best smokers for this purpose is that known as "Clark's Cold-blast Smoker," which will burn for hours when fed at intervals with any of the materials above described.

After allowing the bees a few seconds to gorge themselves from their stores, the hive may be opened and a few puffs of smoke blown in at the top of the hive. Take hold of the first frame by the projecting shoulders and carefully lift it out of the hive without crushing a bee. We should bear in mind that a single bee bears much the same relation to the colony as does one of our fingers or toes to us. If somebody carelessly or purposely pinches a toe or finger, self-preservation demands that we make him stop; and if you crush a bee, the whole hive remonstrates and threatens. In fact, they do this if you only give them reason to think they may be in danger of injury. Raise the frame to the level of your face and examine it. When one side has been examined, lower your right hand and raise the left until the top bar of the frame is perpendicular; now give the frame a half turn toward the right, lower the left hand to raise the right so as to bring the top bar to a horizontal position. This will reverse the comb and enable you to examine the other side. Care should be taken to keep the comb perpendicular, or it is liable from its weight to fall out of the frame. It can now be placed on a stand or in a comb-box and the other frames examined in like manner. In replacing the frames, do it slowly so as to allow any bee upon feeling the slightest pressure to creep from under them before being injured. When the frames have been returned to their proper places, blow a little smoke on top and replace the cloth or honey-board. During the examination, give the bees more smoke occasionally to keep them under subjection.

When the smoker is not in use it should be placed on end; the tube, acting as a chimney, causes sufficient draught to keep the fuel smoldering. A bee-veil to protect the face will give the bee-keeper more confidence, and should always be used by any one unaccustomed to handling bees. Some timid persons wear rubber gloves to protect the hands; but our experience is that they are entirely unnecessary when the above instructions are carefully followed.—Wm. Styan, in *Pacific Rural Press*.

A Pittsburg papersays: The city of Pittsburg can show very many teams of draft horses as handsome and valuable as can be found anywhere in the United States. The nature of the manufacturing industries here

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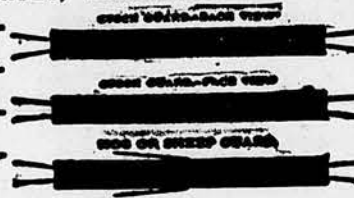
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From cares which wear the life away,
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And drink the poppies of Cathay."

And every American business man is beginning to find that his summer vacation is more and more of a necessity; the money-making machine won't stand the strain without an occasional rest. The "American Alps" of Colorado offer the highest conditions for perfect relaxation, pure vital air, comfortable hotels and the noblest scenery in the country, and may be reached on the South Park Division of the Union Pacific railway.

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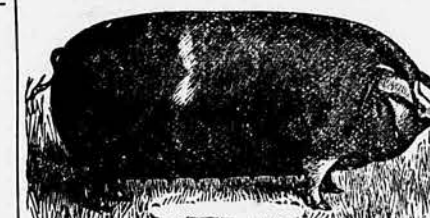
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Show yard of Poland-Chinas and Large English Berkshires. I am breeding the best and leading strains, including Gracefuls, U. S. Black Bess, I. X. L., Corwins, Sallies, Bella Donnas, Duchess, Dukes and Champions. The best of blood, with extra size and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

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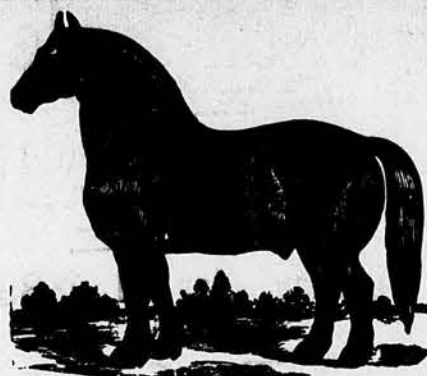
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All the sixteen roads running into Kansas City have direct connection with the yards, affording the best accommodation for stock coming from the great grazing grounds of all the Western States and Territories, and also for stock destined for Eastern markets.
The business of the yards is done systematically and with the utmost promptness, so there is no elating, and stockmen have found here, and will continue to find, that they get all their stock is worth with the least possible delay.

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This company has established in connection with the yards an extensive Horse and Mule Market known as the KANSAS CITY STOCK YARDS COMPANY HORSE AND MULE MARKET. Have always on hand a large stock of all grades of Horses and Mules, which are bought and sold on commission or in carload lots. In connection with the Sales Market are large feed stables and pens, where all stock will receive the best of care. Special attention given to receiving and forwarding. The facilities for handling this kind of stock are unsurpassed at any stable in this country. Consignments are solicited with the guarantee that prompt settlements will be made when stock is sold.
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TRADE MARK. Years ago I invented and used on my own herd a "Horn-Killer"—something to stop the growth of the young horn. I have now perfected it, and am prepared to give it to the public. Price 75 cents per bottle. One bottle is enough for forty calves. I propose that others shall aid in this work, and want agents everywhere. County rights for sale cheap. Right to patent fully protected. Full directions with every package. Also "Haff's Dehorning Saw" and two blades \$1.50, and "Haff's Cattle Tags" for sale. Address **H. H. HAAFF,** Box 193, Chicago, Ill.



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THE STRAY LIST.

HOW TO POST A STRAY.

THE FEES, FINES AND PENALTIES FOR NOT POSTING.

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

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 stray, must immediately advertise the same by posting three written notices in as many places in the township giving a correct description of each 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 was taken up (ten days after posting) make out and return to the County Clerk, a certified copy of the description and value of such stray.

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

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

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

At the end of a year after a stray is taken up, the Justice of the Peace shall issue a summons to three householders to appear and appraise such stray, summons to be served by the taker-up; said 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 APRIL 25, 1889.

Saline county—Joseph Sargent, clerk.

COLT—Taken up by O. O. Lundall, in Liberty tp., March 30, 1889, one roan horse colt, star in forehead, had halter on; valued at \$25.

STEER—Taken up by Luther Hall, in Liberty tp., March 2, 1889, one mouse-colored steer, 4 years old, dehorned, brand on right hip supposed to be I.F., both ears cropped; valued at \$15.

Pawnee county—James F. Whitney, clerk.

MARE—Taken up by Francis Howell, in Garden tp., P. O. Garfield, April 2, 1889, one bay mare, 13½ hands high; valued at \$15.

Greenwood county—J. W. Kenner, clerk.

STEER—Taken up by J. J. Wassam, in Spring Creek tp., November 1, 1888, one 2 year-old red steer, white strip under belly, tail white at end, right ear cut or frozen off at the point, no marks or brands visible; valued at \$17.

Crawford county—J. C. Gove, clerk.

COW—Taken up by S. B. Gibson, in Sheridan tp., P. O. Cherokee, March 28, 1889, one red cow, star in face, slit in right ear; valued at \$14.

FOR WEEK ENDING MAY 2, 1889.

Coffey county—H. B. Cheney, clerk.

HORSE—Taken up by Sarah A. Moyer, in Pleasant tp., one sorrel horse, blaze face, brand on left shoulder, black spot on left hip, left hind foot white; valued at \$25.

Johnson county—W. M. Adams, clerk.

MARE—Taken up by D. B. Johnson, in Shawnee tp., April 16, 1889, one bay mare, 14½ hands high, star in forehead, both hind feet white, shod all around; valued at \$25.

FOR WEEK ENDING MAY 9, 1889.

Phillips county—S. J. Hartman, clerk.

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

Cherokee county—J. C. Atkinson, clerk.

MARE—Taken up by O. R. Harris, in Garden tp., P. O. Lowell, April 27, 1889, one light bay mare about 3 years old, 13½ hands high, no marks or brands.

Finney county—O. V. Folsom, clerk.

PONY—Taken up by J. C. Fugate, in Garden City tp., April 24, 1889, one black pony mare, 4 feet 10 inches high, a barred Spanish brand low on left shoulder; valued at \$20.

Brown county—N. E. Chapman, clerk.

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

Osborne county—L. Grecian, clerk.

2 MARES—Taken up by A. H. Cooper, in Nat'ma tp., P. O. Tapley, April 7, 1889, two mares, supposed

to be 3 years old, one black and the other bay; valued at \$75.

Wichita county—H. H. Platt, clerk.

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

Too Late to Classify.

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

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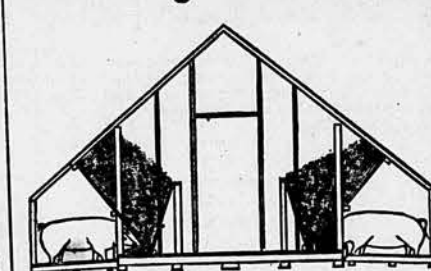
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A Granary and Automatic Feeder Combined,
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For feeding laxative and nitrogenous food,
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Warranted, when properly used, to save at
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Not by the direct saving alone, but mostly by
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The use of this feeder with a proper supply
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The use of shelled corn or meal in the San-
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do not hesitate to provide for the comfort of other
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Above special proposition will be withdrawn July
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(Continued from page 1.)

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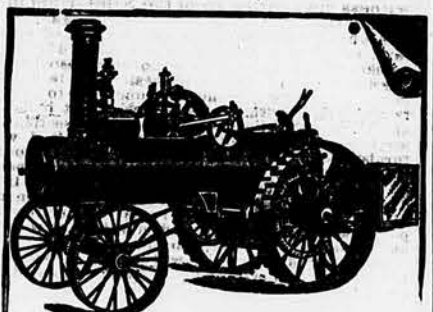
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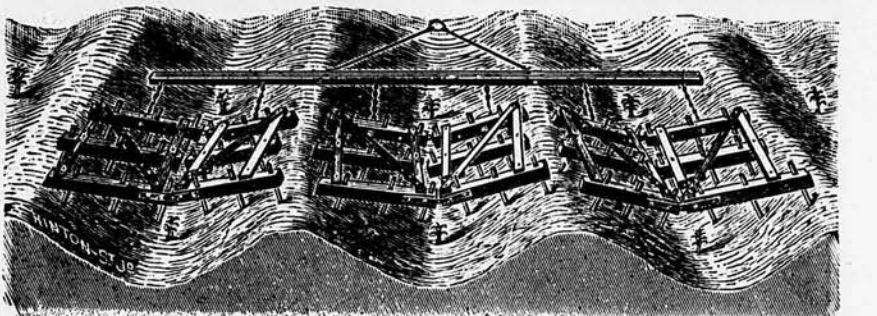
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