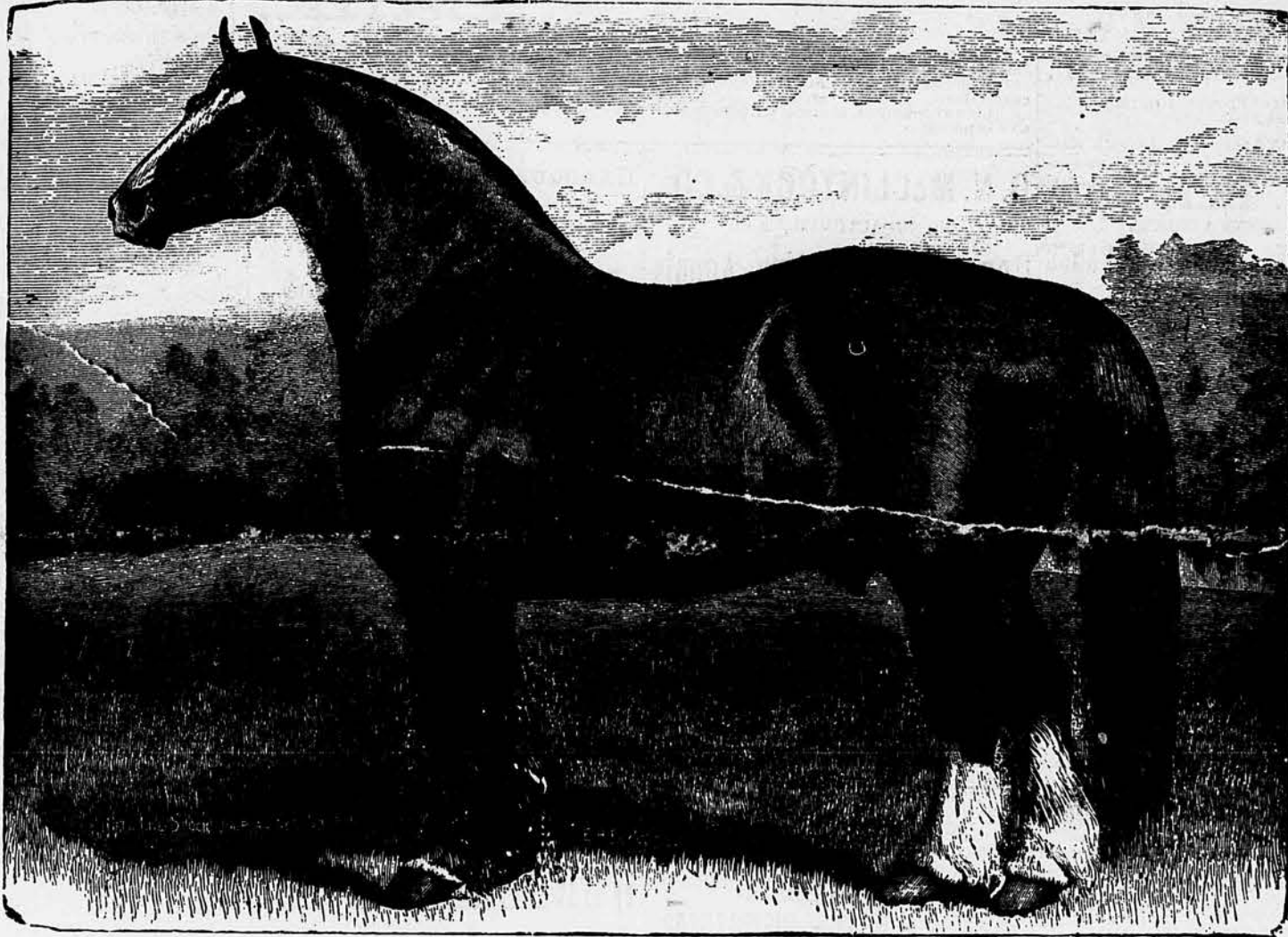


KANSAS FARMER

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TOPEKA, KANSAS, THURSDAY, MARCH 22, 1888.

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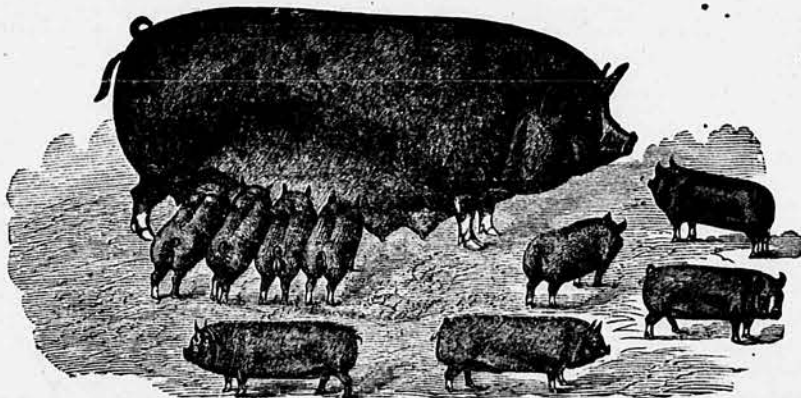
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(Continued on page 20.)

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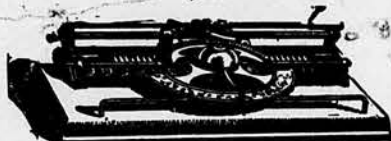
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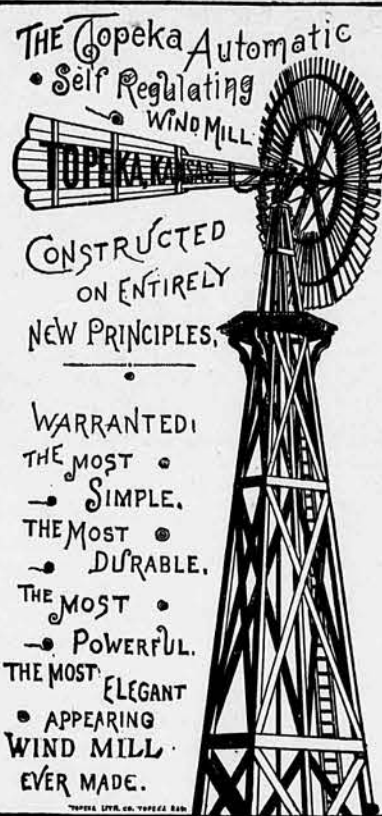
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Agricultural Matters.

The Corn Crop.

EDITOR KANSAS FARMER:—The bulk of corn that has been planted in the State of Kansas for the last twenty-eight years, I believe to be of varieties not adapted to the State, and I believe my ground is well taken, if applied to the majority of the corn-growing States. I came into Kansas and lived first in Nemaha county, have lived in Butler county the last seventeen years—where I now reside, and if I have been an observer, and a close one, I ought to know whether an early, medium, or late variety is best. I am not going to condemn Kansas as a corn-growing State, neither am I going to say that she is the best; but I will say that for a period of ten years, or any number of years, Kansas can show as good a record on her corn crops as the majority of her sister States. Kansas never shows any frost-bitten corn in the fall of her corn years, something that all of her sister States cannot do. I will confine myself to the last sixteen corn crops for proof of my assertion. The crops of 1885 and 1883, were both well-matured crops, and when I make this statement, I apply it to the State at large, and not to particular localities, as there are small localities that raise what many have termed good crops of corn. But if the crop is not a general good crop the State over, then it is not a good crop on the greatest number of acres. If 1875 and 1883 are the only two crops of corn that have fully matured, then there is something wrong concerning our corn crop. Please take notice, is the fault of the country, or the men that are farming the soil of Kansas? I have labored under the same thing that you all, or the most of you have, and that is in planting the wrong kinds of corn. I corrected this mistake in the year of 1884, by abandoning the medium and late varieties, and in lieu thereof got the earliest varieties, that were full three weeks earlier than the varieties that have been planted. Now I want to call the attention of the readers of the KANSAS FARMER to the fact, that two or three weeks in the time of ripening of two varieties of corn, one being three weeks earlier than another, decides the fate of a corn crop, whether it be shortened by the effects of drouth or frost, as is the cause in the other States. Now, Mr. Editor, I do not wish to be understood that I raise as much corn to the acre as some of your contributors claim to do, from the fact that some of them have the best bottom farms, and Kansas has as rich bottoms, and as fine high lands as any other States, if some of your correspondents think to the contrary notwithstanding. In the years 1884, '85, '86 and '87, my corn doubled the medium varieties on the same quality of land, I planting the early varieties. My neighbors have seen the results of this early variety business, and they have this spring come with other corn—the medium varieties, and I have exchanged bushel for bushel with them. This being the situation of affairs, your readers will take notice that this article is not written for the purpose of selling early seed corn. I am satisfied if the State of Kansas had been planted to a seed corn two or three weeks earlier for the years 1872, '74, '76, '78, '80, '82, '84, '86 and '87, that the report of the majority of the States, Kansas to begin with, would today be in a much better financial situation.

Now, Mr. Editor and your readers, I shall not ask any of you to grant me a pardon, if I state through your valua-

ble columns, that I am of the firm conviction, that this theory of telling the future by the past will apply as a general rule; then it is safe to assert that there is something to be learned in the cultivation of the soil, and Mr. J. C. H. Swann is correct. I have noticed repeatedly in the dry years, the ground that was stirred the deepest, also the fields of corn that are stirred the most, have been the fields that have come the nearest to a failure. In furtherance of the correctness of Mr. Swann's theory, if we have learned when the dry years will appear, then we as a nation have learned something that we can profit by; that is, we will plant and sow more understandingly. I will say of those that have bought Swann's original book, read it understandingly, and have applied his teachings intelligently, every one will admit they have profited largely. Many of you undoubtedly have read Prof. Forbs' on the chintz bugs for this year in the State of Illinois, or what he was afraid of in the fall of 1887. Those that heeded Swann's advice last fall, by sowing wheat, to-day, the 5th day of March, 1888, they are buoyed up with one of the finest prospects for a wheat crop, according to the number of acres sown, that the State of Kansas never witnessed. The KANSAS FARMER admits this to be a fact, and I will further state, if you buy Mr. Swann's book, read it understandingly, and if you will put it into practice and do that understandingly, then you have taken a step in the right direction. I would not thank any man to insure me a fine crop of wheat for the harvest '88; neither would any of you that sowed wheat last fall as Swann directed.

Now, Mr. Editor, let me go back to the first part of this article, and let me persuade your readers to plant an early variety of corn, of as large a size as possible; gather the first that gets ripe, and by so doing you will preserve the earliness of your corn. Finish up your harrowing of all kinds of grain, and grass seeds east and west, and you will find this a great preventive of the soil blowing away, also the seed sown.

HENRY BUTLER.

Douglass, Butler Co., Kas.

What is Irrigation?

Irrigation in the present use of the term means the artificial application of water to the soil, by several methods. There is the "main canal" or ditch, which brings water taken from streams that may be a mile or two, or scores of miles away. A "lateral" comes out of one side, and extends several rods, or even miles to the upper side of a field, into a plow furrow nearly on a level, and the water in this case spreads out each way. From this head furrow very small ones are made with a hoe, or quicker with a small single-horse plow. They are run in such direction, required by the lay of the land, as will give them only a slight descent. A hoe or shovel full of earth into the plow-furrow at each entrance of these little ditches keeps them closed. When the land needs water, the little "gate," or sliding board at the canal, is raised as far as needed to let in the required amount of water. This is raised or lowered from time to time, as seen to be necessary. The large plow furrow being filled with water, the irrigator opens or closes the upper ends of the small furrows by taking out a shovel or hoeful of earth. The operator walks over the field, and where water enough is not flowing out in any place, he, with a shovel or hoe, clips off a bit of earth from the side of the small ditch or furrow, and stops the flow at any point by throwing in a trifle of soil. In this way he can, in an hour or two, give an

entire field what would be equal to a heavy soaking rain. This may be done so deeply down, one or even two feet, that the growing crop may flourish through the hottest season or drouth, without another irrigation.

Where water goes deep down, it is only very slowly evaporated from the surface, while the roots of the crop grow downward so far as to find a good deal of natural moisture in the soil. Usually only two or at most three such irrigations are needed on a wheat crop, grown on a soil which is literally a dry ash heap. The number of irrigations and the amount of water at each flowing depend a good deal upon the character of the subsoil. Some land requires only a single flowing, along in May or June. Sometimes a flooding about the heading-out time will produce very heavy grain kernels. Sometimes the ground will be flooded before the seed is sown, and once or twice afterward, unless there is an unusual fall of rain. Most farmers using irrigation rather prefer no rain. Having a supply of water in the canal to use whenever needed, they prefer continual hot sunshine which pushes growth forward most rapidly.

In most of the irrigable, arid regions, these canals are taken out high up a river or stream which is fed by the melting of snows on the mountain tops in May, June and July, just the time when plenty of water in the canal is most needed. The canals are carried along with a descent of only one and one-half to two feet per mile, winding around hills or uneven ground to maintain a uniform grade. If the ground and the stream descend rapidly the canal may thus be carried scores of miles, and at its end be twenty, fifty, one hundred or more feet above the parent stream. The side canals are taken out at different places, and similarly carried over or around uneven land, so that a single main canal may irrigate tens or hundreds of thousands of acres; for example, a canal from a stream in the Rocky mountains, by following the sides of knolls, valleys and hills, may take water hundreds of miles to supply the parched farms in eastern Colorado. —*Farming in Colorado—a pamphlet.*

About Lucerne, or Alfalfa

We are indebted to Messrs. V. H. Hallack & Son, Queens, N. Y., for the following article prepared by one of their correspondents in Utah, who knows what he is writing about: "Lucerne will grow on any land that will produce wheat, corn, or potatoes, and will thrive on many lands that none of these will grow on, especially very light sand or gravel, though it does well on clay. But it will not grow on any land that the water stands within one foot of the surface, and there is no use in sowing it in an alkali that is strong enough to keep wheat from growing. Though particular about wet land, it will stand any amount of wet in the summer, as long as there is plenty of drainage. It will stand all the water in the winter that may fall in the shape of rain, or snow that may melt. It is a very quick grower, and will mature the first crop in about two months from the time that growth commences. The second crop will mature in about six weeks from cutting, and the third in about five weeks from cutting of the second. The second crop is the heaviest, but the first is a little the best feed, as it grows a little longer than the others. It will yield about on an average of six tons per acre, and I have known it to produce double that quantity. It is a perennial of the clover tribe but will out-yeild it two to one, makes just as good feed, and has a great advantage over the clover, for it

never falls down, but stands up straight. "Sowing.—The best method is to sow broadcast about fifteen pounds per acre where the land is in good condition, but on very weedy land or clear gravel or sand that is very poor, put about three pounds more. You cannot get any crop from it the first year, but do not get discouraged if the plants are on an average of ten inches apart, little slim single stems about four or six inches high. Your prospect is good that you will get four tons per acre next year, and the next it will be as good as ever it will, and stand that way for ten years. It is best to sow with grain. Oats are the best; thus you will lose no time, but can have a crop from your land every year. In fact it does better to have it shaded when young. Sow at the same time that you do spring grain.

"Cultivation.—Where there is plenty of rain, there is no cultivation needed, for it would be unwise to manure it, as it thrives fully as well on washed sand as it will on the best garden-spot, but in a few years it will make clear sand a rich land, owing to the decay of the root. The roots will sink themselves for a distance of ten to twenty feet straight down. They are about one and a half inches in diameter, and fully one-half of that root decays every year from the outside, and keeps growing larger from the center every year.

"It should be cut when in full bloom. A little old is better than too young; when the bloom is ready to fall off is not too late. Do not cut too much at once, for if you allow a rain to come on your hay after it is cut, it will not be worth more than one-half for feed, and will be entirely worthless for market. Heavy dews are not good either. Rake into windrows if cut with a mowing machine, and let dry until it begins to let the leaves fall when handled roughly, then pick it up and lay it in piles, just one fork-full in a pile, to cure. Do not roll it together or it will not load easily, then you will have to pull it to pieces, thus losing one-half of the leaves. By following my directions you can put each on perfectly clean at one fork-full, and not waste time nor any of the leaves. But right here let me warn you against condemning it as a worthless lot of sticks, until you try your horses and cows, and see them clean up the sticks before they do the leaves. There are not many animals that take to it when dry, without having it in their manger for a few days with other hay; but in a few days you will see the grass hay left, while the Lucerne is cleaned up. A ton of Lucerne will not go quite as far as a ton of timothy. Do not let hungry cattle get on it while green, especially when wet, for it will bloat them, which is apt to result in death. If you wish to pasture it, first feed your stock all that they can and will eat, and then turn them on the green Lucerne, and no harm will come to them. It is the best thing to renew old, worn-out land that I ever saw, and there is not a weed or anything else in this country that can stand before it." A. H. M.

Moroni, Utah.

To Nervous Men.

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

VOLTAIC BELT CO., Marshall, Mich.

Onions are earlier to grow in the ground than any other crop, and as soon as the frost shall be out of the ground the plot should be made ready.

The Stock Interest.

A POUND OF WOOL.

The Cost of Producing Wool in the Several States--The Wool Industry.

In the past few weeks we have collected from different growers in all parts of the country a series of detailed statistics on the cost of producing a pound of wool in the United States. The final installment is given this week.

Wool-raising has not been a very profitable business in this country for several years. The insufficient protection of goods, notably of worsteds, when the high rate of duty on their raw material is taken into consideration, has encouraged heavy imports of manufactured goods. Naturally the American manufacturer has dropped the limiting price of his purchases of wool to a low level, and the grower has suffered from a low market. Instead of acting as a stimulant to improve the clothing wool grown east of the Mississippi, the unprofitable prices have in too many cases caused a marked deterioration in the quality of the fleece, more especially of fine fleece, and, although Australian wool costs at least 10 cents more the scoured pound than Ohio wool, manufacturers who once used domestic fleece are to-day forced to use the product of the South seas, so great is the decline in quality of our home-grown fiber.

Perhaps it is natural that at such times of depression, sand, dung, tag locks, and cordage should find their way into fleeces, but it is not to the credit of the American grower that this is the case. No cause was ever helped by glazing over its faults, and these faults exist in American wool to-day. The fact is that business depression has induced too many growers to neglect their flocks. The proportion of staple wool has rapidly decreased, the rate of shrinkage as rapidly increased, and the whole industry has been given a bad name in consequence.

From returns on the cost of growing we are able to present the following comparisons, which represent the cost of a pound of greasy and scoured wool to the grower on his ranche or farm, as compared with the cost, if the duty were removed, of a competing grade of foreign wool to the manufacturer at his mill. It should be remembered that to sell the American wool at a profit, various rates of freight, the expense of handling and a fair profit to the grower must be added, the figures on American wool representing the bare original cost of production, those on foreign wool the current (and profitable) market price.

Beyond Australian the worst competition would come from Cape, Montevideo, and English combing wools. None of these wools are equal in working properties to the California, extra and above, and Kentucky wools with which they compete, and if the American wools cost but a cent or two more the scoured pound they would be preferred to these three varieties by any manufacturer.

Fine Ohio double extra wools shrinking 52 per cent. cost the grower 32 to 33 cents, or 67 to 69 cents clean. No. 1 wools shrinking 33 to 40 per cent. cost the grower 34 to 35 cents, or 52 to 57 cents clean.

Fair Port Philip super Australian shrinking 55 per cent. can be landed at the mills (in bond) paying a profit to grower, handlers, and freight at 26 cents in the grease, or 57 cents clean. The grade of Australian cross-breds that are similar to Ohio No. 1 cost (in bond) 28 cents in the grease, or 48 cents clean.

In like manner Michigan extra wool

costs the grower 30 and 32 cents, shrinks 54 per cent., the scoured basis at the farm without profit being 65 to 69 cents. The present profitable market price of Montevideo wool (in bond) to the consumer is 17 and 18 cents, the wool shrinking 60 per cent., and thus costing the consumer 42 and 45 cents the scoured pound.

In Montana fine wool shrinking 70 per cent. costs the grower 13 cents in the grease, or 43 cents clean, fine medium 38 to 40 cents. In Utah fine wool shrinking 70 per cent. costs the grower 12 to 13 cents, or 43 to 46 cents clean, medium wool shrinking 60 to 62 per cent. 16 to 17 cents, or 40 to 42 cents clean. The cost of fine Colorado wools does not materially differ from those grown in Utah. Montevideo scoured wool costing without a duty 42 cents to the manufacturer, competes with all the fine Territory wools. No foreign wool now imported competes directly with the medium and fine medium Territory, but should the duty be removed, African clothing wools, such as Abudian wools, would come in at a cost to the manufacturer of 13 to 14 cents, or 40 to 42 cents scoured.

In Texas, fine spring growth wools, shrinking 65 per cent., cost the grower 15 and 16 cents, or 43 and 46 cents clean. In California a seven-months' Humboldt wool, shrinking 58 per cent., costs at least 18 cents or 43 cents clean, and Southern year's growth, shrinking 70 per cent., 13 or 14 cents in the grease, or 43 and 46 cents clean. Cape wool, which has much the same felting qualities as California, and would compete with it directly, shrinking 66 to 68 per cent., can be bought in bond at 15 cents in the grease, or 45 to 47 cents clean.

Kentucky medium wool, shrinking 37 to 40 per cent., according to grade, costs the grower 25 cents a pound in the grease, or 39 to 41 cents scoured. This wool is grown from the mutton sheep and is far superior for its purposes to any similar grade of wool grown in any foreign country. The competing grades of English Down and Shropshire wools, shrinking 25 to 30 per cent., cost the American manufacturer to-day, in bond, 26 to 28 cents or 37 to 40 cents clean.

Summarizing the above figures a table might be made of competing wools under free trade, as follows:

Cost the scoured pound to the grower without profit or freight:	Cost the scoured pound to manufacturer, with freight, profit and expenses:
FINE WOOLS.	
Ohio XX.....68c	Australian super.....57c
Michigan X.....65c	Merino.....48a49c
Territory.....43a46c	Montevideo.....43a45c
Texas.....43a46c	Cape.....43a47c
California.....43a46c	
MEDIUM WOOLS.	
Ohio No 1.....52a57c	Australian cross-breds.....48a49c
Medium Territory.....40c	African Abudia.....40a42c
Kentucky and Indiana combing.....39a41c	English comb'g.....37a40c

In other words, American fine wool costs the grower, without his own profit or freight to mill, from 1 to 15 cents more the scoured pound, according to grade, than the corresponding grade of free foreign wool would cost the American manufacturer at his mill. American medium wool similarly costs the grower from the same to 3 cents more the scoured pound than free imported medium wools would cost the manufacturer.

These statistics fully bear out our previous prognostications that a removal or a reduction of the duty on clothing and combing wools would destroy the Merino sheep-breeding industry.

The best mutton sheep can not be profitably grown in great bands in the Territories. In the older States, however, as in Canada to-day, sheep would be grown not for wool, but for mutton, and as the Merino sheep does not make good mutton, the Down or Cotswold

sheep that does make good mutton would take its place. Wool would become not a primary but a secondary product, the American sheep-grower would be obliged to look to his mutton not to his wool for profit, and the character of the American wool clip would become identical with that of England. —Boston Commercial Bulletin.

A Few Thoughts on Much-Mooted Points Concerning the Berkshire.

EDITOR KANSAS FARMER:—There is, probably, no breed of stock so favorably known among informed stockmen, and yet is so unknown to the general farmer, as the Berkshire. In my experience in handling Berkshires, I often meet men who speak of the Berkshire as being "too small." Another class look upon the large or English Berkshire as a separate breed from the so-called small Berkshire. The fact is, all Berkshires, being of English origin, may be called English Berkshires, and the distinction is artificial. Those families so favorably known as the large English Berkshires have been bred for size, by men who not only kept an eye open for this feature, but to the general improvement of the breed; so that the improved Berkshire not only differs from the smaller strains in point of size, but is vastly different in make-up, quality, and disposition. The old-fashioned Berkshire had shorter bodies and longer heads, while the marked improvement is in the great length of the body and shortness of the snout of the large Berkshire.

Another point on which would-be judges are often mistaken, is in regard to the proportionate length of one or more animals. How many breeders of fine hogs have often been crestfallen by a visitor remarking "a nice pig, but a little too short." Now, in point of fact, how many of these critics can tell why a pig is too short, or too long? My own idea is, that a pig to be well proportioned, should be nearly of same length from the center of the ears to the root of the tail, as the measure of the heart-girth and the girth at the loin.

Another much-mooted question in regard to his hog-ship, is the style of jowl he should carry. Some breeders, and many butchers, adhere to the light jowl. Some others, in order to be ready to step onto either side of the fence, favor a medium jowl. But I decidedly side with the opinion of Mr. Gentry, that it is nonsense to talk of making a good hog without a heavy jowl. Strength in the vital points—chops, heart, back and loins are necessary for development. Deep, wide cheeks go with width and depth of chest, broad backs and loins as set forth on well-sprung ribs—points that make up constitution, vigor and vitality. Moreover, I never saw a hog of heavy jowl that was not a good feeder.

The able writer, Phil Thrifton, has claimed that a heavy jowl is generally an indication of a lightness of hams. But his assertion cannot be verified by an inspection of the improved herds of the country.

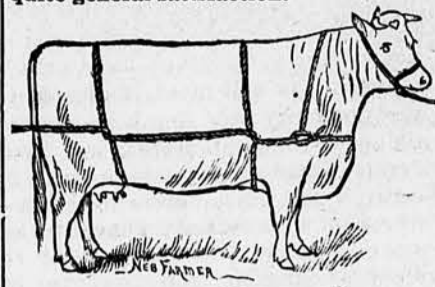
I have in mind a Berkshire sow that was exhibited at the State Fair last fall. She certainly was one of the heaviest-jowled hogs on exhibition, yet, without doubt, her hams were as perfect as could be found. In the scrub, perhaps, a full development of one point is accompanied by weakness in some other. It is the breeder's art to avoid all weak parts, and bring out an even development of all the points.

G. W. BERRY.

Don't forget the grades make the best mutton sheep and are the most growthy; but that the second cross is not nearly so valuable as the first.

Dehorning Harness.

We are indebted to Mr. H. E. Heath, editor of the Nebraska Farmer, for the following illustration of a dehorning harness which is now in use and giving quite general satisfaction.



Pruning Animals.

EDITOR KANSAS FARMER:—Many persons are dehorning their cattle. Something is said about the method of performing the operation; one says build a chute and confine the animal's head. I suppose the saw is to be used in amputating the horns. I tried the use of the saw on yearlings. They flounced considerably, despite every effort to keep them still. I took the horns from two with the saw, got my hand scratched severely with the saw, besides hurting the animals desperately. I laid the saw aside and took my fruit tree pruner, with which I can cut off a limb two inches in diameter. With this instrument I clipped the horns off so quick that the animal had no time to flinch until the horn was cut off and gone. I found no confinement necessary further than to pull the head up near a post with a rope. The pruner cut smoothly and quick. G. BOHRER. Chase, Rice Co., Kas.

Dehorning.

EDITOR KANSAS FARMER:—A discovery that when put into practice will be worth many thousands of dollars to the farmers of Kansas, is certainly worthy of our consideration. Most of the cattle in this and adjoining counties have been dehorned. We regard it as a fixed fact, something that has come to stay, and have ceased to discuss it. I only repeat the words of 500 of our farmers, when I say we will never winter another horn. I dehorned my own herd in the winter of 1886. As to the operation, only two out of ninety head bled scarcely any, one a yearling steer, the other a cow, and it spurted six and eight feet high, until the barn and fences were painted red. But no bad results followed, except both developed stubs—advertisements of my skill as a dehorner.

So, from this and subsequent observations, I am impressed with the belief that where profuse bleeding follows, the animal has not been dehorned, but its horns have just simply been sawed off.

Have dehorned in the last eighteen months several thousand head. But that it requires any particular skill, I deny. Get your animal tight; screw your courage up and blaze away. Use a narrow-blade saw. Cut far enough down on the horn to leave a ring of hair all around the horn. Handling your cattle and getting them tight is half the game. W. R. HONNELL. Horton, Brown Co., Kas.,

How Much Corn to the Hog?

EDITOR KANSAS FARMER:—The question asked some time ago, through your paper, by W. H. Anderson, and answered by A. E. Jones, of how much corn it takes to grow a hog, say twelve months old, I can answer that question I think correctly, and after feeding thirty-five bushels of corn to the hog, at 50 cents per bushel, have a balance in favor of profit of \$7.50 per head; and I am sure that no living hog will eat more

than thirty-five bushels at that age. The hog will weigh 500 pounds, and at present prices bring 5 cents per pound. A hog fed at this rate would weigh 300 pounds at nine months old, or 250 pounds at eight months old. The last four months is what takes the corn. I figure twenty ears of corn per day for the ninth and tenth months, and twenty-four ears per day for eleventh and twelfth months. My figures count sixteen bushels for first eight months, at 50 cents, makes \$8; 250 pounds pork at 5 cents, \$12.50, which favors the eight-months pig, with one and one-half bushels of corn left for the chickens. But if mill stuff, such as wheat bran and shorts, be fed with the corn, will give a greater profit. My experience is that a 9-months-old pig will bring as much money as a yearling calf, and at present prices of hay the calf would eat its head off in twelve months. I have some 4-months-old pigs that I have refused \$15 per head for; have fifteen male pigs left, ready for service, at \$15 to \$20 per head.

V. B. HOWEY.

Topeka, Kas.

How Much Corn to the Hog?

EDITOR KANSAS FARMER:—In your paper of the 8th of March, A. E. Jones, Topeka, under the caption of "How Much Corn to the Hog," computes that a hog twelve months old has consumed 34 bushels of corn, and weighing 300 pounds, will net a profit of \$3 10 per hog, if fed on corn at 35 cents per bushel. He assumes that twelve ears per day for eleven months (the other month not eating corn) will amount to 34 bushels. A fairer proposition is to make the estimate on shelled corn. I have fed many hogs and I have found the following scale ample, namely: First three months of life, two pounds shelled corn, daily; second three months, three pounds; third three months, four pounds; fourth three months, six pounds, being an average of three and three-fourth pounds per day for 365 days. This will require 24 23-56 bushels, which, at 35 cents per bushel, amounts to \$8.64, leaving a profit of \$6.36 per hog, being twice the amount of Mr. Jones' estimate. I differ from him only in the quantity of corn. I have carefully concluded the quantity as ample from many practical trials. In this computation, as in Mr. Jones', the hog is supposed to weigh 300 pounds at twelve months, and worth \$5 per 100 pounds.

JAMES BARTON.

Parsons, Labette Co., Kas.

Too Busy for Details.

EDITOR KANSAS FARMER:—I see the question of "How much corn to the hog?" and "How many pounds of hay, corn or oats to make a pound of beef?" have been asked in your paper. They are proper questions, and all farmers would be greatly benefited if they were correctly answered. I lived on a farm many years, and from a farmer's standpoint will say that no farmer (I do not mean a man that may happen to live on a farm and have his expenses assured from some other source than his daily labor, but a man that fills the position of farmer, takes care of the farm, farm machinery, stock, family, and does the work, or assists in the work required), can take the time and trouble to secure the facts and figures sufficiently accurate to answer the above questions. We, as farmers, help by donations and direct tax to found and support agricultural schools and colleges for the purpose of having such tests made thoroughly and in a scientific manner for the general benefit of all farmers, and we expect them to be published for our benefit. There are many other things besides the above which individuals have not time, money and

knowledge to test as they should be, that properly belong to the colleges to try and report either success or failure. And such reports should be published.

FARMER.

In the Dairy.

Milk Fever.

I have lost four very valuable Jersey cows from milk fever during the last two years. My first loss was a fine, persistent milker, difficult to dry before calving. She gave twenty-two quarts when fresh. She ran during the summer prior to calving, on fine blue grass pasture; after cold weather she was stabled and fed upon dry food—bran, flax meal, hay and corn meal and fodder, until six weeks before she was due. Then I reduced her feed to moderate rations, and just did get her about dry before calving, taking care to let her go out in pasture daily for exercise. She was apparently in fine condition for calving, was not a fleshy cow, and I thought she was in no danger, yet she was stricken with milk fever and died the second day after calving. This being my first experience with the disease, I called in a local veterinary. He gave her salts, spirits of nitre, whisky and blanket covering.

The second case was a very superior daughter of Guy Pawkes, milking when fresh twenty-one quarts, and had made sixteen pounds butter in seven days. This cow had gone about eighteen months before calving, had been pretty well kept on liberal pasture. She reached me in calf in September, and I kept her on grass until frost, and then fed her on dry winter feed. A month before calving I took grain entirely away from her, feeding her on fodder and hay. She became constipated a few weeks before calving. I gave her salts to open her bowels. She was taken the day after she calved. I began at once treating her with aconite belladonna in doses as given in Dr. Linsley's book, emptied her rectum by hand, used hot irons up and down the spine as given in Linsley's book, got her on her feet under this treatment and she improved so much that she began to pick a little hay. My herdsman gave her a dose of salts; soon after, she relapsed and died, after struggling with the disease four days.

The third case was a cow eleven years old. She calved in August—was a twenty-quart cow. She was treated as the second, but did not give any salts. She had been dry during the nine months prior to her calving. She was brought from a distance, and from some unaccountable cause, having calved two months prior, suddenly dried off from fourteen quarts daily to little or nothing. She ran during spring and summer on short grass but was a little fleshy. She died very quickly—the second day after calving. Her feed during the winter was chiefly ensilage.

My fourth and last case was another very valuable cow, twenty-one quarts when fresh, and kept up a large continuous flow of milk, reaching over 8,000 pounds yearly. She was taken a few hours after calving and died within twenty-four hours. I treated her with the remedy advertised by Edgar Mason & Co., and used hot irons on her spine. An hour before she died she appeared to be getting decidedly better, but she died almost as quickly as if she had been shot. I have faith in the beneficial effect of the hot irons, and I believe if other remedies of proper kind were used, some very bad cases might be saved. The last cow was fed during the winter on ensilage and moderate

grain rations up to drying time. She milked up to a month before calving, then gave her a little bran and flax meal until she calved, with her ensilage. Her bowels were in excellent condition all the time.

What I now desire is to know if any special preparation or treatment in diet or otherwise can be pursued that will decrease the liability to milk fever. Between now and the first of May I will have a dozen or more large, persistent milkers to calve, and I am very anxious about them, and am seeking advice as to how to avert this dreaded destroyer of—always—the best cows in the herd. I feel that I have reached my wits' end. Do you think too close confinement in stable would have any influence? In two of these cases the animals were running out almost up to day of calving. Please reply through your valuable paper for the good of the cause.

SUBSCRIBER.

Parturition Fever, Parturient Apoplexy or Milk Fever.—All the foregoing names imply the same disease with some difference in the severity of the symptoms. The flat-irons—to me—are nonsense. If warmth be desirable, hot woollen cloths are the proper medium of appliance. The books you name are not known to me at all; they may contain useful information upon some things but I do not see any intelligent advice in the description you give. No, decidedly, there is not so far, any special remedy for milk fever. Yes, confinement has very much to do with the cause of the disease. All pregnant animals need and must have exercise, and a good liberal quantity, too, all of which should be in the open air. All heavy milkers are more liable to ailments than the opposite are—all plethoric animals are liable above all others, to this fatal disease. All cows that have an easy time in bringing forth are more liable than those in severe difficult labor. This, too, for several reasons—loss of blood, spent animal force, even a fair condition of exhaustion is in favor of the cow. Above all and everything—everything, I say—is high condition at the time of parturition. I have quite often said that during my long career as an active veterinarian—almost a specialist in bovineology—I have never yet seen a poverty-stricken animal have milk fever. The victims are the best and most prolific in a herd.

The best known prophylactic to me—to anybody—is low condition at the latter end of gestation especially. When the attack takes place there never is any to lose. First, one and one-half to two pounds of epsom salts and two ounces of best ground ginger. Pour over this about three pints of boiling water. When at 106 deg. give gradually as one dose. Rub the legs unceasingly, empty the bag by easy, constant milking. Place a bag of ice between the horns and continue it. Blankets wrung out of cold water—not hot flat-irons—are to be placed over the body and covered with dry ones. Give one drachm fluid extract—not tincture—of nux vomica and one drachm fluid extract of gelsemium (yellow jessamine) in four ounces tepid water. If needed, repeat this in two hours. I would give one dose about fifteen or twenty minutes before the physick. Finally, keep all heavy milkers and feeders under your eye, and if need be, literally starve them.—William Horne, M. D., V. S., Janesville, Wis., in *Jersey Bulletin*.

Mistake in Name.

An excellent article on dairying was printed in the KANSAS FARMER two weeks ago, was improperly credited to S. B. Barnes, when the author is J. H. Barnes. We regret very much that

the mistake occurred. The paper was a good one, sensible, practicable, instructive and well written. The author was and is entitled to the proper giving of his name in connection with it.

How About That Bran?

EDITOR KANSAS FARMER:—In your issue of March 8, you publish a report of a paper read at Manhattan, by S. B. Barnes, [J. H. it ought to have been.—Ed. K. F.] on February 23, 1888. He says the feed of the cows was based on corn at 20 cents, and bran at \$6 per ton (2,000). Will Mr. Barnes say where he can get bran at \$6 per ton? I am giving \$12 per ton at Beatrice, Neb., and paying \$3.20 per ton freight; this is cheaper than I can get it any nearer home.

WILLIAM MATTHEWS.

Du Bois, Neb.

Wants Information.

EDITOR KANSAS FARMER:—As the time has come when the creameries have ousted the dairies to a great extent, and even where there are none to take our cream there is plenty of their product to rival ours, and the uniform quality of theirs gives it that advantage over ours. One writer on cheese says: "One can come nearer making a full-cream cheese out of skim-milk than another one can of new milk." Wherein does the main difference in the handling come in? Making butter, the temperature and acidity of cream comprises its main points of sweetness, and once understood, we always know; and this is what I want to know about cheese, for, from this on its either cheese or nothing, and where could one be apt to find a market? Also, when is the coloring put in?

Stock is doing well in our county, and better looking wheat I never saw. March came in in good shape for a favorable exit. Am glad to see so much common sense on the dehorning question.

JESSE W. COOK.

Malaria does not always reveal its presence by chills or regular shakes. Your system may be full of it, and none of these symptoms be present. You will feel miserable, think you are bilious, take purgatives and only feel weaker and worse, because the malarious poison is still operative. A dose of Shallenberger's Pills at bed time will show you next morning that you have hit the real enemy, and a dose or two more will remove every vestige of the poison. They never sicken the stomach, do not act on the bowels, but simply destroy malaria.

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Five extra good registered Short-horn bulls for sale cheap—on long time, if desired.

J. B. McAFEE, Topeka, Kas.

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WELLS, RICHARDSON & CO., BURLINGTON, VT.

Correspondence.

Tariff--Stupidity.

EDITOR KANSAS FARMER:—I must thank and also commend you for your course on this tariff question. What paper, ever before the KANSAS FARMER, opened its columns to farmers of all political persuasions for the discussion of any question? This is as it should be. It would not be a farmer's paper if it did not do this. Other so-called farmer's papers would only allow articles that coincided with the views of the editor to be printed, thereby making them purely political organs of the party to which the wise (?) editor might belong. I endorse the tariff platform of the KANSAS FARMER, too, as contained in your issue of February 9, except as to the "protective principle" as suggested by Mr. McClellan. I am opposed to taxing one man to build up some other man's business. In my article of January 26 I tried to present the fact that the tariff was not for the benefit of the laboring man, but for the owner of the factory, and that said owner employed labor as he would buy any other article. I thought then, and think now, that our laborers had better compete with the pauper labor of the eastern continent, where they are, than to have them here among us. We don't want to build up our towns and cities in that way.

I do not believe the statement that our home manufacturers sell their goods for less than the tariff on the same article. If so, why do they insist that the tariff remain on those articles? Senator Platt's statement in the United States Senate a few days ago that the tariff was of very little or no benefit to the American manufacturer, but was of the greatest benefit to the workingman, is not true. If the high tariff is of no greater personal advantage to the manufacturers than Senator Platt pretends that it is, why do they contribute such large sums of money and put forth such desperate efforts to prevent any reduction? At the same time, don't forget, our workmen are continually on a strike for higher wages.

In my article of January 26 I gave an illustration to show how farmers who received increased prices, by reason of the tariff on wool, paid that tariff back to the manufacturer and more too. The tariff on wool increases the cost of woolen goods just that much. I did not give the figures in my former article, as I stated then, as correct in amount, but to illustrate a fact that was being done every day with the farmers on this tariff question. If you give them a tariff on raw material, the manufacturer makes them pay it back, and more, too, on the articles manufactured out of it. I also supposed in that article that the average farmer would have 200 pounds of wool to sell each year. That was far above the average. Our wool product will not average to each farmer the one-tenth of that amount, and, in fact, to take the entire farming population of the United States, there is not one farmer out of ten that has any wool to sell at all. Now here is my position on the tariff: Shall we tax these nine farmers (or whatever the proportion may be) to enrich the one, simply for the reason that this one is engaged in wool-growing? Such a policy is unjust to the nine farmers, who do not raise wool. And still further, shall we tax the farmers of this great agricultural country to enrich a few manufacturers who are already millionaires? The days of "protection to the infant industries" of this country have long since passed. The owners of these factories have become millionaires, and the country is flooded with an overproduction of manufactured goods.

I favor the raising of the revenue for the needs of the government, and no more, by the constitutional method. But in doing that, the old democratic doctrine of "the greatest good to the greatest number" should be observed. Let us have the taxes laid on tobacco and whisky, and the luxuries of life, and fine goods, that none but the rich can afford and which do not constitute the prime necessities of life which every man is bound to have, as woolen goods, etc. I do not say there should be no tariff on these articles of universal use, but the tariff on these things should be as light as the needs of the government would permit, after the tariff from the luxuries and unnecessary articles was exhausted. Let not the tariff be used for the purpose of enriching the few, by imposing a

heavy burden on the many (the protective theory), but let it be imposed for the purpose of raising revenue to pay the expenses and debts of the government, as provided by the constitution, and for no other purpose. Of course, it will afford incidental protection to all home manufactories that make the same articles; but that should not be the object of the tariff. The object should be just the opposite of the protective theory, which is to impose a tax on the many to enrich the few; it should be to make the common necessities of life used by the many as cheap as possible, and let the burden be laid heaviest on the luxuries and fine goods used only by the few—the rich. Tobacco and whisky, although of very common use among all classes of people, are not necessary to the comfort, health or happiness of any one, and therefore should be taxed as luxuries.

Some men try to scare the farmers off from this question by looking "wise and mysterious" and talking about it being a very "deep" subject, etc.; but the farmers are looking into and considering the subject now for themselves, notwithstanding its reputed depth. It is nothing but a plain, every-day business proposition, that any man of good common business sense can comprehend without any trouble.

I had thought, when I began to write, that I would make some reply to your correspondent who was so "amused," but after looking over his article a little more carefully I find nothing in it worthy of special notice. E. B. GILL.

A Crop of Mortgages.

"Will some one tell us what crop a farmer can raise that will bring him 12 per cent. interest in advance, with 12 per cent. more paid in semi-annual installments and some extra fees besides? The money shark's plantings brings him this amount, and is he entitled to any more than the farmer, and yet the farmer gives him his vote?"—Page 11, KANSAS FARMER, February 23.

Well, yes, the answer to the conundrum is plain enough. A mortgage crop will not only produce 12 per cent., but 100 cents on the almighty dollar, and all in advance—realized at the time of planting; but it is very exhaustive to the soil and will necessitate many years of patient labor to bring it back to its original state of productiveness. It is a kind of crop that cannot be recommended, however, notwithstanding the great profitableness at the start.

A great deal of unnecessary "howling" is often indulged in by some short-sighted people against the so-called "money shark," who is able to take care of himself and needs no "protection" in this answer. A shark is a fish of gigantic size and voracious maw, of whom the little fishes live in awe and terror. These little fishes have the natural good sense to avoid this monster; and if, by accident, they find themselves in his vicinity, they use their means of locomotion to the very best advantage to create an extended distance between him and themselves. It is presumable from the question as put, that the questioner had in view a little fish who had not an equal amount of good sense as exhibited by the other little fishes; and instead of swimming away from the "sharks," he swam smilingly into their mouths, and then conceived the brilliant idea of making "cursory remarks" about being bitten.

A money loaner (the "shark" of questioner) is a business person who advertises to give 100 cents on the dollar, under certain minor conditions, of course. Now, if one is inclined to plant a crop of mortgages, here is the seed advertised and he can realize his 100 per cent. in advance. But he swims knowingly and with eyes wide open into the mouth of the "shark." Foolish little fish! Perhaps our little fish is a gentleman farmer who doesn't wish to follow the good old maxim of "Father Richard"—

"Whoso by the plow would thrive,
Himself must either hold or drive,"

so calls in the aid of the "shark" to enable him to employ a "holder" and a "driver." Perhaps it is a fine house, etc., he desires for his farm before he has earned the money with which to build it. Or, it may be a thousand and one other things which he may wish to indulge in before he has the money of his own to gratify his desires. He forgets the sturdy and honorable example of our forefather farmers who were "Early to bed, and early to rise," and thus became "healthy, wealthy and wise." A farmer who observes these old and tried maxims is hardly apt to lean over his rail fence, his pants hanging on the ragged edge of one suspender, while

he bemoans the rapacity of the "money shark."

But, perhaps,—and it is a sad thing to think that such should ever be the case—it was misfortune, sickness, or circumstances over which he had no control, which compelled this little fish to seek the "money shark." Well, if so, the "shark" furnished the big 100 per cent. crop in advance, something the friends of the little fish wouldn't do, and thus relieved his present necessity. Then don't blame the "shark." The little fish got his crop in advance; the "shark" had to wait for his crop to mature; he was all money out; fishie was all money in. Afterward he was all money in, and fishie was left on the outside. Change about is fair play.

Moral:—Don't plant a mortgage crop when other seed is so much cheaper, though the per cent. may be small and profits several months in coming. JAMES CLINTON.
Kaleidoscope, Kas.

Notes on Back Numbers.

EDITOR KANSAS FARMER:—We notice a wide diversity of opinion in regard to corn culture, but believe we are safe in saying that there is a general agreement that shallow cultivation is best, at least for a dry season. Suppose we all make a note of this and experiment further this season, trying two pieces that were plowed alike and planted as near the same time as possible. If planted at different times the experiment would be comparatively valueless, as in a season like the past one a few days difference in planting made a great difference as to yield. Perhaps an early-planted field had just passed the critical stage when the hottest days struck it, or was just in right condition when the good shower came, while the late was in the state to be worst affected.

The Lister.—We find opinions vary quite widely as to its use, and we think the truth is in the peculiar circumstances under which it was used, and we can learn of no special difference as to results in its use or in that of the planter, except if late in the season there is an advantage in quick work in favor of the lister.

Oats.—There is a general unanimity in favor of early-sown oats, and sowing of the Red Texas variety. Will some one give the reason why this variety does not remain true in color when cultivated here a few years? As to profit oats here are now considered the favored crop.

Potatoes.—They do well here, but generally the earliest planted succeeds best, and Early Ohio is the favorite. Send to James W. Bouk, Greenwood, Neb., for his catalogue, and as he is a premium potato-raiser try his method.

Commercial Fertilizers.—We would say to E. J. McQuillen, send to Rural New Yorker for the number for February 11, and he will find the subject exhaustively treated. They will be glad to send it as a specimen, and as it is a paper that does not come into real competition with our home KANSAS FARMER, we can cheerfully recommend it.

Poultry.—We like the ring of F. A. A'Neal's article when he says: "Let's hear what you are doing with your own poultry, not what a fellow ought to do, but what you have done." When we do something with poultry in Kansas, we will tell it. There is one thing we didn't do, that is, get a house warm enough to get those 25 cent eggs, but are now getting 12½ cent ones. But a neighbor who has no warmer house than ours, but whose chickens has the run of an abandoned wheat field in which there were sunflowers growing like bean poles, and all in a sheltered place, has got eggs by the dozens from his little flock almost all winter. Perhaps there is a hint as to feed and exercise in this. Another neighbor with an abandoned sod-house for a henery, has been well supplied all winter, the chickens having access to corn, oats and millet.

The Garden.—His report is a valuable one in a general way. Now will not some good gardeners follow it up soon with articles as to best varieties suited to their special localities. We have a large State, diversified soils requiring, doubtless, entirely different varieties. Give the newcomers the benefit of your experience. One point we presume will hold good here as elsewhere in the West, that peas, corn, etc., that are easily affected by dry weather, should be of the early varieties and planted early. But what as to beets, beans, melons, parsnips, etc.

Another thing perhaps is applicable here also; that is, plant largely, arrange much of it so that it can be cultivated by the aid of the horse, and don't expect the good wife to do all the preparing and planting. There is no reason why a good supply of vegetables might not be had the year round. Plant an abundance, especially peas, beans and corn. It will materially keep down the store bill. They can be had for the table a long time and a good surplus canned or dried for winter. J. M. RICE.

Conway, Kas.

Mr. C. W. Brown, of Burlington, Vt., has a small plum tree that produced 6½ bushels of plums last season.

Sweet Potatoes.

For seed and table. I have on hand a large lot of potatoes, six best kinds at low rates. N. H. Pixley, Wamego, Kas.

A New Jersey blacksmith, who applied the sweepings of his shop, containing a large amount of scales and filings, to his fruit trees, brought the largest and finest pears to the fairs at which he exhibited.

Campbell Normal University, of Holton, Kas., opens its spring term April 3, and the summer school June 12. This gives young people who want to teach next year a fine opportunity to prepare for their work.

A Michigan man who thrashed his corn last fall reports he saved 10 per cent. of the expenses of securing by so doing. But he had to spread and shovel it over to keep it from heating and spoiling after it was thrashed. The fodder is eaten by all his stock, except horses, with avidity. The process breaks the grains of corn a good deal.

Good and Cheap Trees.

Geo. Pinney, of Evergreen Nurseries, Door Co., Wis., sends us his sixteen-page catalogue and writes as follows: On my main stock I am below all honorable competitors. Compare my prices with other nurserymen, not with adventurers who never raised a tree and never had a dozen growing and have nothing for customers but what is pulled out of the swamps or call stock bought for a song from the large nurseries.

Mr. Geo. P. Rowell, of New York, who is authority on such matters, in an address before the American Newspaper Publishers' Association, at Indianapolis, proved that five newspapers issue more than one-seventh of the total edition of all the daily papers printed. The number of daily newspapers in the United States now numbers about fourteen hundred, consequently the five which were referred to must each sell an average edition two hundred times greater than the average of the others.

The Union Pacific railway has just arranged with its Eastern connections for a series of semi-monthly excursions to all points on its lines in Kansas and Nebraska, and as far west as Sterling, Colorado, on the Nebraska division. Tickets for the round trip will be sold at the rate of about one limited fare by way of all Missouri river points over the Union Pacific. Ten days will be allowed going and five returning, and the tickets will be good for thirty days, with stop-over privileges, within these limits over the Union Pacific line in the States named.

Ex-Gov. Furnas tells of a good place to get forest trees for planting, which it will be well for our readers to note:

BROWNSVILLE, NEB., Nov. 5, 1887.—Geo. Pinney, Esq., Evergreen, Wis.—My Dear Sir: It affords me pleasure to say I have dealt with you off and on for the past twelve or fifteen years. I have been pleased with our deals. I have ever found you straight forward and honorable in all your dealings with me. The stock I have obtained from you has been far better than any other I have had from the forests. Any way I can aid you in your business command me. Send me your catalogue and price list. I may want something in the spring. Truly,
ROBERT W. FURNAS.

Catarrh Cured.

A clergyman, after years of suffering from that loathsome disease, catarrh, and vainly trying every known remedy, at last found a prescription which completely cured and him and saved him from death. Any sufferer from this dreadful disease sending a self addressed stamped envelop to Prof. J. A. Lawrence, 212 East 9th St., New York, will receive the receipt free of charge.

Gossip About Stock.

In this issue may be seen an advertisement of Cruickshank topped Short-horns, by W. P. Higginbotham, Manhattan, who advertises for sale a few choice young bulls from his famous herd. Look up his advertisement and then visit the Blue Valley Herd and select a young bull to head your herd.

According to the compilation of the commission firm of Wood Bros., of Chicago stock yards, the monthly average price for 1,200 to 1,500 pound steers for ten years (1878 to 1887 inclusive) was \$5.10, and for hogs—heavy packing—averaging from 250 to 350 pounds, for the same period, sold for an average price of \$5.20.

Washington Post: Over \$1,400,000 worth of cattle and hogs were slaughtered or sold for slaughter in the six counties of Brown, Nemaha, Marshall, Washington, Republic and Jewell for the year ending March 1 last, and the amount will reach \$5,000,000 this year. Why should not this stock be packed at home instead of shipped to Eastern points.

The Kansas State Dairymen's Association is to be formed this week, as a result of a convention held in Topeka by a number of the leading and representative members of this industry. The objects and function of such an association is patent to all. It will properly present the merits as well as the needs of the industry for the State of Kansas, which naturally and eventually will become one of the greatest dairy States of this country.

Manhattan Republic: Wm. P. Higginbotham sold two span of his fine road horses—one span to Wm. E. Fanson, of Enterprise, Kas., and one to W. H. Haight & Son, of New York. These were among the plums produced in the Blue Valley Stud, and are to go East. When anything really good is wanted, buyers come to the Blue Valley Herd and Stud for it and are never disappointed. Higginbotham's fifteen years effort to produce the best stock has been successful, and is being duly appreciated. He breeds and handles his stock right, and buyers recognize the superiority of that way of doing it.

Recently it was known that the Early Dawn Hereford Cattle Company had been dissolved and that its well-known and efficient secretary and manager, Mr. E. S. Shockey, would leave Maple Hill and locate elsewhere. This week we can state with much pleasure that Mr. Shockey has decided on locating his Hereford establishment near the city limits of Topeka, on a fine farm, the most central and advantageous point in the State. Here at this superior location may always be found Herefords of unquestioned merit as to breeding and individuality. The FARMER bespeaks for him an increased patronage from the lovers of this grand breed of Herefords.

M. F. Tatman, Rossville, Kas., writes of his Poland-Chinas as follows: Kansas Bird 3615, February 29, farrowed nine pigs—seven females and two males; Rossville Belle 3589, March 6, farrowed seven pigs—four males and three females. Both these sows have very fine pedigrees. The latter was sired by F. M. Lall's Stemwinder; dam, D. F. Risk's fine show sow, Rosa Walker. Tat's Sample 1714, farrowed the 23d of last September, and bought by me in December for a show pig and to top my herd in the future if he developed properly, is one of the thriftiest pigs that ever crossed the Missouri river. He weighed (without being pushed) at 4 months, 193 pounds. He is very blocky, heavy ham, very broad back, extra fine in head, neck and ears, and very much resembles his grandfather, Give or Take 1677. Hogs in this locality all healthy and doing well.

Kansas Weather Last Week.

Added to the local weather report for Topeka, we have the following:

The precipitation continues above the average for the week, except in Cloud, Republic, Washington and Marshall counties, where it is slightly deficient. The finest snow of the season (winter) fell on the 4th, covering State from two to four inches deep with a well-spread wet blanket which melted on the ground instead of blowing away. It rapidly melted in the central and southern counties, while in the northern it remained from three to five days. The past week has generally been cloudy, and, like the previous week, it opened with cold, the tempera-

ture gradually rising, culminating in the warm wave of Friday which was suddenly changed by the cold wave of Friday night. A general thunder storm accompanied the front of the cold wave. The hygrometric conditions have been beneficial to the growing wheat, to new grass and to the seed crops now in the ground, while the thermal conditions have been somewhat injurious to the wheat and to the fruit buds. Grass started under the snow, making a fine showing. The general conditions have prevented plowing. The State is full of wild ducks.

Kansas Weather Report.

Through courtesy of Prof. J. T. Lovewell, Director of the Kansas Weather Service at Topeka, and his assistant, Sergeant T. B. Jennings, the KANSAS FARMER is permitted to publish weekly Kansas weather reports, as well as the local report for Topeka.

Abstract for the week ending Saturday, March 17, 1888:

Rainfall.—The rainfall has been below the normal during the past week. A trace of rainfall occurred in Ellsworth county, while in Mitchell county it was slightly heavier and was sufficient to measure. Reports from other counties show no rainfall.

Temperature and Sunshine.—The temperature has been above the normal over the State, while it has assuredly been a week of sunshine. The week opened with a low temperature, which rapidly gave way to the genial influence of the mid-March sun. The signal office predicted a slight cold wave, which passed over the State on the 15th and 16th without doing any damage, not even interrupting plowing or planting.

Results.—In Osborne, Rooks, Phillips, Smith and other northern counties, hard freezing at night, with thawing in the day, has prevented general plowing, while east and south spring work is advancing. The grass is making a good start very generally throughout the State, which is appreciated by the stock. Potato planting has been one of the features of the week in many sections. Wheat and rye are in prime condition, and fruit buds are generally reported perfect.

TOPEKA REPORT—(SAME TIME).

Temperature.—Highest at 2 p. m., 72° on Thursday the 15th; lowest at same hour, 44° on Sunday the 11th. Highest recorded during the week, 73° on the 15th; lowest, 8° on the 11th.

Rainfall.—None.

Our Illustration—Dunipace 4344.

The illustration on the first page represents a full-blood Clydesdale stallion, owned by Burdick Bros., Carbondale, Osage county, Kansas. He was imported December 23, 1886. Dunipace 4344, foaled in June, 1882, is a dark glossy brown, black points, white hind feet, strip on face, weighs 1,650 pounds. He was bred by Thomas Shields, Esq., Glasgow, Scotland. Sire, Blair-Athole 3204, Vol. VI; dam, Sally 4463, Vol. VIII, owned and bred by the Carrion Iron Works, Falkirk; sire of dam, General Williams 327, Vol. I. Dunipace has been registered in the Stud Book, Vol. VIII, kept by the Clydesdale Horse Society of Great Britain and Ireland, 46 Gordon street, Glasgow, Scotland. Blair-Athole and General Williams are among the most noted horses of Scotland, and Dunipace has gained a reputation equal to any of his class; sure foal-getter, has kind disposition, thoroughly muscled, deep in girth, drives single or double. Is a beautiful-styled horse, and perhaps the fastest-gaited horse of this class known.

The breed of Clydesdales are the oldest distinct breed of horses we have. In the last few years there have been a great many imported and are favorites with many draft horse breeders. There is no doubt more money for the farmer to-day in breeding draft horses than in any other branch of husbandry. The demand for good heavy horses has always been, and is to-day, in excess of the supply, and an active market is always ready for them and at good prices paid by buyers, who are constantly searching for them. The business of importing stallions has greatly changed in the last few years. The *Breeder's Gazette* has the following to say on this subject: "The simple fact of importation was enough to sell a horse; buyers paid about the same price for the good ones as for the bad, and no attention was paid to the pedigree. Purchasers should look well to this matter, as frauds are being practiced on Percherons and Shires, as well as the Clydesdales. None are genuine in the latter but those registered in the above-mentioned Stud Book and the corresponding American Stud Book, kept at Springfield, Ill.; C. F. Mills, Secretary. A great wrong is being practiced by some of our extensive importers upon the purchasers as well as upon the stock of horses themselves. They go to the continent and purchase whole herds and bunches together, knowing little or caring less for the breeding qualities of a horse as a foal getter brought over in June or July, put in close pens and

stuffed for the fairs without proper exercise until they are better fitted for the slaughter pen than for the stud. With such treatment the success of the horse as a foal-getter for the first year or two is a complete failure, and the guarantee that is given is a snare and a delusion whereby you are made to believe they are perfect as a foal-getter, which in nine cases out of ten they are not, and the year is gone and no foals, and if you exchange, which is the usual practice, there is where you are deluded, as it is another stall-fed and of the new importation and the results will be the same. Why not? But the prudent purchaser will buy the horse that has been imported some time, that has been acclimated and tested as a foal-getter. The danger of fatality is 20 per cent. less, and you need no guarantee, for you know what the horse has done and is able to do in the stud.

Dutton Mower Knife Grinder.



The sales for the above illustrated device last year were double those of the preceding year, showing that it is a very desirable thing to have, saving to the farmer, in the matter of time, its cost price in a single year. It is quite necessary that not only mower and reaper knives should be kept sharp, but other working tools as well, because it lightens labor to man and his animals, enabling him to dispatch his work more rapidly and easily. Its price is \$7.00, and it may be secured from the HIGGANUM MANUFACTURING CO., 189 Water street, New York.

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 the above named disease. By its timely use thousands of hopeless cases have been permanently cured. I shall be glad to send two bottles of my remedy FREE to any of your readers who have consumption if they will send me their Express and P. O. Address. Respectfully, T. A. Slocum, M. C. 181 Pearl St., New York.

Bargains in Fine Stock

I have for sale the following finely-bred animals:

A HAMBLETONIAN STALLION,
A young, handsome and stylish colt, well-bodied and muscled, good legs and feet, fine mane and tail, and has a slashing gait. I will also sell

A Black Jack,

Which has been thoroughly tried and is a good sire. Also have for sale a number of highly-bred Bates and Bates-topped Short-horn Bulls. Address R. K. THOMSON, Slater, Mo.

Take care of your Horses and Cattle by using Dr. S. P. Cregar's

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

Horses Stolen

\$100 REWARD!

Four horses stolen on the night of the 15th of October, 1887, near South Canadian river in the Territory.

One bay mare, 9 years old, 16½ hands high, long slim neck, round body and lengthy, a sore on left hind leg on inside hook joint which will leave a scar from the hook joint to the hoof, and a big leg, and I think will foal about March 20, 1888.

One gray mare, 8 years old, 15½ hands high, heavy set, low in front and high behind, low carriage scar on left hip, caused from a kick. Bred on the 16th of July, 1887.

One bay gelding, 6 years old, 16½ hands high, round body, lengthy, high-headed, heavy mane and a good traveler, trots a little wide behind and raises front feet high.

One brown gelding, 6 years old, 16 hands high, round body, lengthy and not very high-headed, light mane.

\$100 reward for information that will lead to their recovery. Address E. Ford, Anthony, Kansas.

(Farmers cut this out for reference.)

MERINO PARK

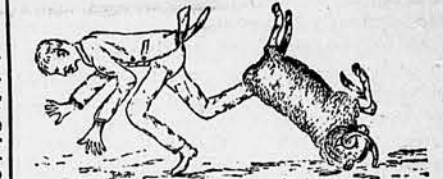
SAM'L JEWETT & SON, Lawrence, Kas.,
Breeders of Improved Spanish Merino Sheep.



As shown above, "high-flying" prices do not now prevail, as we now offer

150 Registered Rams for sale

As shown below at "hard-pan knock-down" prices. Satisfaction guaranteed.



[Mention Kansas Farmer.]

Best Steel WOVEN WIRE FENCING

Wire Rope Selvage
MULLEN'S
\$10.00 to \$2 per rod.
All sizes and widths. Sold by us or any dealer in this line of goods. FREIGHT PAID. Information free. Write The MULLEN WOVEN WIRE FENCE CO., N. Market & Ontario Sts., CHICAGO, Illinois.

\$25! PER ACRE! \$25!

TOO CHEAP

I WILL SELL OR TRADE

80 ACRES OF NICE LAND

adjoining the town of Wilmot, Kas. Will trade for Cattle or Sheep. Farm well improved; all under fence, in good condition. Also a nice stock of

HARDWARE and LUMBER.

Goods all, new and in splendid condition. Will sell or trade as above mentioned.

Address Box 9, Wilmot, Kas.

LEWIS' 98% LYE

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



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.

In an Apple Ocellar.

Red, and russet, and yellow,
Lying here in a heap,—
Pippins, rounded and mellow;
Greenings, for winter keep;
Seek no further, whose blushing
The soul of a saint would try,
Till his face showed the crimson, flushing
The cheek of a Northern Spy.

Hid from the winter weather,
Safe from the wind and sleet,
Here, in a pile together,
Russet and Pippin meet.
And in this dim and dusty
Old ocellar they fondly hold
A breath, like the grapes made musty
By the summer's radiant gold.

Each seems to hold a vagrant
Sunbeam, lost from the sky,
When lily blooms were fragrant
Wells for the butterfly;
And when the snow is flying,
What feasts in the hoarded store,
Of crimson and yellow, lying,
Heaped high on the sandy floor.

Fruitage of bright spring splendor,
Of leaf and blossom-time,
That no tropic land can mend, or
Take from this frosty clime,—
Fruit for the hearthstone meeting,
Whose flavor naught can destroy,
How you make my heart's swift beating
Throb with the pulse of a boy!

Apples scarlet and golden,
Apples juicy and tart,
Bringing again the olden
Joy to the weary heart.
You send the swift thoughts sweeping
Through wreckage of time and tears
To that hidden chamber, keeping
The gladness of youth's bright years.
—Good Housekeeping.

We shall not taste our showery spring again,
Yet cheerful memory makes it doubly dear.
The leaves that had no scent when plucked
are sore.

But smell like roses freshened with the rain.
Perchance, if we went back once more and
sought
That secret hill, that visionary stream,
Which gleam so brightly in the glass of
thought,
They might not bring us all the charm they
brought;
They might undo the magic of the dream!
We have grown wise and cold with worldly
lore;
Our weary eyes have learned to dread the
sun;
Ah! tell me, tell me, was it sagely done,
Thus to go back to Arcady once more?
—Edmund Gosse.

'Tis but the ruin of the bad,
The washing of the wrong and ill,
Whate'er of good the old time had
Is living still.

With secret course which no loud storms
annoy
Slides the smooth current of domestic joy.
—Goldsmith.

Butter and Nurses.

I am always glad to see practical discussions in the "Home Circle." I have no doubt there are as many ways of making butter in England as there are in Kansas, and it is very possible that men and women differ, too, in their method of manipulation. I never made any butter in my life until I came to Kansas about six years ago. All or nearly all I know about butter-making I have learned from the KANSAS FARMER. I do not for a moment suppose that my butter would take the one premium of the great United States, but I do know that the local stores take my butter where they have refused others, and it commands the best current price here. But I want to know more and learn more. Of course I use a thermometer; 60 deg. Fahr. is my churning point, and I rinse out the churn with cold water (no ice in it) previous to churning. I should like to see the point discussed, whether or not good butter can be made in from ten to fifteen minutes in a Boss barrel churn. Like Nina, I, too, have churned twice a week during the winter and have had more trouble in ripening the cream than in its getting stale. Will sweet cream make equally good butter with sour cream? If not, why not? Some time ago I was told that butter should never be washed. What say the readers of the KANSAS FARMER on that head?

I wrote to the St. Louis training school for nurses, and they sent me report of the institution. It seems they prefer to train young women, between the ages of 25 and 35, and train them for two years, paying \$10 a month the first year and \$12 the second. Students are allowed to be out half of Sunday, one day a month, and two weeks' vacation dur-

ing the year. The institution has only been in existence for three years. If any one should write to the one at Chicago, please let us know through the FARMER.

ENGLISHWOMAN.

How to Make Hominy.

As no one has responded to Englishwoman's request for a hominy recipe, I will send mine:

Take two quarts corn, three tablespoonfuls soda; boil until the skin will come off easily; remove them, wash well and boil until very tender.

I like Englishwoman, and wish she would write often. Like Mystic, too, in spite of what she says about white butter. I do the best I can, but fail to have good butter. I have no good place to keep the milk, which may be one reason. NORA B.

Nurse Training Schools.

The following letter is sent in for publication:

SALT LAKE CITY, February 24, 1888.

Maggie Marres, Grant county, Kansas:—There is one school for training nurses at St. Louis, Mo.; one at Chicago, Ill., the Cook county hospital; one at Boston, Mass., the New England Hospital for Women and Children; one at New York city, the Belvue hospital; one at Philadelphia, the Women and Children's hospital, corner N. College avenue and 21st street. All of these are good schools; the ones at New York and Chicago I think extra good. Yet this is my opinion only, and based on the fact that they are connected with larger hospitals and therefore giving larger opportunities for study and experience in the necessary line.

I will be pleased if you send this answer to the KANSAS FARMER, as it seems that that portion of my letter to "Englishwoman's" inquiry was lost. RUTH M. WOOD, D. G.

Notes from Aunt Peggie.

I have just read "Household Facts and Fancies." I think M. L. Hayward's suggestions good, indeed. I hope some more of the good housekeepers will come forward with suggestions for the "good of the order." We are taking the KANSAS FARMER now for the first time, and are very much pleased with it. I think "Life Mistakes of Women," by Dr. Talmage, so good. I am very much in favor of rag carpets, especially in country homes, where there are lots of little feet to patter over the floors. I make from twenty to thirty yards every year or two, and hardly miss the time. (I mean I prepare the rags; I do not do the weaving.) I have a rag-bag handy, and when cutting out garment I save all the scraps. Then the best parts of worn-out garments are also saved, and in a very short time I have a nice collection for a "hit or miss" carpet. I don't very often stripe a carpet, but color all the white rags some dark or bright color. As for sewing them, I really enjoy it on long winter evenings.

I am very much interested in the poultry notes. I think the Plymouth Rock chickens splendid for general purpose. I speak from experience, as we have had them for five or six years. They are good layers, good mothers, and good fowls for the table. Too much can not be said in their praise.

Wildor, Kas. AUNT PEGGIE.

Something Worth Remembering.

Putting buttons, beads and similar objects into the nose is a vicious habit, which is by no means rare among children. When it is done the mother or some officious neighbor almost always attempts the removal, and the effort much oftener fails than succeeds, the object being pressed deeply into the nose. A very young child, after such an accident, can rarely be persuaded to forcibly blow its nose; if it could the foreign body would in nearly all cases be expelled. When it is too young to do that, his nose should be blown for him in this manner: Have an assistant hold the head steadily between his or her knees, then let the mother apply her lips closely over the mouth of the child and blow suddenly and forcibly into it. It is surprising with what ease the trouble can be removed by this means. The child will very likely cry when the operation is attempted; if it does so much the better. If the simple procedure advised fails, the services of a physician will generally be needed to accomplish the removal of the foreign body.—Boston Journal of Health.

American Manners of Superior Order.

American manners find an able and sensible champion, who remarks, in *Haper's Bazar*, that it is the commonest possible tendency, when comparing our American people with others, to demand of everybody the standard and manners that are elsewhere demanded only of a limited class. This is, to a certain extent, a compliment to our people, and it is really justified in a degree by the actual results, up to a certain point, of the public school system and of democratic manners, leveling up instead of down. In support of his opinions, the authority quoted continues as follows:

A friend of mine, giving a little girl of 6 a birthday party in a country village, where this household formed the only summer visitors, naturally invited the children with whom she played the most. It would have been hard to imagine a little group more neatly dressed, on the whole, or better behaved, and it turned out, on subsequent analysis, that one guest was the child of a teacher, one of a blacksmith, one of a carpenter, two were children of a farm laborer (American) and two of a Swedish mechanic. This was as it should be; but how often we hear the most unreasonable demands upon the parents of these children! They are criticised because they have not the scientific aptitudes of a German professor, or the eye for art that comes easily in Paris or Florence. If they have used all their advantages, that is all that can be asked of anybody; if they are, on the whole, the equals of those pursuing the same employments and living on the same incomes in other countries, that is all we can reasonably expect. As a matter of fact, they are not only equal but usually very much superior to the corresponding classes in other countries.

Waste of American Families.

We waste at the store, at the market, and in the house enough to make us wealthy if we would only save. The fathers and the mothers do not understand the little arts of economizing, and the sons and the daughters do not learn them. We think it incompatible with our dignity as free born and well-to-do Americans to devote our attention to them. This is especially true as regards our food. The common saying that "the average American family wastes as much food as a French family would live upon" is a great exaggeration, but I can cite statistics to show that there is a deal of truth in it. We endeavor to make our diet suit our palates by paying high prices in the market rather than by skillful cooking and tasteful serving at home. We buy much more than we need, use part of the excess to the detriment of our health, and throw the rest away. And what makes the matter worse, it is generally those who most need to save that are the most wasteful.—The Century.

Hints on Painting China.

The following points will be of interest to ladies in their first attempts at decorating their own china. An amateur advises:

Learn first to mix the paint to the right consistency. If too thick it will not flow readily from the brush, but will come off in lumps or streaks. If too thin, the work will look weak and washed out. A penknife is an excellent thing to have at hand. With it a broad or uneven line can be scraped and fined down to suit. Rub two pieces of fine sand paper together till much of the roughness is taken off, and with these carefully rub your work after it has been fired; this will heighten the polish. Use more flux with colors on earthenware than on china. Greens and browns in china colors can be mixed very much as in oil colors, but it should be remembered that they brighten with firing. Yellow eats out iron red when fired.

Europe's Coal Supply.

It appears that about 17,000,000 tons of coal per year is the amount yielded by the chief coal districts of Great Britain, Newcastle, South Wales and the Clyde country, and assuming this to represent the average annual consumption for many years to come, it is estimated that the British mines will not be exhausted in less than 600 to 800 years. It is further calculated that, drawing upon only one of her fields, the Westphalian, Germany, will not be able to exhaust her coal supply in less than 1,000 years, and she has, in addition, the riches of the Bay-

rian, the Aachen and the Silesian coal districts. It is claimed, therefore, that, independent of the resources of other countries, Great Britain and Germany could supply Europe with coal for an unlimited period.—New York Sun.

Fashion Notes.

Tea green in a great many shades is exceedingly popular in spring dress goods.

A pretty fashion in silk dresses is to combine checked and plain, or striped and plain silks in them.

Selvages woven to form borders of skirts and draperies are a feature in many kinds of new spring goods.

The large quantity of yellow shades used in spring millinery makes it very becoming to brunettes and French blondes.

Small buttons of gilt and of silver, cloth-covered and silk croc. et are used for fastening waistcoats and decorating the cuffs and collars of dresses that are trimmed with gold, silver, silk or mohair braid.

The favorite dresses for elderly women are made of moire for the skirt and of Henrietta cloth, cashmere, China silk, benzaline or surah for the polonaise, and the polonaise is the favorite form of upper garment and draperies for old ladies. The colors preferred are seal and Haven browns, dark and olive greens, Gobelins blues and black.

The new ginzams for the incoming season are finer in finish, coloring, and combinations of plaided and barred effects than have been seen for years. Indeed, they closely resemble the new plaided silks that are brought out for parts of costumes and the bands, cuffs, collar and decorative effects of tea gowns that are made of two pale neutral tints.

If prophecies and signs from every fashionable quarter do not prove deceptive, puffs, full drapings and all styles of bouffancy will reach the end of their career by the close of the spring season. Even though the tournure is preserved for the present, in the form of steel springs or cushions, the pouf is greatly decreased in size. Most of the imported gowns are simply pleated full at the back and not draped at all, though still raised by the simple tournure, which will not be abandoned.

Dresses for the early spring can be made economically by choosing contrasting remnants from the remnant counter. As, for example, a charming gown can be made by choosing a small piece of suede colored cashmere, which will serve to put a facing two feet deep on a sham skirt. This can be braided with dark green braid of the kind that comes already made up in patterns and ready to be applique. For the long draperies and basque, get green cashmere of the shade of the braid. Into the bodice should be set a vest of the suede thickly covered with braid, and the collar and cuffs should be finished in the same manner.

Dead People

Are walking around in our midst all the time; dead to ambition, enterprise and progress, they never get on, and live and go down in obscurity and poverty. Live people should write Stinson & Co., Portland, Maine, and learn how to make \$1 and upward per hour. All is free, and after learning all, should you conclude not to engage, no harm is done. You can live at home and do the work. Either sex, all ages. A great reward awaits every worker. Write and see. Capital not needed; you are started free. All can do the work. No special ability required.

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The Young Folks.

Aristocracy.

Of all the notable things on earth,
The queerest one is pride of birth,
Among our "fierce democracy!"
A bridge across a hundred years,
Without a prop to save from sneers—
Not even a couple of rotten piers—
A thing for laughter, sneers and jeers,
Is American aristocracy!

Depend upon it, my snobbish friend,
Your family thread you can't ascend,
Without good reason to apprehend
You may find it waxed at the farther end
By some plebeian vocation!
Or, worse than that, your boasted line
May end in a loop of stronger twine,
That plagued some worthy relation;

Because you flourish in wordly affairs,
Don't be haughty and put on airs,
With insolent pride of station!
Don't be proud and turn up your nose
At poorer people in plainer clothes;
But learn, for the sake of our mind's repose,
That wealth's a bubble that comes and goes;
And that all proud flesh, wherever it grows,
Is subject to irritation. —John G. Saxe.

O world above! our world,
Our times, and our places,
Are but as child's play
To thy marvelous spaces.
But if, as dear children,
With hearts full of yearning,
We love and forget not,
Are docile for learning,
Then New Year and Old Year,
Their hoping, regretting,
Will all turn to God's year,
With no time for fretting.

—William M. F. Butts.

'Tis not courage when the darts of chance
Are thrown against our state, to turn our
backs
And basely run to death; as if the hand
Of heaven and nature had lent nothing else
To oppose against mishap but loss of life:
Which is to fly and not to conquer it.

—Ben Jonson.

HOW GREENBACKS ARE MADE.

"I will take you first," said the guide, "to the engraving division, for that is the foundation and the starting point of all the work that is performed in this building."

The engraving division is a large room on the main floor of the northwest part of the building. Along the south part of the room runs a railing, and back of this are doors opening into the vaults in which are stored all the dies, rolls, plates, bed pieces and other material used in the manufacture of the "plates" from which the notes and bonds are printed. Along the north side of the room are desks at each window, behind which sit men bending over with a graver in one hand and a magnifying glass in the other, carefully tracing out the fine lines upon the pieces of steel, and beneath their skillful fingers grow the portraits, the letters and the ornamentation that go to make up the perfect security of bank notes.

Mr. O'Neal, the chief of the engraving division, is a practical engraver himself, and he readily volunteered to furnish all the information necessary to enable his visitor to understand the process by which bank note plates were made. "In the first place," said he, "we make a model of the note that is desired, either by printed proofs of engravings that we already have on hand or the model is drawn by India ink. When this model is made and approved, then the work of engraving commences. Engravers have their specialties just the same as artists in every other calling. The man who is a good portrait engraver is not a good letter engraver; the man who is an expert in letters cannot do portraits or ornamental work; so the different parts of the engraving are distributed to the men who are the most competent to perform the work.

REPRODUCTION OF PLATES.

"Take a dollar bill," he said, "and I will explain to you what I mean. You see in the left hand corner there is a portrait of Martha Washington. Now, that work is given to a portrait engraver. He takes first a piece of steel and engraves the picture upon that. Each line is gradually cut up and deepened by the engraver until the perfect picture is formed. The shading, of course, depends upon the depth and breadth of the lines cut. After that picture is finished the die or piece of steel upon which it is cut is put into the fire and hardened. Then we take that hardened die and a roll of soft steel and give it to one of these men over here," going as he spoke to the transferers, "and they place it in this transfer press, and by the pressure that the press is enabled to bring to bear, the soft steel roll takes up, as we call it, the impression from the hardened die. Then the roll in its turn is put in the fire and hardened, and all is ready for use in transferring to what we call a bed piece, which is the same size as a completed note. All the other engraving upon this note is done in the same manner by different people upon different dies, which are then hardened and transferred to rolls, they in their turn hardened, and then transferred to the bed piece. There is one exception, and that is the geometric lathe work. That is done by an intricate machine, which I will show you, and then the numerals or letters are cut upon it by hand as the rest of the engraving is done.

When the bed piece is completed, then a roll of the entire bed piece is taken up, and then that is transferred to the plates. You will see that there are four notes upon every plate. After the plates are laid down they are hardened and ready for printing.

"You see," continued Mr. O'Neal, "that by this system of reproduction and duplication every plate is exactly like every other plate, and that is the greatest security against counterfeiting. No two men could do the same piece of work in exactly the same way. No one engraver could duplicate his own engraving so as to be exactly like the original. By the transfer process the duplication is absolute. Every line is the same upon one plate as upon every other plate of the same duplication, because they are all made from the same roll or set of rolls."

IN THE PRESS ROOM.

From the engraving division the guide went to the press room, which is in the top of the building. Here work 400 and over, men and women, all busily engaged. Women were wetting paper and laying it on the presses, which were quickly turned by skillful printers, and as soon as the impression was made the plate was taken, placed upon a gas stove, inked, wiped, polished and replaced upon the press to receive another sheet of paper and to make another impression. The twirling arms of the presses, the rattle of the plates and quick motions of the girls made a kaleidoscopic effect that was bewildering at first.

"To show you how carefully it is necessary for us to be," said the guide, "I will say that each morning when the printer receives his paper from the wetting division it is counted by both himself and his assistant, and then at the close of the day he must show the same number of printed sheets as he received in the morning. As an additional check there is an automatic register upon each press which records every impression made."

"But don't the press sometimes move when there is no impression made?"

"Sometimes, yes; but the printer knows that every time he pulls the press a record is made upon the register, and if he pulls it without making an impression upon the sheet he is obliged to call the registrar clerk and notify him, and then that extra count is taken into consideration at the close of the day's work."

From the printing division the next visit was to the numbering division. Here the notes are numbered and separated, both being done by machinery. Here they are also packed for delivery to the United States Treasurer. From the numbering division it is but a step to what is called the examining and counting division. The notes come here first from the press room when they are damp with the newly-made impressions and receive what is known as a wet count. They are then placed between tissues and piled in racks, put in the dry box and subjected for a certain length of time to a stream of hot air. On coming from the dry box they are again counted, then sent to receive the next impression from the press room, then returned to the examining division, again counted and go through the same process of drying, the same number of counts until the stage of completion, when they are sent to the numbering division. On this same floor, also, is the large vault where all the completed and uncompleted work, as well as the blank paper, is placed every evening at the close of work, and from which it is issued to the several divisions at the commencement of work the next morning.

CHECKS AGAINST FRAUD.

It must be remembered that every sheet of blank paper is drawn for a specific purpose, and represents a specific money value. If it is for \$1 notes, each sheet of paper represents \$4; if it is for \$5 notes, each sheet represents \$20; if for \$1,000 bills, each sheet represents \$4,000; if it is for a \$50,000 registered bond, the sheet represents that much in money value, and the accounts are kept as to the money value of the paper received. It will thus be seen that millions of dollars are represented in this vault continuously. To show the security in locking this vault, it may be stated that there are three combination locks. One is kept by the vault-keeper, another by the accountant of the bureau, and the third is a time lock. When the vault is locked by the two combinations the time lock is set for the number of hours up to the following morning, and until this hour arrives there is no power or way known to open that vault.

The system of checks against fraud or accident which is now employed in the bureau is believed to be complete and is the result of years of careful experience. The paper is made at Dalton, Mass., and is even there under the supervision and count of government employes. When it reaches the Treasury department it is there counted to see that it agrees with the invoice accompanying it. When it is issued to the bureau upon its requisition it is counted when delivered by the Treasury counters, and again counted when received at the bureau by its employes. Every time it is issued in the bureau, no matter to what division, it is counted when given out in the morning and counted when returned in the evening. The other counts during the progress of the work are stated above. If there is any discrepancy in the balances at the close of the work, if a single sheet of paper is missing, not a single employe is allowed to leave the building until the discrepancy is explained or the sheet of paper is found.

In regard to the engraved stock there is a similar system of checks. Every plate, roll or die, either finished or unfinished, is kept in a vault presided over by a custodian ap-

pointed by and responsible to the Secretary of the Treasury.

CARE OF THE PLATES.

The superintendent of the engraving division makes a requisition on this custodian every morning for the stock that he desires for use during the day, and as each piece of steel is delivered it is checked by its number and description and charged against him. He, in his turn, charges the stock to the engravers, transferers and cleaners who use them. Only the roll, die or plate required for immediate use is issued, and this must be returned and checked off immediately the work is finished. At the close of work all the engravers and transferers return their rolls, dies and plates and they are checked in, and the whole amount is then turned over to the custodian and by him checked off piece by piece before it is placed in the vault.

The superintendent of the printing division goes through the same operation in regard to the plates that he requires to print from. He makes requisition on the custodian for those he requires, and they are charged to him until they are returned at the close of work and checked off. The bureau is a busy workshop, and furnishes employment to some 800 persons. The number of employes varies with the amount of work required. In times of pressure, such as when there was a big demand for 4 per cent. bonds some years ago, the work is kept going constantly night and day without intermission. Then there are three separate forces who work eight hours each, and as soon as one finishes another is ready to take up the work.

There is one process which has not been mentioned, and that is the final disposition of the notes and securities after they have been used and passed from hand to hand until they are thoroughly worn out. When the bills and bonds are returned to the Treasury as worn out they are canceled, and then, under the supervision of a special committee, they are placed in a macerator and ground into pulp again. This pulp is worked into heavy pasteboard and sold to a firm who has contracted to purchase it, and by them it is again worked over into different kinds of paper. So from paper it returns again, if not in its original, at least to a kindred state. —Washington Gazette.



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KANSAS FARMER CO.,
Topeka, Kas.

Capital Grange, Shawnee county, adopted the following resolution last Saturday: *Resolved*, That all questions of difference which may rise between railroad companies and their employes, should be investigated and settled by a commission, or board of arbitration, to be provided by law.

Several counties in the western part of the State are supplying the needy persons there with seed for spring planting. Some of the new settlers need that kind of help, and there is no way as good as this to help them. Boards of trade in the towns or organizations of farmers are the proper bodies to handle matters of this kind.

Poland-China breeders in Kansas and Nebraska ought to join heartily in the efforts of the Northwestern Poland-China Swine Association, Washington, Kas., to forward the interests of that class of breeders. Circular letters have been sent out from headquarters urging breeders to respond promptly to appeals made necessary by the failure of negotiations for consolidating the records. Surely there are enough Poland-China breeders in Kansas to maintain the Northwestern Poland-China Swine Association. Volume 3 will soon be out.

The *Sorghum Growers' Guide*, in its last issue, reprinted an address delivered before the Washington and Orange District Society, Indiana, October 15, 1857—more than thirty years ago, by Hon. Wm. H. English, in which that gentleman said: "I have of late given considerable attention to the cultivation of a new plant now occupying a prominent place in the public mind, and one which many well informed persons believe is suited to our soil and climate, and likely to become a permanent and profitable crop. I allude to the much-talked-of sorgho sucre, or Chinese sugar cane." And then he went on to describe and praise it as a sugar and sirup-producing plant.

THE ENGINEERS' STRIKE.

Locomotive engineers and firemen on the C., B. & Q. railroad system, assert that they do not receive wages equal to what their fellow craftsmen on other systems receive; they made a demand on the company for an increase in their pay, equal to the difference alleged to exist. The company, in response, says that if any such difference exists, it is a matter of discipline and not of compensation; that they prefer to grade their engineers and firemen, rating wages on experience and skill, paying less for a new and inexperienced man, and more for one that has been in long training. The men reply by saying that none but competent persons should be employed in such responsible positions; that when an engineer or fireman is employed and put to work, he is presumed to be competent, and is therefore entitled to the wages of men in those lines of work, on the principle that mechanics generally, as carpenters and bricklayers, for example, are paid equally in their respective callings, without reference to the years of their service beyond the years of "learning the trade." The company refused to make the change requested, and the C., B. & Q. engineers and firemen, with few exceptions, quit work.

Most of the engineers belong to an organization known as the "Brotherhood of Locomotive Engineers," and most of the firemen belong to a similar society. This brought the Brotherhood into action, and the chief officer, P. M. Arthur, assumed the leadership of the strike. The "Q" company, as it is called, made no concession, but run what trains it could with such engineers as did not quit and such new men as they could get. The business of the road was very much interrupted, but it was not wholly stopped, and after a few days seemed to be gaining some. Chief Arthur declared that the men deserved success and that they must win it even if it became necessary to call off every Brotherhood engineer in the country. It was published by his authority (so the report shows) that there is a large amount of money in the treasury which may be used to support the men while they are out. Notice was served on officers of the connecting lines that they must not handle "Q" traffic. A committee waited on the A., T. & S. F. officials at Topeka, and informed them that after a certain time mentioned they (engineers) would refuse to haul "Q" cars. Last Thursday at about 4 p. m., the general manager was informed by telegraph that at 4 o'clock—ten minutes later, the engineers on the A., T. & S. F. lines would quit work. And they did, excepting those who were then on a run; they went to the end of their runs, and all through passenger trains were taken to the end of the line.

These men asserted that the Santa Fe had been hauling "Q" traffic, and they quit on that account; they made no complaint against the Santa Fe, but they said they would not haul any "Q" freight until that company ("Q") grants the request of its engineers and firemen made before the strike. In answer to this, the Santa Fe officers said they had not insisted upon any of their engineers hauling "Q" freight against their will.

The business of the road was almost paralyzed; one passenger train a day was all that could be got out Friday, Saturday and Sunday. Saturday evening, General Manager Goddard issued a circular letter addressed to the men who had quit the company's service. Mr. Goddard requested them to return to their several posts of duty on or be-

fore Thursday, the 22d inst., at 4 p. m. He said:

The company desires to retain you in its service, and is reluctant to undertake the task of seeking for and employing other competent men to take your places. * * * I appeal to you to reconsider your action and return to your posts of duty, on or before 4 o'clock p. m., of Thursday the 22d day of March, at the headquarters of the division on which you have been employed. At the expiration of the time limited as above, the agreement between you and the Atchison, Topeka & Santa Fe railroad company will terminate unless in the meantime you have resumed your customary runs, and we shall proceed to reorganize our forces by employing men, wherever they can be found, to take places of such of you as remain off duty.

Mr. Goddard further stated in his letter that the stoppage of trains would make it necessary to relieve a great many other employes of the company, and an order was at once issued discharging all the men along the different lines, except only such as should be needed to take care of the company's property.

Sunday evening the men agreed to return to work, Mr. Goddard was promptly notified, and Monday morning trains were running again as usual, very much to the public relief. [In this connection it is proper to state that Governor Martin and the Board of Railroad Commissioners exerted themselves actively and earnestly to effect an early resumption of traffic on the road. They counseled wisely with the engineers, and represented the people's side of the question.]

This again presents the railroad strike problem to the people. The business traffic of the country ought not to rest upon such a small foundation that it may be disturbed or stopped because of a dispute between a railway company and a part of its employes. Some just and general plan must be adopted as a means to insure continued traffic while the dispute is being settled and the difference adjusted. The complaint of the "Q" men in this case is just, probably; but whether just or unjust, the people cannot afford to have the business of the country paralyzed while that issue is being determined. The "Q" men are entitled to compensation equal to that paid by other companies for similar work; but stopping all the railway trains in the country to the inconvenience and loss of thousands of people who are away from home to the direct loss of perishable freight side-tracked at various points short of its destination, and the derangement of business generally, or to grant a price to be paid by the public for the privilege of holding off while a few persons fight out their trouble. The justness or unjustness of the men's claim is not in issue when the people come to determine the obligations and responsibilities of common carriers.

This strike, like every other one of its kind, is a lesson in economics. After it is passed people will know more in that direction than they did before it began. This strike, more forcibly, perhaps, than any of its predecessors, shows how absolutely the traffic of the country and the vast interests depending upon it, are at the mercy of a few men. Within one minute of time the traffic on a system of railroads involving the trade of a continent may be stopped by the refusal of a few engineers to perform further their usual and ordinary duties. A thousand persons may ride in the coaches of a single train, in charge of one engineer. He steps down from the cab, and the thousand persons are helpless to proceed. Does he owe them nothing? Is he not in some way responsible? Did he not promise them that he would haul that train? Was not his acceptance of the engineer's place an implied promise that he would perform his duties to the public as well as to the com-

pany which directly employed him? Briefly put, is not a locomotive engineer and every other necessary man on the road responsible to the public for faithful performance of their regular and usual duties? Are they not as much in the public service as sheriffs, judges and governors?

There is but one answer; the men are so responsible. But that responsibility cannot be insisted upon until the people through legal processes provide certainly for the men's compensation. The company is brought rigidly under the law of common carriers; it is held responsible for the prompt discharge of every duty; nothing except what the law-books call an "act of God," or an "act of war," is held sufficient to excuse any failure to discharge its duties to the public. Persons and property must be transported promptly, regularly and safely from place to place. In consideration of this faithful service, the company is made secure in its compensation. It may require advance payment in every case; it has a lien on all property handled. The engineer has no such security for his pay. And this matter of compensation must be made secure before the individual person can reasonably be held accountable as a carrier.

Enough has occurred to show the importance—aye, the necessity for a step ahead in this matter. The locomotive engineer, the fireman, and every other necessary man who has to do with the movement of trains and their safety on the rail, must be held amenable to the law of carriers to the extent of making any unreasonable failure to discharge the duties of his place an offence punishable the same as like offences are now punishable in case of carriers; and at the same time and in the same statute provide a tribunal for impartially and speedily adjusting all matters of difference between the men and the companies, and make them perfectly secure in their wages, to the end that faithful service may be exacted from the men and that they shall at the same time feel and be secure in the matter of reasonable compensation.

Hon. Walter N. Allen, of Jefferson county, proposes to inaugurate a movement which he hopes will lead to a permanent association of the agricultural class of the northwestern States of the Mississippi Valley. When Mr. Allen gets a little further along with his scheme, perhaps he will favor the *KANSAS FARMER* readers with some information about it.

A considerable number of friends who were in attendance upon the Methodist conference in Topeka, last week, called in at the *KANSAS FARMER* office to become acquainted with the folks here, or to renew old acquaintance. Their brief visits were very much enjoyed by us, because, aside from their social features, they were instructive. The average farmer is an interesting man, if you can only get him to talk.

Among the interesting things learned from farmer friends who called upon us last week was this: A man, professing to be an educated and skillful physician, is traveling among the rural people, talking to them about their diseases and offering to undertake the cure of them for "one-half in advance, the other half when the cure is effected," which will be in six months or less. That man, and all such men, are frauds. Nine of every ten men who tramp about the country offering to do or to sell new things, are frauds. It is safe to let them all alone. The rule is, that honest and capable men have regular places of business, except where they make known otherwise by advertisement by reputable methods.

STATE DAIRY ASSOCIATION.

The meeting of dairymen advertised for the 20th inst. was held as announced, and was in session when the forms for the KANSAS FARMER this week were being made up; it is impossible therefore to give our readers any report of it in this issue. We expect to publish a complete report next week.

The indications were that a good organization would be effected, and that Kansas will soon be brought forward among the best dairy States in the Union.

Clay County All Right.

A Clay county reader complains that our special correspondent did that county injustice in his report to the KANSAS FARMER for March 1. This writer, referring to the special correspondent, says: "I do not know what he considers a failure, as my own corn averaged forty to fifty bushels to the acre two and three years ago, and last year corn that was put in early and well tended yielded about thirty bushels to the acre, which, considering the price, amounts to nearly as much per acre in cash. As to wheat, my wheat averaged about twenty-five bushels three years ago; two years ago I did not have any; last year the yield was seven bushels per acre, while oats have yielded from forty to seventy bushels to the acre for me the last three years. I do not think this looks like failure. I think this county is rather slighted in the reports."

Topeka Sugar Works.

The Topeka papers, a few days ago, published this news item: The National Sugar Manufacturing Company filed a charter with the Secretary of State. The headquarters of this company are at Topeka, and the capital stock is \$1,000,000. The directors are: George B. Wilbur, J. W. Converse, S. F. Kelley, Irving O. Whiting, and C. F. Bates, of Boston; Charles H. Savery, Wilmington, Del.; W. L. Parkinson, Ottawa, Kas.; M. Swenson, Fort Scott, and Charles A. Wilbur, Larned. The charter says that the purposes of the company are as follows: The manufacture, conversion and disposal of sugar, sirup, starch, grape sugar, glucose, paper, paper stock and other products from sorghum cane, cane seed, sugar beets, corn and other saccharine and amylaceous substances; the erection and maintenance of factories; the transaction of manufacturing, mechanical and mercantile business.

Mr. Swann's Weather Book.

"The Future by the Past," is the title of a book of 144 pages, prepared by J. C. H. Swann, well known to most of the readers of the KANSAS FARMER. This is a revised and enlarged edition of the work published in 1883. Mr. Swann is in possession of weather and crop records covering a period of fifty years past, and as a result of his observations, he concludes that weather and meteorological conditions, in a general way, are duplicated every twentieth year. By knowing what kind of seasons we had in 1868, for example, we know in advance what kind of seasons we will have in 1888. Mr. Swann's book begins with 1859, telling what kind of a year (as to weather and crops) that was, and then follow like descriptions of the other years, consecutive'y, up to 1878. That completes a period of twenty years, and each one, according to his theory will be duplicated every twentieth year thereafter. One period—any period—of twenty consecutive years is a guide to the future.

Besides the weather records, the book forecasts the weather for twenty years to come, beginning with the present

year, 1888, suggesting what crops should be grown chiefly every year, and the best way to cultivate them.

The book also contains several chapters on the culture of wheat, corn, oats, grass, potatoes, onions, trees, etc. Suggestions to emigrants are given; then a few pages on farm buildings, live stock, poultry, with some recipes for treatment of animal diseases. Some space is devoted to the orchard and garden, and to insect remedies, with a considerable number of family remedies and household recipes.

This is a very interesting book, and we believe every farmer who invests a dollar in it will be satisfied with his investment. Address Neil Wilkie's Bank, Douglas, Butler Co., Kas.

Inquiries Answered.

GOPHERS.—Will you please inform me how to trap gophers; they are digging up my clover fields; and how to kill lice on calves?

—The traps must be placed in their runs, and covered so as to be out of sight.

MULBERRY TREES.—Will Russian mulberry make a good hedge in this (eastern) part of Kansas?

—Yes. A better hedge, except as to stiffness of branches, than Osage orange. The branches are limber and disposed to droop.

LISTED CORN ON SOD.—A correspondent wants to know whether any of our readers have ever listed corn on prairie sod. He says he did last year, and it seemed to require an army of chinch bugs, assisted by a hail storm, to prevent him from raising a good crop.

ARTICHOKEES.—What is the value of Jerusalem artichoke as a crop? Will some one give experience with it? Will it pay to raise for hogs?

—They are good for hogs and cattle, and are profitable. A Shawnee county farmer raised upward of twenty tons on an acre last summer on upland. He brought one specimen weighing thirty-one pounds to this office.

PENSION MATTERS.—B receives gunshot wound in arm. Has some use of it. Receives \$8 per month pension. Is he entitled to \$50 every five years to buy or instead of false arm? If not, what is the penalty for drawing said \$50.

—Address your question to the member of Congress from your district, Hon. B. W. Perkins, Washington, D. C. That will save us the trouble of looking through a great mass of pension legislation and department decisions.

SEED CORN.—(1) Can you inform me by what method I can prepare seed corn so that the ground squirrels will not take it up? They are great pests here. (2) Are there any poultry journals published in the State?

—It would be difficult to prevent the squirrels from taking up the corn, but the kernels might be poisoned and thus get rid of a few squirrels. Soaking the seed in any liquid poison an hour or two will have a good effect on the squirrels. It might be better, however, to scatter a little corn on the surface of the ground—enough to feed the squirrels while the seed is germinating. Soaking the seed a short time in strong ley is said to operate as a partial preventive. (2) There is no poultry journal published in Kansas.

ABORTION IN SOWS.—I have had trouble with my brood sows miscarrying. They seem to be all right until about ten days or a week before time to farrow, and some go their full time. But when the pigs are born they are dead or so near it that they live only a short time. They have had good shelter. I put each sow by herself some time before farrowing. Their food has been corn, oats, with an occasional feed of turnips. Some of the sows are rather fat and at first I attributed the loss to that, but as the ones that are not so fat fare the same, surely that is not the cause. Would it be prudent to breed the same sows again?

—Causes of abortion are not all understood, and in a case where so little is stated, as in the foregoing, it would be useless to express an opinion. It opens the subject, however, for further statement and for discussion by farmers. We suspect that the cause in these cases was too much strong feed in the first, and sympathy in the poorer sows. When abortion takes place among animals on a farm, other cases usually follow. Sows that are soon to be delivered of their young ought to be fed sparingly on nutritious food, but not of a fattening nature; oats and bran rather than corn.

The Clay Center Times says the KANSAS FARMER report from that county, as printed in our issue of March 1, is a "deplorable mistake." It denies the statement that "corn, oats and wheat have been a failure the last three years" in Clay county, and proceeds to show why the statement is not correct. We thought at the time that our correspondent was patting things below rather than above the medium line. Clay is a good county—one of the best in the State, and that is saying enough for any county.

NEITHER TAX NOR BURDEN.

EDITOR KANSAS FARMER:—In the issue of the FARMER of February 9, there appears an article from the pen of A. J. Grover, of Muscotah, Kas., having for its caption, "Some Things That Are Needed," which deserves more than a passing notice. Upon reading the article I found that our friend seems to think that the West, among other things, needs salt, lumber, coal, iron, steel, tin, sugar, wool, crockery, glass, nails, cassimeres, copper, etc., be placed upon the free list, and assigns as his reason for such a conclusion that the present protective tariff is a tax and burden imposed upon the farmers. I am amazed when men of seeming intelligence make such blunders. The first on his list is salt. Once in the history of the country, 1808 to 1813, we tried free salt, with ruinous results. The works were abandoned and foreign prices were advanced. During the Walker tariff of 1846 there was but little duty on salt, and the article was very high. The Morrill tariff raised the duty so as to be protective; then the mines were developed, so that salt that was \$1.80 per barrel 1866 is now selling at 60 cents with barrel thrown in. We use about 8,000,000 barrels annually, and as we manufacture about two-thirds of that amount, the reduction in price is a saving to the consumer of about \$7,500,000, and we farmers get our full share of that. As to lumber, had our friend consulted the Chicago prices current, he would have known that for the three years from 1863 to 1865, with Canada lumber free, the average yearly prices were not any lower than in the three years from 1867 to 1869, while the duty was 20 per cent. We are also exporting millions of dollars worth annually which goes to show that we have not the dearest market in the world. As to the item of iron, Mr. A. S. Hewitt, in his report as United States Commissioner said: "The entire difference in the cost of making iron here and in England is the wages," which he gives as 87 cents to \$1 per day there, and \$2 here. England formerly had a high tariff, and the duty on iron was raised a score of times from \$2.50 up to \$35 per ton, and iron grew cheaper all the time; if a tax, why not grow dearer? The London Engineer, devoted to British manufactures, says: "As far as the American consumer is concerned, he is better off for protection." The price of iron under high tariff has been much lower than when the duty was low.

Again take the item of steel; the English price in New York, when England controlled the price and none was made here, was 17½ cents per pound. Now, since we have protected that article and built up manufacturing establishments, England is glad to lay down the article in New York at 10½ cents per pound. Mr. James Park stated before the Congressional National Committee, that extensive correspondence and inquiry led him to estimate the saving to users of cast steel in this country by the growth of our steel making under a protective tariff, and the consequent reduction of prices, of over \$23,000,000. What a tax that is. When we commenced making steel rails in 1867, we were paying England at that time \$166 per ton for rails, but when we protected that industry how soon England came down with her prices; and now, when we have increased our establishments to fifteen or more, the price in 1885 was \$27 per ton. Cheapening the cost of rails enabled us to increase our railroads from 30,000 miles to 135,000, and reducing cost of transportation to less than half what it is in England. Again, take the item of tin plate, which a few years ago sold for \$9 per box, all foreign made. Manufacturers in Pennsylvania thought the price was such that it could be manufactured here at a profit, and erected factories for that purpose. English manufacturers at once reduced the price to \$7 per box; that was not enough to close us up, so they put it down to \$5 per box. Our factories not being adequately protected closed up business, after which the price was advanced, and we now get our supply abroad to the amount of \$21,000,000 worth annually. Comment is unnecessary.

Our friend refers to sugar, hoping to get his sweetness much cheaper if it was put on the free list. Is he quite sure of it? Last year granulated sugar sold for 6 2-5 cents per pound. In 1855 it was 7 2-5. If the tariff was taken off, perhaps foreign countries would do as Brazil did when we placed coffee on the free list—put an export duty upon

it that equaled our import duty. On July 5, 1872, coffee was placed on the free list. At that time the price of Rio coffee was from 18 to 19½ cents per pound. The same grades were selling January 1, 1887, at 15 to 16½. In a list of fifty-nine articles, including dry-goods, groceries, hardware, etc., the average decline in price between 1873 and 1887 has been 59 3-10 per cent, and the smallest decline in the whole list being upon coffee which is on the free list. Our friend refers to wool, of which I need say but little; suffice to say that the reduction of 1883 brought to this country a large importation of that commodity with direful results, and the placing of wool upon the free list will eventually wipe the wool industry out, for our farmers cannot compete with the wool-growers of Australia where the annual cost of keeping sheep is but 16 cents per head.

He speaks of crockery. That is one of the new industries that has been brought into being by our tariff laws, causing the article to be reduced in price some 25 to 50 per cent. to the consumer. And as to plate glass, that has been reduced in price over 100 per cent. by protective laws. As to nails, our friend ought to know we have been exporting them for a long time; so it is not much odds whether they are placed upon the free list or not. Cassimeres and copper are both a great deal cheaper than when the duty was merely nominal. Protection has increased the product and cheapened the price to the consumer.

Our friend says "we should have a share of the \$200,000,000 trade now enjoyed by England and France." Is it not strange that a person will condemn a system, the tendency of which will bring about that result? The articles he refers to which ought to constitute our export trade to that country can only be produced by building up our industries, and that too by a protective tariff, as those countries, which are our competitors, have cheap labor. Thirty-five years ago we went abroad for nine-tenths of our manufactured products, and now for only one-tenth. Our friend must remember that England for centuries had a high protective tariff till she built up her industries to such an extent that she is able to carry on such a trade. But the inference to be drawn is, that we, as a nation, are destitute of foreign trade. Such is not the case. Our foreign trade is about two-thirds that of Great Britain, and while that of Great Britain increased 350 per cent. from 1840 to 1878 (during her free trade regime), that of the United States increased 500 per cent. But then he says: "The efforts of the Bright and Cobden clubs gave us a free market in Great Britain for our breadstuffs and meats." Why did he not tell us how much they take? All our exports to all countries, as far as produce is concerned, is only about 8 per cent. of what we raise, and about 18 per cent. of the articles he mentions, and England takes about 6 per cent., or a little over one-third. Is it possible that if the Cobden club had not existed, and England had refused what she actually wants, that we would be broken up? Eighty-two per cent. of these articles he mentions we consume at home. We have built up our industries to such an extent that we need it, and have a far better market than the Cobden club ever furnished us out of the plentitude of their goodness.

But, continues our friend, "we can't build ships any more, because the material is taxed so high, and consequently our shipyards have rotted down." Would it not be a good idea to expend some of the surplus in building up our rotten shipyards, if that is the case, instead of wiping out our industries in order to get rid of it? It is not true that the material is taxed so high that we can't afford to build ships, for the material is 25 per cent. cheaper now than it was under the free trade regime. Our friend wants it kept before our minds that we want "free open markets for our produce throughout the world." That, sir, is just what every country is doing now—taking what they want, and no more. He also says "we must have the unobstructed right to buy in the cheapest market of the world." Where is that? Marshall Field, the leading dry goods merchant of Chicago, says: "The prices at which ordinary cheap cottons and woollens sell in the United States are lower than in England; but in fine and costly goods we cannot compete with her until we have cheap labor." I could mention a good many articles had I the space, but one must suffice. For instance, before we made axes in this country, England made the American farmer pay \$3 to \$4 each. The tariff of 1823 placed a duty on them of 35 per cent., and then we commenced the manufacture of them, and now instead of the American farmer paying England \$24 to \$48 per dozen, we buy a better article made here for \$9 50 per dozen. I want to say in conclusion, that it is a fact that no protective duty was ever levied on a single article, the home manufacture of which grew to large proportions under that duty, without the price to the consumer growing cheaper, the duty thus being a boon instead of a tax.

JOHN F. COULTER.
Kinsley, Edwards Co., Kas.

Horticulture.

Report on Forestry.

Presented to State Horticultural Society at the last meeting, December, 1887, by Hon. Martin Allen, of Ellis county.

MR. PRESIDENT:—I have to report for my region of country a light rainfall and only a medium wood growth for the past season, yet quite a demand for forest trees and seeds, and for information how to handle them. Such demand has been something of a spur to the production of some of the samples herewith presented for your inspection, samples such as could not be grown, much less sold only a few years ago. I beg leave to submit these samples of one year's growth of forest trees as a part of my report, and much better than anything I can write. The lions are gradually but slowly disappearing from the way-side to successful forestry throughout all the eastern portion of the great treeless plains covering the west half of our State. Dry as it has been with us, it has been fully as bad in other regions. In speaking of the protracted drought in Illinois, Governor Oglesby, in an address of welcome to the American Forestry Congress, on the 15th day of September, last, said: "To-day I stood by the open grave of a dear friend and observed, that the ground was dry as dust from the top to the bottom of the excavation"—just as it used to be in western Kansas. The Illinois farmers, for the past two years, have given much attention to the subject of underdraining, and to this are they now attributing much of their drought. They seem to have forgotten all their past afflictions of this kind, while in Ohio their drought is attributed to the cutting down of their forests; yet with all their destruction they still have more forest than Illinois ever had.

It is now estimated from reliable data that Ohio only has left 16 per cent. of her original valuable forest. Germany is not content with less than 25 per cent. of her area in timber for the good of agriculture, and has now about 29 per cent., more than twice as much as ever Illinois had. Notwithstanding the fact that these Illinoisians have so little timber, many of the groves put out twenty or forty years ago are now being cleared off. That is the case upon the Overman place, planted early in the '50's; but a few of the finer specimens of that once magnificent plantation of trees is now standing as monuments to their planter. The rich land of these early-planted groves seems to be now wanted by their present owners to raise corn on to feed hogs to sell for money to buy land to raise more corn on to feed to more hogs to sell for more money to buy still more land. I am now speaking of the rich agricultural regions of central and northern Illinois, that had probably 10 per cent. of timber to begin with; this area was increased to quite a considerable extent by artificial planting which is now in many cases being converted into firewood and fence posts.

But the case in western Kansas is quite different, not having any timber to begin with, and no coal, either, and the country already well settled. The question is, what are the people to do for timber? the answer is, grow it. The most important question in that connection is, how to do it. On this subject, when we go to people who think they know, but don't—no matter how good or how well-informed they may be on all other matters—whenever they undertake to make statements that they are not absolutely sure of, they are very apt to do mischief instead of good. For instance, Adolph Leue, the Sec-

retary of the Ohio State Bureau of Forestry, in his late report, says of the Black locust, that west of the Mississippi river it becomes a mere shrub. He no doubt made this statement with the best intentions, but O, how fallacious—for since leaving home to attend this meeting I measured a tree of this sort standing on the sidewalk of one of the streets of the city of Salina, where, less than a quarter of a century ago, the buffalo and Indian held control; this tree, about a foot above the sidewalk, measured forty-four inches in circumference, and is forty feet or more in height.

Not only are we likely to be misled by our best friends in our own lines of business, but we find our legislators even, both State and national, very impatient for results under the timber culture law; so impatient that from their far-off standpoint they are generally talking of this law as a failure, and recommending its repeal, it never having entered their brilliant minds that a long, patient series of experimenting is necessary to arrive at the best manner of proceeding by the claimants under this law. Much of this experimenting has been done, and we may yet expect brilliant results from it, not only in the production of wood, but as an aid to both agriculture and horticulture.

Destruction of the Codling Moth.

Read before the State Horticultural Society, at the December meeting, 1887, by A. J. Cook.

The codling moth and curculio are the great barrier to fruit culture in many parts of the United States of late years. Their vagaries afford a fine field for observation and theorizing, in which the thoughtful and observing cultivator will find ample scope to indulge his inquisitive proclivities. Just at this season of the year we should commence to wage war against the common enemy. And strategy is sometimes the better part of valor. Therefore, we would attack the enemy while they are unable to resist or fly. At this time they are quietly reposing in the soil, under the trees, where they have committed their accustomed depredations. In order to destroy them we might plow and stir the soil as frequently as possible during the freezing and thawing season. Under the trees where I can't plow I punch holes with an iron bar sharpened for the purpose, fill the holes with shelled corn, turn the old brood sows and pigs into the orchard; they not only root the worms and expose them to the freezing nights, but they devour a great portion of them. The fattening hogs are too lazy to work, though they help some to accomplish the task. Then in spring, as the trees are about ready to put on their beautiful attire, the beautiful birds, called butterflies, make their appearance, and are ready to deposit their eggs in the bloom; in the course of time, it changes to a worm and eats its way into the fruit. The curculio makes its appearance later in the season after the fruit is partly grown. They prod the fruit on the surface and there deposit their eggs. The only successful way I know of destroying them at that period is to spray the trees with a solution of Paris green and air-slacked lime—one pound Paris green to one-half barrel of water, four quarts slacked lime. Set the barrel containing the solution on a sled, or wagon, drive through the orchard, stopping at each tree. P. C. Lewis' spraying-pumps will soon coat each tree. This, if done in time, will diminish their numbers at each and every application. It takes but a short time, and it will be time well spent. We can soon accomplish the task of an ordinary orchard. The same pump, with a slight

change of nozzle, is admirably adapted to destroy the potato bug. I think every one owning an orchard should arm himself with a spraying-pump before spring time arrives.

Orchards and plum trees situated where it is inconvenient to plow or work the swine to rid the soil of these pests, the trees may be spaded around as far from the trunk of the tree as the branches extend. A spading-fork is the best for the purpose; it does less injury to the roots of the trees, and is just as effectual in pulverizing the soil and exposing the insects to destruction by frosts. When they are in their winter quarters, excluded from the air, they will survive a low degree of temperature; when exposed to the open air a slight freeze will kill them. In order to destroy the grub in the crown of the peach trees, remove the soil as low down as the grubs are at work; scrape off the gum that has accumulated; pour hot suds around—the stronger the better; repeat the process again in June. Scatter one-half to a pint of slacked lime to an ordinary-sized tree. Fill the trench thus made around the tree with fresh earth.

I would suggest to our State Horticultural Society to offer a liberal prize for the best method for the destruction of the codling moth and the apple and plum curculio. They are destroying millions of dollars' worth of fruit in the United States yearly. Hence the importance of prompt and decided action to awaken a general interest in the destruction of these pests, for they are a growing evil.

The Busy Bee.

Bees and Honey.

Paper read by Mrs. J. C. Martin, before Oak Grange, recently.

In offering a few suggestions in regard to bees and honey, the time would perhaps be occupied to better purpose by endeavoring to present something useful, rather than entertaining. That knowledge and instruction in this direction are much needed is evidenced by the scarcity of bees in all our Western country. One may ride many miles in almost any direction and not see half a dozen hives of bees in the whole distance. This is no small matter, but a real misfortune, for it would be not only a luxury, but a great help to most farmers, to have all the honey the family could use; and there is nothing to prevent their having it. It is there on every farm, and bees only are needed to gather it. As it is it goes to waste, as much a waste as it would be for our Eastern friends to refuse the necessary expenses for buckets to save the sweets from the maple trees; and more, for the bees will do the gathering in and boiling down, and also increase the amount of fruit on the farm by carrying pollen from flower to flower, causing thereby a more perfect fertilization. The blossoms of fruit and grain, even the weeds on an ordinary farm, in a favorable season, will yield several hundred pounds of honey if taken out with an extractor. The heart's ease, which springs up after harvest, is one of our best honey plants. Where bees can have access to clover they will, of course, do still better. I suppose farmers who keep, or intend to keep bees, ought to sow a few acres of alsike clover. Two years ago we sowed two and one-half acres of this variety on the poorest land we had. One side of the piece was along a shallow ravine, where the soil contained so much alkali that flax or wheat would not germinate; but the alsike came up nicely, and was not killed by the drought of the sum-

mer or the cold of winter; and last summer during the extreme dry weather the bees seemed to live upon it, when there was apparently nothing else for them. To get the benefit of red clover it is necessary to have Italian bees, as black bees cannot reach the honey in it. Italians are best for several reasons; they will keep moths out of their hives, are more prolific, generally better workers, and are much more pleasant to handle. It will pay any one who has black bees to procure Italian queens and Italianize them. If one has no bees the best way is to buy a swarm or two of Italians near home, if convenient; if not, they can be sent some distance safely by express. It is very little trouble to divide one swarm so as to have three in the fall; and if the season is good 100 pounds of honey can be obtained also. Much more than this can be done if one has the necessary experience.

Doubtless one reason why many people do not keep bees is the fear of stings, but that is quite needless; for with bee hat and gloves carefully arranged one may be perfectly safe, and will soon cease to feel nervous. Another reason probably is, that to most persons who have had no experience managing bees seems such a difficult undertaking; but I can assure any one who will try it that a little practice will do away with the helplessness at first experienced. If one has no knowledge of bees a beginning can be made with the help of a bee-keeper to take the frames out of the hive and point out the queen; after that, bee books will suffice for instruction. "A B C of Bee Culture," by A. I. Root, of Medina, O., is plain and easy to understand. I have kept bees eight years, and in that time have never failed to secure some surplus honey. Last season was the most unfavorable I have known, yet from twenty colonies (ten spring count) I took 350 pounds of extracted, and 50 pounds of comb honey, besides leaving the bees enough for their winter stores; and this I think is evidence that we may always have some honey if we will.



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The Poultry Yard.

Poultry.

EDITOR KANSAS FARMER:—Why are there not more women in the poultry business in the United States, instead of letting foreigners supply us with eggs, which they are now doing?

Mr. Felch, of Massachusetts, a large poultry-raiser, said that a woman who would give her time and attention to become an expert in the management of an incubator and the care of the chicks, securing them in a healthy growing condition at the age of eight weeks, from this time on can secure a salary larger than she can secure in any other calling. He is often written to secure such help, and wishes he knew such experts to whom he could refer. Then, and not till then, will artificial incubation and the rearing of chickens become a success. How much healthier and happier would farmers' wives and daughters be if, instead of devoting all their time to cooking, washing, baking, sewing, and the one hundred other things which must be done, would spend ten or fifteen minutes three times a day (if no longer time could possibly be spared) out in the fresh air, thereby gaining in health as well as spirits; for do I not know from experience? I have six children, all under twelve, doing all my work myself, sometimes being so tired I could scarcely walk; but a few minutes out in the pure fresh air was like a long rest. We brought some W. F. B. Spanish fowls with us when we came to this State. The first year I sold from our few hens over \$27 worth of eggs at the groceries. Why is it there is not more written about this noble egg-producing fowl? In England, they are again coming into favor and appearing in considerable numbers at the large poultry shows held there. Of all the old breeds, one of the most popular at one time was the Spanish. They well merited their popularity. They are great layers, being rarely, if at all, excelled by any other breed. Their eggs are very large and white. They have large single combs, which is objected to by some on account of liability to freeze if not provided with warm quarters for winter. But is not this true of all varieties with large single combs? As for hardiness, they have proven more hardy than any other variety which I have tried. They do not show soiled plumage, as do light-colored birds; while their lustrous black feathers contrast finely with their white face and large red comb. The chicks are tardy about feathering out. The hens are non-sitters and cannot be induced to set.

Last season I added the Pekin duck to my flock, and was very much pleased with the result. They are easily kept in confinement, and a large pan or trough of fresh water with plenty of food is necessary; they need a variety, as scraps, mashed potatoes or turnips, scalded bran, meal and middlings. They will weigh five pounds at ten weeks old, if given proper care. They lay when five or six months old. They mature whilst chicks and turkeys haven't got one-half their growth. They will lay as many as 140 eggs a year, and in some markets they command higher prices than hen's eggs. Besides they furnish a large amount of feathers, which are much superior to geese feathers. I will write my experience, telling the failures and success I've had raising my feathered pets.

VIOLA GRIBLIN.

Virgil, Kas.

A Question or Two.

EDITOR KANSAS FARMER:—Granting we know how to raise a flock of chickens, the next question is what to do with them. This to me is the more difficult thing. Will it pay to raise them to sell, and will it pay to raise them for the eggs they produce? I mean for the farmer's wife; can she raise chickens and sell them at \$2 per dozen, and will eggs pay at 8 and 10 cents in summer? Perhaps during two months of the year they will be 20 to 25 cents per dozen. One of my neighbors worked very hard during the early summer last year and raised so many chickens, thinking she would get to go East to visit her parents; but the profit was very small, and that wish is postponed indefinitely. Let us hear from some of the correspondents. I have about come to the conclusion that to have plenty of eggs and chickens to eat was all one need bother about.

MRS. A. B. H.

Emporia, Kas.

Notes From a Poultry Farm.

There are no more Wyandottes or Plymouth Rocks; they are now called Laced, Golden and White Wyandottes; Pea-comb, Barred and White Plymouth Rocks.

We have found it best to hatch out Asiatics and the American breeds very early in order to have the pullets commence laying in October, while non-sitters should be brought out in May or June, for if they are hatched very early they will mature so rapidly as to lay a couple of sittings of eggs in September, and then moult, and the chilly winds of November will catch them unprepared, and if they survive at all the shock will be so great that they will not be apt to lay again till spring.

It is all nonsense to put damp earth, or sprinkle the eggs for hatching during the months of February and March. But in the warmer months it is positively necessary, at least this has been our experience.

In mating fowls do not put more than ten females to one male to insure success.

C. J. NORTON.

Blue Grass Poultry Farm, Morantown, Kas.

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THE MARKETS.

By Telegraph, March 19, 1888. LIVE STOCK MARKETS.

St. Louis. CATTLE—Receipts 1,600, shipments 800. Market lower. Choice heavy native steers \$4 35a5 25, fair to good native steers \$4 80a5 40, medium to prime butchers steers \$3 00a4 10, fair to good stockers and feeders \$2 10a3 15, ordinary to good rangers \$2 20a3 80. HOGS—Receipts 3,900, shipments 900. Market easy. Choice heavy and butchers selections \$5 30a5 45, medium to prime packing \$5 10a 5 40, fair to best light grades \$4 90a5 15. SHEEP—Receipts 5,100, shipments 7,000. Market dull. Fair to fancy \$4 00a5 80.

Chicago. The Drovers' Journal reports: CATTLE—Receipts 12,000, shipments 2,000. Market weak, 10a15c lower. Steers, \$3 00a5 20; stockers and feeders, \$2 35a3 60; cows, bulls and mixed, \$2 00a3 40; Texas cattle, \$2 95a4 25. HOGS—Receipts 18,000, shipments 7,000. Market steady. Mixed, \$5 15a5 35; heavy, \$5 30a 5 50; light, \$5 10a5 35; skips, \$3 00a5 00. SHEEP—Receipts 3,000, shipments 1,000. Market steady and strong. Natives, \$4 50a6 25; Texans, \$3 50a5 00; lambs, \$5 50a6 50.

Kansas City. The strikes on the Santa Fe and Southern Kansas were brought to an end on Sunday, but business is not fully resumed. No stock arrived on those roads for the past three days, but will probably begin to arrive on to-morrow.

CATTLE—Steers, \$3 75a4 60. HOGS—The bulk of the hogs sold at \$5 00a 5 10, against \$5 00a5 10 Saturday, but there was more business to-day above \$5 10 than on Saturday. Tops sold at \$5 25, against \$5 30 for better 847-pound sorted hogs on Saturday. SHEEP—To-day's supply was only three loads, sold at \$5 10a5 32 1/2. The latter price was paid for two loads that would hardly have brought it any previous day this season.

PRODUCE MARKETS.

New York. WHEAT—No. 2 red, 90 1/2a91 1/2c delivered. CORN—No. 2, 60c in elevator, 61 1/2c delivered. St. Louis. FLOUR—Firm but dull. WHEAT—No. 2 red, cash, 82 1/2c. CORN—Very dull. Cash, 45 1/2c. OATS—Easier. Cash, 30 1/2c. RYE—Higher at 62c. BARLEY—75a87 1/2c. HAY—Unchanged. Prime timothy, \$12 00a 17 00; prairie, \$8 00a12 00. BUTTER—Firm. Creamery, 24a30c; dairy, 20a26c. EGGS—12a12 1/2c.

Chicago. Cash quotations were as follows: FLOUR—Firm, quiet and unchanged. WHEAT—No. 2 spring, 74 1/2a76 1/2c; No. 3 spring,; No. 2 red, 81a81 1/2c. CORN—No. 2, 50 1/2c. OATS—No. 2, 27 1/2a30c. RYE—No. 2, 58 1/2c. BARLEY—No. 2, 77a81c. FLAXSEED—No. 1, \$1 45. TIMOTHY—Prime, \$2 51a2 52. PORK—\$14 00. LARD—\$7 52 1/2. BUTTER—Firm. Creamery, 22 1/2a30c; dairy, 18a26c. EGGS—Firm at 14a14 1/2c.

Kansas City. WHEAT—Receipts at regular elevators since last report, bushels; withdrawals, 3,227 bushels, leaving stock in store as reported to the Board of Trade to-day, 251,894 bushels. On track by sample: No. 2 soft, cash, 80c. CORN—Receipts at regular elevators since last report, bushels; withdrawals, 1,324 bushels, leaving stock in store as reported to the Board of Trade to-day, 118,878 bushels. On track by sample: No. 2 mixed, cash, 45c; No. 2 white, cash, 49c. OATS—On track by sample: No. 2 mixed, cash, 30c; No. 2 white, cash, 33c. RYE—No. 2 cash, no bids nor offerings. HAY—Receipts 10 cars. Market firm; fancy, \$10 00 for small baled; large baled, \$9 50; wire-bound 50c less; medium, \$7 50a8 50; poor stock, \$4 50a5 50. OIL-CAKE—Per 100 lbs. sacked, f. o. b., \$1 25; \$1 00 per 1,000 lbs.; \$21 00 per ton; car lots, \$20 00 per ton. SEEDS—We quote: Flaxseed, \$1 25 per bu. on a basis of pure; castor beans, \$1 05 for prime. FLOUR—Quiet, very firm. Sales, 1 car by sample at \$1 20. Quotations are for unestablished brands in car lots, per 1/4 bbl. in sacks, as follows: XX, 90c; XXX, \$1 06a1 05; family, \$1 15 a1 25; choice, \$1 50a1 60; fancy, \$1 65a1 70; extra fancy, \$1 75a1 80; patent, \$2 05a2 10; rye, \$1 40a 1 60. From city mills, 25c higher. BUTTER—Receipts of roll and creamery larger and market weak. We quote: Creamery, fancy, 28c; good, 25a27c; fine dairy in sin-

gle package lots, 18a22c; storepacked, do., 15a 18c for choice; poor and low grade, 8a9c; roll, good to choice, 15a17c.

CHEESE—We quote: Full cream, twins, 13c; full cream, Young America, 13 1/2c. EGGS—Market steady at 10 1/2c per dozen for strictly fresh.

POTATOES—Irish, home-grown, 70a80c per bus.; Colorado and Utah, \$1 20 per bus. Sweet potatoes, yellow, 75c per bus.

BROOMCORN—Dull and weak. We quote: Green self-working, 4c; green hurl, 4c; green inside and covers, 2 1/2a3c; red-tipped and common self-working, 2c; crooked, 1c.

PROVISIONS—Following quotations are for round lots. Job lots usually 1/4c higher. Sugar-cured meats (canned or plain): Hams 10 1/2c, breakfast bacon 10c, dried beef 9 1/2c. Dry salt meats: clear rib sides \$7 25, long clear sides \$7 15, shoulders \$5 75, short clear sides \$7 50. Smoked meats: clear rib sides \$7 95, long clear sides \$7 85, shoulders \$6 25, short clear sides \$8 25. Barrel meats: mess pork \$14 00. Choice tierce lard, \$8 75.

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

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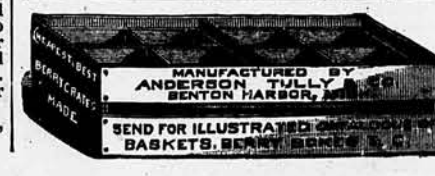
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The Veterinarian.

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

COW THROWING HER CUD.—The pellets thrown out are the food formed in the first stomach into balls, to be again raised and chewed. The general cause of inability to chew the cud is from indigestion in some form. Without seeing the cow, the treatment may be for this cause. Give a complete change of food, and that easily digested, as bran and corn meal, wet up with chopped clover hay Feed but twice a day. Give also morning and evening in this food two tablespoonfuls of finely ground bone meal and half a teaspoonful of lime water. At the end of three days, alternate this with one dose of the following: Three drachms bicarbonate of soda and two drachms of powdered gentian and of powdered ginger. Mix and give as a dose. Or you may alternate this and the bone and lime water, giving once a day. If you have roots, carrots, rutabagas beets, etc., feed liberally of these.

OPHTHALMIA.—Several steers in our feed yard are affected with an eye disease, pink-eye or something similar. What is the cause and what can be done in the way of treatment? One is totally blind and several are affected in one or both eyes. [Ophthalmia or inflammation of the eyes is of quite common occurrence. It frequently occurs without other assignable cause than morbid action, or the concentration of morbid material in the tissual membrane which is attended with more or less pain, tenderness and tumefaction. The treatment should be early and prompt. Remove the animals to quiet, comfortable quarters; give internally from two to three doses of the following mixture: Glauber salts, twelve ounces; powdered golden seal, three drachms; powdered ginger, two drachms. This dose is for an adult. Many good local applications might be named, but cold water is the simplest and the best for this case. Bathe well with a clean sponge two or three times a day. Feed soft mash made from oats and shorts.]

FARCY.—Please tell me the trouble with my mare and give treatment in your next issue. About the first of December her left hind leg swelled very much at the knee joint in front. This at first did not seem painful nor did it lame her. The swelling gradually went into the other hind leg at the same joint, then along the belly for about eighteen inches. Both front legs have been affected at times but are not now. Small kernels rose up over the legs which would break, and a thick, yellowish, bloody matter would run from them. Her appetite has been good all the time, but she has lost flesh rapidly, being now almost a skeleton. She is 5 years old. Was in foal at the time she first became affected. Don't think she has lost her colt since, but she may have lost it just before being affected, as she run about a straw stack during the day. Have fed her on corn or straw (oats). Still has good appetite, but hind legs swollen and still running. [Your mare has evidently an attack of farcy, which is a contagious disease identical in every respect with glanders. We would advise you to isolate the animal from your other stock, to be careful that none of the discharge comes in contact with your person, and to call a thoroughly competent veterinary surgeon (not a quack), and should he be of the same opinion as we are, destroy the mare.]

POLL EVIL.—I notice cure for poll evil in the Farmers' Review recommended by your veterinary surgeon. He recommends carbolic acid, glycerine and water to be injected in the pipe. I have got a mare with the poll evil and she is getting along nicely. I have taken out a great many pipes and cancers with corrosive sublimate, but the kind of horse doctors we have here claim it won't do; that it is too severe and liable to leave the neck stiff. If you would be so kind as to have your veterinarian give a true remedy and speedy cure for such you would confer a great favor to me, and many others who take your valuable paper. [We recommend mild remedies in poll evil and fistula because experience has taught us that severe agents, such as corrosive sublimate when used by inex-

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perienced persons is invariably productive of harm. Through its injudicious use many simple cases are rendered incurable. Competent veterinary surgeons, who are versed in the structure of the parts affected, nowadays depend on the knife, followed by mild antiseptic dressings, in the cure of fistula and poll evil, and as no two cases are alike it is impossible to describe an operation that would be applicable to all. It is on this account that we recommend mild agents which have a healing tendency, knowing that nature, with a little assistance and cleanliness in such cases, often overcomes the most serious conditions.]

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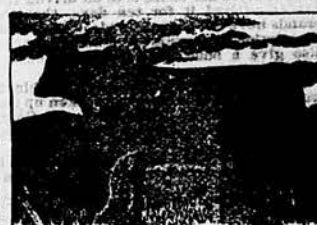
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HOW TO POST A STRAY.

THE FEES, FINES AND PENALTIES FOR NOT POSTING.

BY AN ACT of the Legislature, approved February 27, 1866, section 1, when the appraised value of a stray or strays exceeds ten dollars, the County Clerk is required, within ten days after receiving a certified description and appraisal, to forward by mail, notice containing a complete description of said strays, the day on which they were taken up, their appraised value, and the name and residence of the taker-up, to the KANSAS FARMER, together with the sum of fifty cents for each animal contained in said notice.

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

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

The Justice of the Peace shall within twenty days from the time such stray 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 MARCH 8, 1888.

Cherokee county—J. C. Atkinson, clerk. MARE—Taken up by W. W. Bronson, in Ross tp., November 12, 1887, one bay mare, white spot in forehead, white strip down the nose, right hind foot white, saddle sore on back, from 5 to 8 years old; valued at \$50.

Lincoln county—H. H. Gilpin, clerk. 2 STEERS—Taken up by John Heizer, in Indiana tp., (P. O. Pleasant Valley), January 29, 1888, two yearling steers, red and white, leaning to roan. 2 HEIFERS—By same, two red and white yearling heifers; the four animals valued at \$50.

Hamilton county—Thos. H. Ford, clerk. COW—Taken up by J. J. Isam, in Cooldge tp., one red and white cow, 5 years old, branded on left side with an oval-shaped brand with bar beneath and > on shoulder; valued at \$15.

Franklin county—T. F. Ankeny, clerk. COLT—Taken up by Jacob Jenkins, in Ottawa tp., January 10, 1888, one 2-year-old light sorrel mare colt, blaze in face, no marks or brands; valued at \$45. COLT—By same, one dark sorrel 1-year-old horse colt, light mane and tail, no marks or brands; valued at \$30.

Barber county—W. T. Rouse, clerk. STEER—Taken up by F. C. Julian, in Nippawalla tp., January 14, 1888, one red and white 3-year-old steer, ears frozen in rounding snape, part of left horn off, brand on left side supposed to be S; valued at \$14. JACKSON COUNTY—E. E. Birkett, clerk. STEER—Taken up by W. O. Schantz, in Soldier tp., December 31, 1887, one roan yearling steer, branded N on left hip; valued at \$14. HEIFER—By same, one red yearling heifer, branded N on left hip; valued at \$12. (P. O. Soldier.) HORSE—Taken up by Charles L. Scaiford, in Adrian tp., (P. O. Adrian), February 10, 1888, one sorrel horse, about 12 years old, 15 hands high, white spot in forehead, left hind foot white; valued at \$40.

Brown county—N. E. Chapman, clerk. CALF—One red heifer calf with some white in face and on belly, slit in right ear, no other marks. HEIFER—One red and white yearling heifer, no marks or brands.

Miami county—H. A. Floyd, clerk. STEER—Taken up by N. B. Stamer, in Mound tp., November 12, 1887, one red steer, about 1 1/2 years old, medium size, white spot in forehead, white hind feet, some white on under side of body, no marks or brands.

Nemaha county—W. E. Young, clerk. COW—Taken up by Hugh Ross, in Illinois tp., (P. O. Centralia), one red and white spotted cow, 3 years old, no marks or brands; valued at \$20.

Russell county—J. B. Himes, clerk. COW AND CALF—Taken up by Charles Arbuthnot, in Fairview tp., January 19, 1888, one red and white spotted cow, 3 or 4 years old, no marks or brands; valued at \$25.

Sedgwick county—S. Dunkin, clerk. HORSE—Taken up by A. T. Holloway, in Minneha

tp., January 12, 1888, one dark bay horse, 15 hands high, 12 years old, collar mark on left shoulder, both hind feet white, star in forehead, white spot on nose, favors right fore leg; valued at \$20.

Wyandotte county—Frank Mapes, clerk. HORSE—Taken up by Richard Taylor, in Delaware tp., two and a half miles north of Tiblow, January 6, 1888, one bay horse, 10 or 12 years old, string-halt in right hind leg, in poor condition.

Stanton county—M. F. Banbury, clerk. MARE—Taken up by John R. Case, in Falkenstein tp., February 4, 1888, one dark brown mare, 18 hands high, hind feet white; valued at \$25. COW AND CALF—Taken up by William M. Dyer, in Roanoke tp., (P. O. Roanoke), January 23, 1888, one roan cow (and red calf), right horn broken, branded M on left side, calf has white spot in forehead; valued at \$12.

Woodson county—R. M. Phillips, clerk. HEIFER—Taken up by J. R. Gilbert, in Belmont tp., December 19, 1887, one white heifer, 2 years old, no marks or brands; valued at \$12. BOURBON COUNTY—J. R. Smith, clerk. COW—Taken up by J. P. Hull, in Marion tp., February 22, 1888, one red cow, 4 years old, no marks or brands.

FOR WEEK ENDING MARCH 15, 1888. Osage county—R. H. McClair, clerk. COW—Taken up by Christopher McGuire, in Superior tp., November 10, 1887, one light red cow, no marks or brands; valued at \$17.50. COW—By same, one light red cow with white spots, 4 years old, no marks or brands; valued at \$17.50. COW—By same, one red cow with white spot in face, 16 years old, no marks or brands; valued at \$15.

Greenwood county—J. W. Kenner, clerk. HEIFER—Taken up by J. A. Gordon, in Janesville tp., January 17, 1888, one black heifer, supposed to be 1 year old, no marks or brands; valued at \$12. STEER—Taken up by Jacob Stover, in Shell Rock tp., one red steer, 2 years old, no marks or brands visible.

Wyandotte county—Frank Mapes, clerk. MULE—Taken up by Jno. Gibbs, Jr., two and a half miles southwest of Argentine, November 15, 1887, one dark bay mare mule, black mane and tail, white spot on right forearm, a little white spot on right flank, about 15 hands high.

Clark county—Chas. E. King, clerk. COW AND CALF—Taken up by Alexander McDonald, (P. O. Cash City), February 1, 1888, one red cow and calf, cow about 8 years old and calf 11 months, both branded V on right hip; valued at \$10 each.

FOR WEEK ENDING MARCH 22, 1888. Barber county—W. T. Rouse, clerk. MARE—Taken up by Harry N. Patterson, in Elm Mills tp., February 29, 1888, one bay mare, 5 years old, white spot in forehead and white left front foot and hoof; valued at \$30.

Russell county—J. B. Himes, clerk. COLT—Taken up by L. R. Creissant, in Big Creek tp., March 1, 1888, one bay horse colt, about 2 years old, no marks or brands; valued at \$40. SHERIDAN COUNTY—I. H. Prince, clerk. PONY—Taken up by Albert Lytle, in Solomon tp., February 17, 1888, one black horse pony, 7 years old, indescribable brand on left shoulder; valued at \$15.

Wilson county—D. N. Willits, clerk. COW—Taken up by Wm. M. Newland, in Chetopa tp., February 23, 1888, one spotted 3-year-old cow, no marks or brands; valued at \$13. COW—By same, one red and white spotted 4-year-old cow; valued at \$18. COW—By same, one red and white spotted 3-year-old cow; valued at \$14. COW—By same, one bluish cow, 5 years old; valued at \$13. STEER—By same, one red and white 8-year-old cow; valued at \$25. STEER—By same, one roan 3-year-old steer; valued at \$25. STEER—By same, one red and white 2-year-old steer; valued at \$15.

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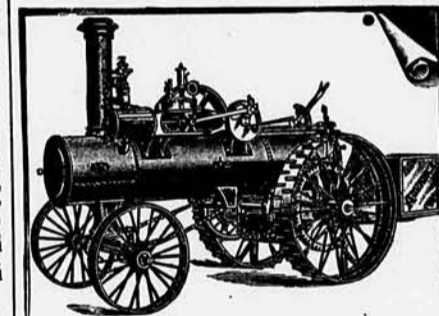
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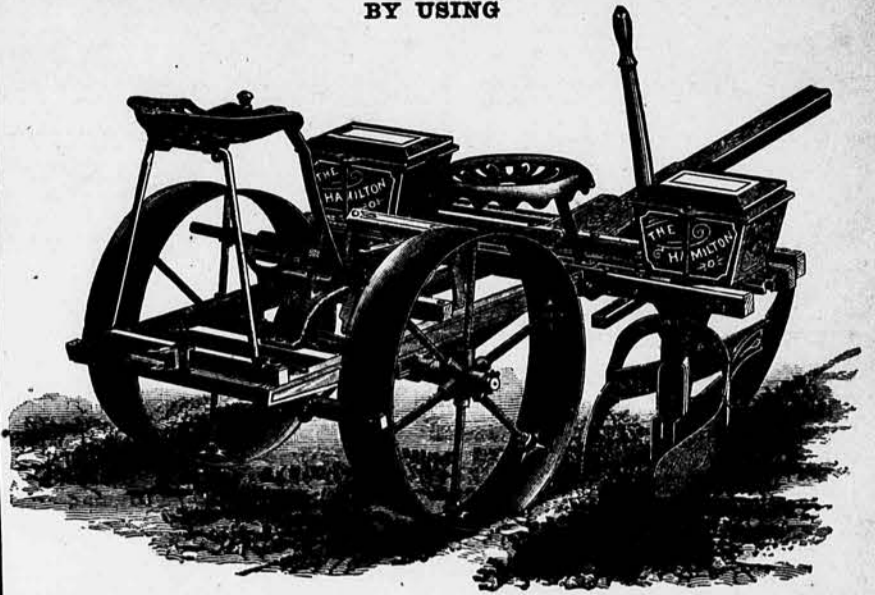
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(Continued from page 1.)

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M. H. ALBERTY, Cherokee, Kas., Registered Holstein-Friesian Cattle-singly or in car lots, recorded Poland-China Swine, Pekin Ducks, Wyandotte, Brown Leghorn, Plymouth Rock fowls. Eggs for sale.

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J. S. HAWES, Colony, Kas., breeder of Poland-China Swine. Lord Corwin 4th, sweepstakes boar at Chicago and St. Louis, and Moorish King, head the herd.

H. C. STOLL, Beatrice, Neb., breeder and shipper of the most fancy strains of Poland-China, Chester White, Small Yorkshires and Duroc-Jersey Hogs. Special rates by express companies. Satisfaction guaranteed in all cases.

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W. W. WALTER, Carbonate, Kas., breeder of eight years of Thoroughbred CHESTER WHITE HOGS and SHORT-HORN CATTLE. Stock for sale.

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F. W. ARNOLD & CO., Osborne, Kas., breeders of pure-bred Poland-China Swine. Breeders all recorded in Ohio Record. Young stock for sale. Also Langshan Fowls and Pekin Ducks. Eggs in season. Write for prices.

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ROCHESTER POULTRY YARDS - C. J. Nauman, North Topeka, Kas., breeder of high-class B. Leghorns, Laced Wyandottes, P. Rocks, B. B. Games, etc. Eggs in season, 13 for \$1.

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POULTRY.

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EVERGREEN FRUIT FARM - Leading varieties Strawberry Plants, S. C. Brown Leghorn Fowls, Poland-China Swine. Send for prices. T. F. Sproul, Frankfort, Kas.

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J. B. KLINE, 924 Kansas Ave., Topeka, Kas., breeder and dealer in pure-blooded Poultry and Eggs - all kinds - from the best breeders of prize-winning stock at the Eastern poultry shows. Also pure Italian and Capolineas Bees, Queens, and apian supplies. Write for what you want. No circulars.

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I. H. SHANNON, Girard, Kas., breeder of Wyandottes, P. Rocks, S. C. Brown Leghorns, Black Cochins. Eggs, \$2 for 15; \$3.50 for 30. Toulouse Geese eggs, \$2 for 7; Pekin Duck eggs, \$2 for 10.

MRS. A. B. DILLE, EDGEMONT, Kas., breeder and shipper of the finest strains of Wyandottes, Plymouth Rocks and Mammoth Bronze Turkeys. Stock for sale at all times and prices reasonable. Correspondence solicited and satisfaction guaranteed. Eggs in season.

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PLYMOUTH ROCK COCKERELS - Two dollars each; three for \$5. Plymouth Rock and Pekin Duck eggs, \$1 per 15. Mark B. Salisbury, Independence, Mo.

MISCELLANEOUS.

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SEVERAL GOOD JACKS FOR SALE OR TRADE - At my stables, Ogden, Riley Co., Kas. Correspondence, solicited. Theo. Welchbaum.

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S. A. SAWYER, Fine Stock Auctioneer, Manhattan, Kas. Have Cattle, English, Short horn, Hereford, N. A. Galloway, American Aberdeen-Angus, Holstein-Friesian and A. J. C. H. R. Herd Books. Completes catalogues.

TWO-CENT COLUMN.

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

Special - All orders received for this column from subscribers, for a limited time, will be accepted at one-half the above rates - cash with the order. It will pay you! Try it!

ECLIPSE SEED HOUSE - 109 Third street, Topeka, keeps a full line of Garden, Field and Grass Seeds.

100,000 THREE BEST SORTS TIMBER - Claim Trees for sale by Martin Allen, Hays City, Kas.

FOR SALE - Holstein-Friesian Bulls, Plymouth Rock, Wyandotte, S. C. Brown Leghorn, P. Cochins and Pekin Duck Eggs, at living prices. Correspondence invited. M. H. Alberty, Cherokee, Kas.

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500 TO 1,000 BUSHELS OF EXTRA SEED CORN for sale at \$1.50 per bushel. Variety, Large Improved Early Howard. Tested last season on ten acres, 92 bushels, with common cultivation. Send orders, small or large. D. H. Hartsack, Marshall, Mo.

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J. G. PEPPARD, 1220 UNION AVENUE, (One block from Union Depot) KANSAS CITY, MO. MILLET A SPECIALTY. Red, White, Alfalfa & Alsike Clovers. Timothy, Blue Grass, Orchard Grass, Red Top, Onion Setts, Tree Seeds, Cane Seed, Etc.

TWO-CENT COLUMN--(Continued.)

CHOICE PERCHERONS FOR SALE - I have several choice yearling and coming two and three-year-old colts by the celebrated stallions Caesar 3526 (601) and Brilliant 1271 (755) out of registered mares imported by M. W. Duhamel. Will also sell the mares (thirteen), now in foal by Monarque 5149 (2428), son of the great Brilliant 1271 (755). Will sell the whole lot - thirty-one head - at a bargain. Send for catalogue. E. A. Hitchcock, Granite Building, 404 Market St., St. Louis, Mo.

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EGGS - One dollar for 13. Choice Wyandotte, Plymouth Rock, Partridge Cochins, Light Brahma or Brown Leghorn. O. E. Skinner, Columbus, Kas.

GALLOWAY GRADES FOR SALE - Choice lot, both sexes, car lot or singly. Correspondence solicited. S. A. Rogers, Cawker City, Kas.

RURAL WHITE CORN - Yielded 50 bushels per acre last year. \$1.50 per bushel, sacked. Henry Gardner, Walnut, Crawford Co., Kas.

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KANSAS STATE NURSERIES - North Topeka, Kas., have for sale fine stock of standard varieties of Apple Trees; also Hedge Plants in any quantity. Write for prices.

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SWEET POTATOES - Seed and Table. C. O. Ritchie, Manhattan, Kas.

FOR ILLUSTRATED POULTRY CIRCULAR - Address S. S. Jones, Blue Springs, Nebraska, dealer in Felch strain Light Brahmans (pedigreed) and Partridge Cochins.

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FOR SALE - Superior Early Seed Corn. One dollar per bushel shelled. Edwin Snyder, Oskaloosa, Kas.

1,000 BUSHELS OF RED TEXAS SEED OATS for sale at 30 cents per bushel, carred. Farmers, club together. Send your sacks if you want less than carload. J. O. Welty, Soldier, Jackson Co., Kas.

FOR SALE - Gooseberries, 2 to 3 years old, per 1,000, \$3; also grape vines, raspberries, blackberries, strawberries and rhubarb. M. Crumrine, Junction City, Kas.

FOR SALE - Pure Plymouth Rock eggs. J. D. Jencks, 411 Polk street, North Topeka.

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TWO-CENT COLUMN--(Continued.)

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WANTED - Old and rare Coins. Address 924 Kansas avenue, Topeka, Kas.

WANTED - To crop with some farmer to raise Broomcorn and manufacture into brooms, or will rent small farm; everything furnished; no crop will pay as well. S. Pottenger, Kankakee, Ill.

HEREFORD BULLS FOR SALE - Three very choice animals, 18 months old, sired by Beau Real 11055 A. H. R. Also a few choice Helfers. Prices low. Address Thos. J. Higgins, Council Grove, Kas., breeder of thoroughbred Herefords.

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STALLIONS FOR SALE - Three Clydes and one Norman. Acclimated and good breeders; broken to drive. Will give time if desired. Every stallion guaranteed as represented. R. I. Blackledge, Salina, Kas.

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IMPORTED CLYDESDALE STALLION FOR SALE - Low, or will trade for land or stock. W. H. Vanatta, Nortonville, Jefferson Co., Kas.

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STRAYED - A bay mare, 14 1/2 hands high, star in forehead, branded 833 on hind quarter and 8 on cheek; has one white hind foot. Mare has been gone four months. Address C. Chivers, 415 Kansas Ave., Topeka.

KANSAS ECONOMY INCUBATOR - Capacity of 250 eggs, sold for only \$20. My new Book reduced to only 25 cents. It tells how to make and use the incubator, how to make a good Brooder to mother the chicks and how to manage the chicks until ready for market; also, how to make hens lay all winter; also, how to cure Roup and Cholera. Langshan eggs sold for \$2.50 for 15. Address Jacob Yost, Topeka.

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WANTED - The address of 500 farmers who want to improve their poultry by the use of thoroughbred males. M. D. Mulford, Guide Rock, Neb.

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Registered Berkshire Pigs and young Sows bred, and from prize-winners. Foundation stock Duchess and Windsor Castle families. Largest and best in England or America. Premium Langshan and Wyandotte Chickens. Eggs in season. Write for catalogue and price list before purchasing. J. L. BUCHANAN, Belle River, Ill.

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