

THE KANSAS FARMER

ESTABLISHED, 1863.

TOPEKA, KANSAS, MARCH 17, 1880.

VOL. XVIII, NO. 11

THE KANSAS FARMER.

E. E. EWING, Editor and Proprietor,
Topeka, Kansas.

Forest Trees.

According to my promise I will now tell the readers of the FARMER how I succeeded in forest tree culture last year. The three acres of black walnut which was planted in the fall of 1878 came up last spring nicely in spite of the dry weather. I planted them in hills, two nuts in each hill, in rows the same distance apart as corn. When about two inches high I began cultivating with a two horse cultivator, and found them much nicer than corn to cultivate. Went over them five times during the season, and left them positively clean of weeds at the last plowing in August. They are now about one foot high, and while in leaf were beautiful indeed. The only thing now that bothers me is there are two trees in nearly every hill, and I must destroy one that the other may have a good chance to grow, as they are not readily transplanted.

Of cottonwood cuttings I put out two acres, but was not so successful with them on account of the extremely dry weather directly after they were put out, nevertheless the first half acre put out did well, and I secured a good stand. They are now on an average as high as my head and thrifty. For a quick growth the cottonwood is the tree. And to those who have no timber shelter for stock, I can recommend them. I put them the same distance apart as before mentioned.

For a shelter screen for stock, I think it is better to plant six or eight rows of cottonwood directly around the place intended for the future stock lot. At the same time, or afterward, I would plant six or eight rows of Scotch pine, American spruce, or our native red cedar. These will furnish a wind screen after the cottonwood trees are large enough for use, when they may be cut away and used for fuel or other purposes.

Of ash I have about five thousand which are about eight inches tall, and are yet in nursery rows. They came very well from seed I gathered in the forest near home and planted in the fall.

With acorns and hickory nuts I have not succeeded so well, although I have, perhaps, about five hundred of each. The trouble was, the seed was defective, as they did not come, on account of drought. I did not get a good stand, but shall try it again next year.

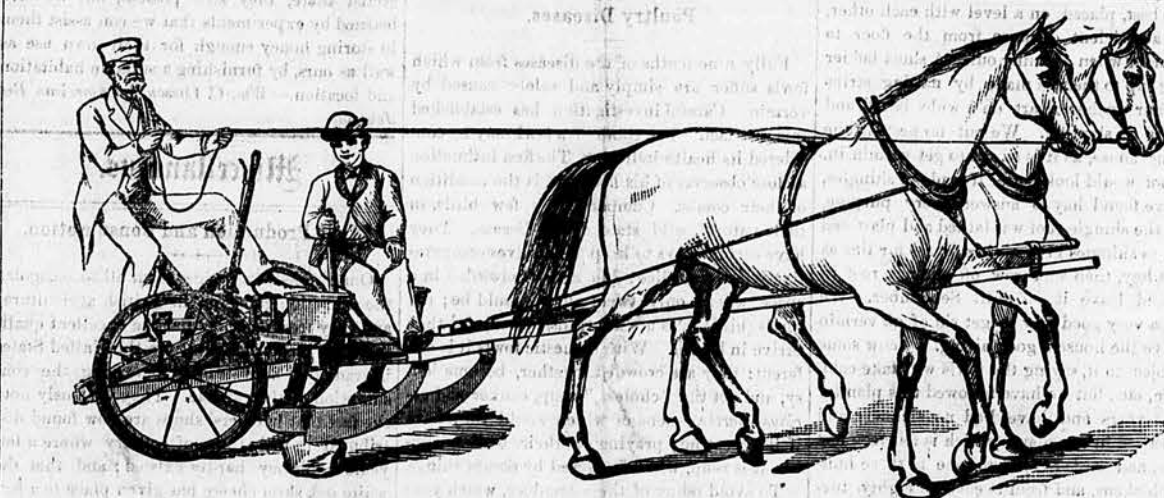
Honey locust I got to grow without trouble from seed which only cost me the trouble to gather. I have often raised them from seed before. Should be raised in nursery rows as they transplant safely, and considerable of the seed is apt to lie in the ground till the second year. They only grow about six inches high the first season, in ordinary soil. The seed ripens in October, as does ash, and should be gathered and planted then, but may be kept till spring by packing in moist sand.

Box elder I have lots of, and they are of rapid growth. They will grow from seed or cuttings, but are much more easily propagated from seed than otherwise. Mine from seed attained an average height of about 14 inches. They are as easily transplanted as any tree, and as sure to grow as a cabbage. Grow very rapid for the first five or six years, after which they do not give as good satisfaction as some other trees in regard to growth. They are of dense foliage, therefore are good where shade is desired.

Osage orange I did not try, but am going to this year. I have a good deal of faith in it as a forest tree, on account of the durability of its wood. It will not be many years when fence posts will be in great demand, and since barbed wire is coming so universally into use, posts of much smaller size can be used to advantage. In my mind the osage is one of the trees to fill this demand.

White or gray willow have not been tried by me in Kansas, but gave me such satisfaction for fuel in northwestern Iowa, that I shall try it to some extent this season.

As to evergreens, I have as yet tried only the Scotch pine, American spruce, red cedar and white pine. All giving moderate satisfaction, but the red cedar is doing the best. A great many of my cedars I got along the bluffs on the streams near home. But of evergreens I cannot say as I do of other trees I have mentioned, "raise them yourselves," because one cannot very successfully raise evergreens from seed without some experience. These I would buy of some reliable man who makes a special-



THE NEW 'W'RIGHT CORN PLANTER.

ty of raising them. Mine I got of D. Hill, whose advertisement appears in the FARMER, and whom I believe to be honest, having dealt with him for many years to my satisfaction.

To all farmers, especially prairie farmers, I say raise trees. First, plant those handiest, or of which you can procure the seeds easily and free of cost. Afterwards, others you may desire to try. You will never regret it.

LORENZO ALLARD.

Lawndale, Kas.

A Letter from Samuel Stoner to Brother Farmers.

I must congratulate the FARMER on the correspondent department, which is becoming more interesting and instructive to the farming community, and why should it not be? There are hundreds of the best and some of the most intelligent farmers of the state, who never put their pen to paper to communicate the result of their experience which they have gained by patient toil and close observation, and an incentive to bring such out will greatly help and benefit all. I am glad the FARMER has taken the initiatory steps in this direction by sending the paper and blanks to write on, which make it very convenient. There is not an intelligent farmer in the state who has not some time or other made discoveries which if he would communicate to the press, others would be greatly benefited thereby. Some may think—well, I have found it out by hard knocks and patient toil, and let others do the same, as it don't pay, or benefit me any, to make it known. This should not be our aim and object in life, to live for self alone. We should endeavor to do, or contribute something by which others are benefited and the world made better by our having lived in it.

The writer has made several useful discoveries in his lifetime; among others, is one in particular which he had often thought of communicating to the press, at the proper time, for the benefit of others, but for the want of time, or proper facilities for so doing, has deferred it. It is a simple preparation to prevent rabbits from gnawing fruit trees, and at the same time promotes the vigor and healthfulness of the trees, and keeps borers and other insects from attacking them also. It has been worth hundreds of dollars to me, and I doubt not it being worth that to many others, if they knew it.

Some six or seven years ago I had a small nursery of about 7,000 apple trees, and, if I remember rightly, a man and two boys went over them, and some 300 or 400 in a young orchard, in about a day. There were some young cottonwoods in the same nursery, which I was propagating, that I did not treat, as I did not think the rabbits would hurt them; but in that I was mistaken, as they girdled them as high as they could reach, and ruined nearly every one of them, and, strange to say, they never touched one of the 7,000 young apple trees that were treated. This preparation is very inexpensive, and nearly every farmer has most of it on hand, and should I forget to give it at the proper time in the fall, if some one will remind me of it, if I live, I shall cheerfully respond.

I was highly pleased with the communication on flax culture. Such and kindred articles are worth many times the subscription price of the paper. The only fault I find is that Experimenters did not give his name. Though we live hundreds of miles apart, yet we want to become acquainted with each other, which we can easily do through the FARMER, if each one gives his name. I did not expect, before trial, to receive such kind words of commendation in behalf of my feed-rack and shelter, as after trial their merits

can only be justly appreciated, yet I do not feel insensible to the cordial welcome and kind words received from friend Baldwin and others. I will just here say, in this connection, that my manger and shelter is not near all of my invention to facilitate the feeding and sheltering of all kinds of stock, from chickens, pigs, calves, yearlings, up to large cattle, horses, mules, or sheep, whereby they can feed themselves of both grain and hay from the same shelter, and can go in and out at pleasure, and have a constant supply of grain or ground feed before them, to last for weeks at a time without replenishing or wasting. But the little shelter, alone, described in the FARMER, I consider one of the greatest inventions of the age, for farmers, considering their cost. For granaries alone, they are worth thousands of dollars, as they can be put up right at the machine when they are wanted, by simply taking stout poles ten or twelve feet long; set the lower end in the ground, or against stone, some three feet apart, and raise the center up like rafters, high enough so a man can walk straight up under them. Set props three or four feet long up under the middle of the rafters on each side, then cover with any kind of refuse boards or poles, just to keep the straw from falling through, and lay pieces of scantling on the ground to lay your floor on; also line up against the inside of the props with flooring up to the rafters; throw on the straw from the machine, then sweep out and you are ready for your grain, and will require no sacks, as you can carry it from the machine in baskets, or wheel it in wheelbarrows, and deposit your grain in the dry, where you can keep it for months, if need be, without having to load it in wagons and haul to expensive granaries. Or if you are not so fortunate as to have one, you are not tempted to sell because you have this man's or that man's sacks, and must take the price he offers you.

These inexpensive granaries can be made any desired length, to hold from one to two thousand bushels, with doors at each end for convenience and ventilation, besides the sharp angles on each side of the props under the rafter can be utilized for calves and pigs, which will also, in a measure, keep the mice and rats from the grain. The straw can also be saved and fed out as wanted.

Imagine one of these inexpensive granaries at the threshing floor of "Experimenters," to scoop his flax seed into, where he will scarcely lose a grain, and where he can hold it until the price suits him, and where he can also keep his flaxing-mill. This is only one of the many uses to which my shelter can be put.

Keep on, friends and brother farmers, with your communications, and I will promise to do my part.

SAMUEL STONER.

Larcaston, Atchison Co., Kansas.

Tree Experience.—No. 5.

BY J. P. HANAN.

DECIDUOUS FOREST TREES.

I have planted either in nursery rows, or in permanent forest, more or less trees every spring since 1876 until this time, and intend to plant about twenty acres this spring. I have propagated the most of my trees—some from cuttings, some from seeds, and a few from sprouts, and I got a few small ones from the forests on the Medicine river, and I bought some.

I shall briefly notice each species and variety separately.

I brought five hundred white ash, one year old, from my nursery at Clark City, Mo., and set them in nursery rows here, in the spring of

1876. They did not grow much that year, but they nearly all lived. The Rocky Mountain locusts ate the leaves off of them about the last of August, but it did not seem to do them any permanent injury; for I transplanted them in the spring of 1877, on my timber culture claim, and they lived well, but did not grow much that year. But in 1878 they made from two to three feet linear growth, and a few grew four feet. They did not grow so much last year, but have kept healthy all the time. I set out about three acres of white ash in the spring of 1878 that have done finely. I also planted white ash seeds, obtained from Missouri, in rows 10½ feet apart, on my timber claim, in the spring of 1877, averaging two or three inches apart in the rows. They were sprouted rather too much when planted, and the ground being very dry, they did not come up well; but there were enough to leave one tree, the next spring, every four feet, and take out about one half. Those trees have also lived and grown well.

I planted over 18 acres with white ash seeds in the spring of 1879, in rows 10½ feet apart, and about an inch apart in the rows. They came up moderately well, but the dry, hot winds and drifting sands beat and dried them up until I lost all of them by midsummer. Last year was the worst on young trees we have had since I came here in the fall of 1875.

I planted a few black, blue and green ash last spring. I lost many of the green ash during the drought. I got the black and blue ash from Bloomington, Ill., and the green ash from Geo. H. Wright, Sioux City, Iowa. They were from one to two feet high.

I got some seeds on the Medicine river of a tree which the people there call Chittim Wood. I do not know its botanical name, but it is a very firm, solid and heavy wood. The trees grow about as fast as walnut trees, and quite straight. It seems suited to our soil and may be valuable as a forest tree.

The European Mountain Ash does not do well with me.

Langdon, Reno Co., Kas.

In Favor of Shelter Belts.

We have had an unusually dry and pleasant winter,—neither snow or rain; but two cold spells and they of but few days duration. Corn is mostly sold in the east end of the county to feeders. Fat hogs are nearly all sold or slaughtered except those that are following cattle. Stock of all kinds are healthy and doing well. Wheat is looking splendidly, roots firmly in the ground, leaves green and generally covering the ground like a carpet. Many farmers have been and are stirring oat ground, and some are breaking prairie. Some already have planted potatoes and set onions.

I notice your correspondent, H. C. Webb, asks to hear from others in relation to hedge. Seven years ago I set a mile of hedge of the osage orange on my farm from plants of my own raising. The plants made a splendid growth the first season, but during the winter, gophers, moles, mice and rabbits destroyed a majority of them. For three years thereafter I gave the hedge up as lost, getting tired of seeing what was trying to live I cleaned them out with a hoe, and next season filled the gaps with seedling cottonwoods. Now all are doing nicely. I beg leave to differ with Mr. Webb in regard to "marring the beauty of a farm with overgrown hedges," "shutting it out from view," &c. In central Kansas we are destitute of timber save narrow belts along the streams, consequently are subject to strong north and south winds. We need in summer something to break their force and protect growing crops. If farmers would generally adopt the plan of

planting on their north and south lines, a hedge or two or more rows of cottonwood or other forest trees closely, and allow them to grow, only trimming on the inside, I think it would be but a few years before we would find a vast difference in the effect of the wind upon our crops and soil. I have adopted this plan, and now have a double row of trees growing around 110 acres, and intend to continue setting as fast as I bring my land into cultivation. Already visitors have named my place "Venango Park."

I accept it, and will try to make it so in fact. If strangers wish to know what is being done "inside" let them come through the "gate" in the proper manner, and the "owner" will show them the "labor of the husbandman."

When I plant more hedge I intend to try planting the seed where the hedge is to grow and shall prepare the hedge row by turning the furrows from the center, and plant in the dead furrow, for the reason that our soil is dry, and a ridge will throw the water away from the plants—the dead furrow will retain it. Moles and gophers will work in a ridge, but will avoid a dead furrow. It is as easy to cultivate the plants in a continuous row as in a seed bed.

W. S. GILES.
Venango, Ellsworth Co., Kas.

The New (w) Right Corn Planter.

Affording space in this issue to an illustration of the above named implement, it is only becoming that we should detail the advantages claimed by the manufacturers for it over other corn planters. The chief and peculiar merits are:

For simplicity, strength, ease and perfection of its working capacity, light draught and ease on horses' necks—it has no equal.

From one to any number of grains desired, can be dropped with regularity and certainty. The stroke of the lever is short, and the rotary movement of the seed plates positive and easy, cannot be made to catch or lock. The spring tilting cut off valve and knock working independently of each other, insures the certain discharge of the corn. The open heel check valve deposits the corn in the heel of the shoe in plain view of the dropper and driver, and by a simple device scatters the corn sufficiently—a peculiar feature in the New (w) Right—the dropper and driver can see the number of grains and exactly where the corn is deposited.

The heel of the shoe is taken for the check-row guide, and the view of the corn at the same point. The center swivel coupling insures the independent action of the front or the runner frame of the wheels in passing over obstructions, furrows or uneven ground.

It is the only planter in which either runner can be raised independent of the other in passing obstructions and planting the opposite hill. The driver can throw his entire weight on one runner without leaving his seat. By use of the compound flexible lever, the driver has the entire control of the planter. A boy twelve years old can operate it while the team is in motion. 1st, Regulate its depth of planting desired, and permitting the flexible action of the runner frame. 2d, Lock runner frame down rigid at any depth. 3d, Lock the runner frame up for transportation, or turning about in the field.

The most simple and perfect drill attachment, and can be placed on the Planter in the field.

Barnes, Haworth and Berrien Checkrowers and other mechanical devices for checkrowing on drilling corn can be operated as successfully on the New (w) Right Rotary as on any of the slide drop planters.

This corn planter is now manufactured at Cambridge City, Indiana, by the Cambridge City Agricultural & Machine Works, who make a variety of agricultural implements. Write for circulars.

The following was evidently uttered by a true farmer: "The country home can be made very pleasant by fixing up the yards and houses more than they now are. Farmers should be without debts, and then they can make farm life very pleasant. The farmer should read and study several hours every day. He should have good laborers, and have them understand that his interests are theirs. Plenty of reading matter should be kept on hand at all times. Instead of straight lines about the place devote more space to landscape gardening. The keeping of good stock will always add to the pleasure of farming. Farmers get out and interchange views with each other."

The grand jury of Fort Wayne, Indiana, has caused great excitement by returning 30 indictments against druggists for retailing liquors without license. Some of these are quite prominent in churches and leading citizens.

Farm Stock.

Contagious Animal Diseases.

Although pleuro-pneumonia among cattle has been known, and proved to be more or less destructive, in this country for many years, it has thus far been confined to the extreme eastern section. Massachusetts, by her wise action when it first appeared here, stamped out the disease at a comparatively small cost, thereby averting serious loss to her stock-breeders. For some time the disease has prevailed in parts of New York and New Jersey, and it has recently appeared in Pennsylvania. Its spread and progress towards the west, where, once fastened upon our immense herds, it would be practically impossible to eradicate it, have awakened great anxiety.

The subject of creating a national board of commissioners for the suppression of infectious and contagious diseases of animals, has been brought to the attention of congress by a communication from Secretary Sherman, who states that the questions arising from the prevalence of this disease have caused much embarrassment to the treasury department. Some fifty pages are devoted to the subject. The secretary says that pleuro-pneumonia has never originated in this country—has always been imported—and gives the existing laws and regulations upon the subject. The exports of cattle from this country, during the last six years, were valued at \$22,901,232. The secretary briefly sums up the conclusions arrived at by the department, as follows:

1. Pleuro-pneumonia is a contagious, infectious lung fever in neat cattle, and as readily communicated among them as small-pox among mankind.
2. It has never developed de novo in this country, but has always been introduced by contagion.
3. It may be prevented by inoculation; but that remedy is not to be thought of in this country under present conditions.
4. It has a period of incubation from nine to sixty days, usually not exceeding forty, and its symptoms, when developed, are easily distinguishable by experts from those of other diseases.
5. The only proper method of suppressing the disease in the United States, is by the destruction of all diseased or exposed cattle.
6. No contagious pleuro-pneumonia now exists, or has ever existed, in any state west of the Alleghany mountains.
7. It does not now exist in the United States on or near the boundary of Canada or in the Dominion of Canada.
8. The disease now exists in the eastern part of New York, in New Jersey, Pennsylvania, and possibly in parts of Maryland, Virginia, and the District of Columbia.
9. The general course of tame cattle is from the west to the east.
10. At the present time, with ordinary care, cattle may pass from the western states—which almost exclusively furnish cattle for exportation—into Canada, and through Canada, Portland and Boston to foreign ports, without danger of infection.
11. With proper restrictions against contact with other cattle near the seaboard, cattle may pass from the western states to the ports of New York, Philadelphia and Baltimore for exportation without danger of infection.
12. State and municipal regulations are not to be relied upon to prevent the importation and spread of the disease, or to effect its extermination.
13. Stringent quarantine regulations are essential to the protection of this country against its introduction.
14. A veterinary sanitary commission, whose duty it shall be to investigate all reports of the existence of disease, to collect information respecting it, and report to some department for publication, is essential to efficient action on the subject.
15. Authority in such commission to co-operate with state and municipal authorities in preventing and eradicating disease by supplying money out of the appropriations by congress for the purpose would be effective, and is in accordance with the acts of congress in regard to the national board of health.
16. The authority in such board to promptly isolate and slaughter infected and diseased cattle, wherever found, and to award compensation to the owners, would be an effective agency to extirpate the disease.

It is for congress to consider the policy and legality of conferring such power.

A bill drawn in accordance with these conclusions was presented to the house, February 23d, by Mr. Le Fevre, and congress can confer no greater boon on the agricultural interests of the country than by promptly perfecting and enacting it. It provides for a commission to consist of the commissioner of agriculture, as president, the secretary of the treasury, and the secretary of state—the president to receive one hundred dollars a month, the others to serve without pay. The board is to appoint a secretary and veterinary surgeon, the latter to superintend, under direction of the board, all measures for suppression of contagious diseases of domesticated animals. Provisions are made for the co-operation of state and territorial authorities, and the sum of \$100,000 is appropriated for the carrying out of the provisions of the act. An interest so important in its general bearings upon the welfare of the whole nation, needs the fostering care of the general government to the extent of adopting the most stringent regulations.—*Cultivator.*

Poultry.

Poultry Raising.

In trying to write an article on poultry raising for Mr. Marsh's prize so generously offered through the *FARMER*, I will confine myself to my own experience, as I have had full control of our poultry for the eight years just past, have had no stylish buildings or fancy fenced in lots. Our hen-house is such as any farmer can build, consisting of four walnut posts set in the ground about two feet deep, fourteen feet apart each way; floor, one-and-a-half feet from the ground at one end and two-and-one-half at the other; the siding runs down past the floor to the ground on all sides except one, which will leave a cool place for the fowls under the floor. The floor is placed high to keep rats from gnawing through, and should be tight. Inside the house should be as smooth as possible so as to be easily whitewashed. Perches of sawed lumber are best, placed on a level with each other, and at a sufficient distance from the floor to walk under when cleaning out. A short ladder leading up to them is made by nailing strips about four inches apart on a wide board and fastening up slanting. We put no nests in the roosting house, as it is so apt to get vermin in. The roof would look better if made of shingles, but have found hay to answer every purpose, unless the shingle roof was lathed and plastered under, as shingles give hiding places for lice as well as hay, then we throw off our hay roof in July, and leave it off until September. We find it a very good way to get rid of all vermin and give the house a good airing. I know some will object to it, saying the fowls will take cold, cholera, etc., but we have followed this plan for several years and have had no sickness, and have raised in our house (which is fourteen feet square, and cost \$11) from one to three hundred chickens, and from twenty to eighty turkeys, and success is better than style.

Now, as to breeds. I leave every one to their own choice. I have a mixed lot, the original stock being white leghorns, but have crossed them with several larger breeds. The nests for sitting hens I put out of doors, using boxes, some store boxes and some of our own make. I find they do better on the ground, with the opening on the north or east side. They must be so you can close them up tight to keep out rats, rain, &c., although we have had hens drenched with rain and every egg hatch. The great secret is in having your hens so tame you can move them from one place to another and they will sit where you put them. The nest should be made first of dirt, with a little short hay, straw, or chaff on top. I give my hens 13 eggs in the spring, and from 13 to 17 (according to the size of the hen,) after it gets warm.

In setting hens on mixed eggs, I have noticed that the dark colored chickens hatch out several hours before the white and light colored ones do, so I think it is best to set eggs of just one breed under a hen. We have peach trees around our hen-house, and I place the boxes under them, putting a large stone on each to keep them solid. When sitting I leave them closed until about ten o'clock in the morning, then open all at once and feed them corn and oats; if they don't come off to eat I gently lift them off and place them down by the feed, they will soon learn to come off at that time of day, will eat, drink, dust themselves, (I keep a place dug up where it is dry for them to dust in near the sitting boxes,) and go on in less than half an hour, when I can close the doors and leave them, feeling sure all is right, which I can not if left to come and go as they please. Of course the boxes must have enough cracks in them for plenty of fresh air to go in. The second day after the hatch if pleasant weather, I take them away some distance from the box under the trees, feed a little, then go back and give the box a good cleaning out. If lice are found, brush it over with common lamp oil, put in the sun till evening, put in some fresh straw and put in its old place; the hen will return to it with little trouble. When old enough to wean I make them all go in the hen-house to roost.

For feed I use two parts oats and one of corn, ground together, made in dough, and fed in coops made of slats so the old hens can not get in. I try to keep feed in them all the time, and sour milk a good part of the time. We have a large pond of water about sixty feet from our new house, the hens will wade around and round it to catch crawfish, minnows, and all kinds of water insects. We think it is good for them, at least they enjoy it.

I have had some experience with cholera and roup, have never had but one case of the gapes. I took it to the ax, buried it, and that was the last as well as the first case. Have had several cases of roup in the spring. I served them the same way, then went to feeding the rest with dough mixed up with copperas water, one-fourth pound of copperas in a common bucket three-fourths full of dough, which I think a sure preventive of both cholera and roup, if strong enough. I lost near 200 chickens and 75 turkeys with cholera in June and July, 1874, before I learned to make it strong. After they get the cholera, I put the same amount of alum and some asafoetida in the dough, place in a trough, and stand in the door of the hen-house, or where they will have to pass it often, they don't like it, but will keep tasting it. If so sick they will not eat, catch them and make them eat two or three mouthfuls. Have cured them when they could not stand up. It is best to give some copperas every spring. I find ours will not have it (the cholera) when all the neighbors do, if so treated.

In closing, will say, that poultry raising can not be made a success, without following the old maxim, "Mind your business," for one

day's neglect may undo a good many day's work. I find it best to keep a small book to keep dates in, and to note down items I would otherwise forget. Also, try and be well acquainted with your hens and their ways, as different hens have different ways as well as people. White and yellow legged chickens are much more apt to have the "scaly leg" than dark legged chickens. I suppose their skin is more tender. When taken at commencing lamp oil will cure it.

It is best to keep an account of all eggs sold or eaten, how many set, and how many chickens raised, how many sold, eaten, and kept on the place, and then you can tell if it pays, as accounts and guessing do not always agree. I think Kansas a very good place for poultry raising. So few hard dashing rains, and so many insects, which is well for the farmer to have eaten. There are several other points I would like to mention but think this is long enough already.

JENNIE E. S. SIGLER,
Hepler, Crawford Co., Kas.

Poultry Diseases.

Fully nine-tenths of the diseases from which fowls suffer are simply and solely caused by vermin. Careful investigation has established this as a fact. The comb of a fowl may be considered its health indicator. The first intimation a close observer of his flock has, is the condition of their combs. Comparatively few birds, in their natural, wild state, die of disease. They have certain ways to keep themselves comparatively free from lice; fifty are not crowded in a space where only twenty-five should be; nature's (bird) laws are not transgressed, and they thrive in health. With domestic fowls it is different: they are crowded together, become lousy, and get the "cholera," roup, canker and various sores, none of which would they have if lice were not preying on their bodies, unless it is roup, which is caused by several things.

To avoid many of these troubles, watch your poultry, and the first time you see a hen moping around or refusing to eat, or one with feathers ruffled up, or comb looking dark blue at the end, pick her up and look for bugs. You will find them. Grease her well (with an ointment made of lard and sulphur) under the wings and over the vent and on the head. Perhaps if you examine the roosts in the hen-house, by taking them up and looking on the under side wherever the ends of the roosts rest on anything, you will be astonished to find the numerous little red lice congregated there. These may be termed the *chinch* of the hen-house, as they torment the fowls at night and return to their hiding places before the fowls leave the roost. The roosts should be frequently washed on all sides with coal oil.—*American Farmer.*

Apiary.

Selecting a Location for an Apiary.

One of the most important requirements for a successful apiary is location. We may have the best hive in use, the best race of bees known for gathering honey, the apiarist may be well adapted to the business, possessing all the knowledge necessary for success, but with a poor location it is still but a poor business. Comparing it with other departments of farming—what is the choicest dairy of cows, the convenient dairy fixtures, warm stables and a man adapted to the work—without a rich pasture for summer, and good, sweet, rich meadow grass for winter.

We can plainly see that the future honey producers of America will be men who make it their special business; they should not be encumbered with so much other business that their first swarms have to hang on a bush all night, or their neighbors be called to live them, and they must have the best location their section affords.

I think there is scarcely a township in the United States but has from two to six fair locations. Such may be divided into three or four classes. (The best location is one that faces the south and east, with a plenty of water, not too much, but always there; it is not enough that there is plenty within one-half or three-fourths of a mile, it should be within ten rods. If there are hills, have them on the north and west to break the wind from those quarters. There should be a plenty of pollen and honey-producing plants to rear a large stock of bees through the months of April, May and June. Then a plenty of basswood, white clover, raspberry and buckwheat, to obtain the surplus from.

The next best location is one that will rear all the bees necessary to gather a large yield, and but little basswood, white clover, raspberry, and about buckwheat enough for each family to have a mess of pancakes. A poor location is one on the top of some high hill, or half way down on the north side of it, with no water short of one half of a mile, or forty feet under the ground, and plenty of wind from all points of the compass. It will, perhaps, have but little white clover, no basswood or buckwheat short of two or three miles; where the bees wear themselves out in trying to live and keep up their race.

There are many fields from which bees would reach a rich harvest, that would not be a suitable place for an apiary. Last June I crossed a pasture field on the top of a high hill, which was covered with the thickest white clover I ever saw; it was so thick and white that it looked like a field of buckwheat in full bloom, one-half mile away, but I should not want my bees on the top of that hill; I would rather have them within one-half a mile in the valley below.

In choosing locations we should be as particular as we would in locating a tannery or a mill, so the heavy burdens will work down hill, or around it. Bees should not have to fly up hill on the last end of their journey home; it is too hard work. A location sheltered from the north and west wind, facing the south or east, has more advantages than some are willing to allow. It not only keeps off the cold wind, but the sun in the spring warms up the hive and enables the bees to be out taking exercise and cleaning out the hives, and carrying in rye flour before natural pollen comes.

We often hear the inquiry not only through the press, but men who pass by, ask: Does it pay to keep bees? Would bees do as well where I live, as they do where you live? I answer: It depends upon the location and the fitness of the person for the profession.

We cannot change the nature of the honey bee; the industrious habit that they have possessed for thousands of years, of visiting every opening flower and gathering all the nectar secreted there, they still possess, but we have learned by experiments that we can assist them in storing honey enough for their own use as well as ours, by furnishing a suitable habitation and location.—*Wm. C. Casson, in American Bee Journal.*

Miscellaneous.

Meat Production and Consumption.

Our English exchanges seem all to recognize the transition going on in British agriculture; and they freely admit that the excellent quality of the meat imported from the United States is gradually and steadily increasing the consumption of that article. They variously note the fact that butchers' shops are now found distributed in wide tracts of country where a few years ago they hardly existed; and that the white oak skin cheese has given place to a better article from America; and they intimate that British farming may be required to change its old system and adapt itself to the circumstances. Reference is made to the change brought about in the older and more populous of the United States by the cheaper production of wheat, beef, and dairy products at the west; and that, in like manner, English farming must devote itself more to the cultivation of vegetables and fruit to supply its cities and manufacturing population. They appear to concede their incapacity to compete with America in wheat or animal products.

They do not doubt somewhat exaggerate their inability to profitably grow beef, but they are unquestionably right in their view of the greatly increasing consumption of meat throughout England and Scotland. We, not long ago, called attention to the opinions of Prof. Lambe, of Prague, upon the incapacity of the agriculture of Europe to supply the demand for meat with its increasing population. He took a broad view of the situation, showing the constantly growing disproportion between the population and the meat production, until it had become evident that their meat supply must be drawn from outside countries. Every month strengthens this view of the case, as may be seen by editorials in English and European papers. America, by common consent, is now looked to for a supply of meat as well as wheat.

This great market is opened to us by the natural progress of population, and not by the "cuteness" of the Yankee in trade. It is so securely assured to us that our inability to supply the demand, from whatever cause, instead of being a cause of rejoicing, would be regarded as a calamity. This demand will increase as rapidly as our surplus production, and our enterprise has an unlimited field. Meat consumption is, however, increased, not only by the increase of population, but by the progress in intelligence and social advancement. Perhaps the progress of a nation is better shown by its diet than any other one thing, and its consumption of meat may, therefore, become its standard of civilization.

Assured of a market for all our first-class meat, what are the prospects of our future production? In this country, unlike that of Europe, the proportion of live stock to population has steadily increased, both in numbers of animals and in average product. The increase in weight per head of stock has increased much more than our yield of grain per acre. This increase in weight has been the result of more intelligent breeding and feeding. Stock raisers, whether upon the great grass-producing plains of the west or upon the small farms of the older states, have made a more serious study of the scientific principles relating to the production of meat within the last ten years than ever before. They are now seeing more clearly that profitable meat growing depends, first upon the constitution and assimilative power of the animal; and, secondly, upon the skill with which foods are selected and adapted to its rapid growth. The incessant preaching of advanced minds, upon the necessity of infusing the prepotent blood of thoroughbred males into the great common herds of the west, is finally producing its result. Probably five to ten times the number of thoroughbred males have been introduced into these great herds during 1879 as in any previous year.

It is very easy to see that this must soon change the character of some fifteen to twenty millions of our lowest type of cattle. Every such cross adds from two hundred to four hundred pounds to each steer, besides greatly improving the quality. With this improvement in breeding goes, usually, an equal improvement in feeding and care. The large immigration every year to the rich unoccupied lands of the west is constantly increasing the number of herds and the production of meat. But the

large foreign immigration into this country also increases our home market for meat, and this market has the advantage of saving transportation. These immigrants will also, in a large proportion, soon become the producers of surplus beef; but the foreign demand will be quite equal to our utmost supply. Yet it will be only those advanced breeders and feeders who study to produce the best that will reap adequate profits. We believe that meat production is destined to increase so rapidly that our exportations of cattle and meat will soon equal our exportations of bread stuffs. The profits on the exports are never likely to be less than at present, for improvements in transportation are making such steady progress, that the cost of carriage, which must always be counted against the producer, will become less and less year by year, whilst improvements in feeding must steadily reduce the cost of production.—*Nat. Live-Stock Journal.*

A Year's Commercial Record.

Below we present a brief summary of present facts that will afford material for reflection and anticipation. The facts relate to the product of the leading crops and of the mines and forests for the past year; and, as compared with 1879, they make an exhibit of national progress that will generally be regarded as surprising. And yet, really, the improvement should not be so much a matter of wonder. The year 1879 was the last of five years of extraordinary depression, in which production was kept under the severest restriction, and consumption of everything was reduced to the lowest possible point. This was not a normal condition of things; and it was to be expected that as soon as business got upon a natural basis, and capital became inspired with confidence, we should see an immense increase in the volume of our transactions. From the panic of 1873 until the beginning of 1879, our population had increased by at least 12 per cent., or say about five millions of souls; and yet no chance had been afforded for this large addition to our producers and consumers producing its legitimate effect upon the trade of the country. So soon therefore as an opportunity occurred for a free expansion of the productive resources of the country, it was inevitable, the seasons favoring, that we should witness a vast increase in the supply of both natural products and of manufactures. And she causes that have produced the prosperity of 1879 may be expected to continue for some years.

Those always timid people who imagine that the great expansion of last year is simply a temporary outburst of national elation, will be very likely to find that 1880 will surpass the production of 1879, and 1881 that of 1880, and so on, until trade has developed some new conditions of disease that call for a curative reaction. The large advance in prices that has occurred during 1879, probably averaging about 25 per cent., shows that consumption has gone beyond even the largely increased production. This was naturally to be expected from the fact that one of the first effects of the revival was to produce an extensive renewal and repair of what we may term the plant of production, which left so much less for ordinary private consumption. When this special want has been satisfied, consumption will be more confined to its ordinary channels, and a decline in prices will then probably happen.

The following are some of the leading facts relating to the year's production and trade:

	1879.	1878.
Wheat crop, bush.....	448,700,000	420,100,000
Corn crop, value.....	\$800,000,000	\$450,000,000
Old crop, bush.....	364,000,000	418,000,000
Grain received at Atl. p. & b.	322,800,000	247,500,000
Cotton, receipts of, bales.....	4,394,700	4,456,200
Cotton taken by northern mills, last 4 months, b's	915,194	541,723
Crop of hay, value.....	\$328,000,000	\$236,500,000
Crop of potatoes, bush.....	181,400,000	124,000,000
Butter, receipts at N. Y. since June 1, pkgs.....	1,025,400	944,100
Coal, prod., at Atl. p. & b.	27,800,000	18,600,000
Pig iron, tons.....	2,800,000	2,301,000
Product of silver.....	\$37,032,000	\$37,248,000
Product of gold.....	31,470,000	30,000,000
Total product, prod. metals	\$68,502,000	74,248,000
Lumber shipments from Saginaw region, ft.....	678,000,000	584,000,000
Petroleum, exports, gals.....	402,800,000	329,100,000
Imports, U. S., 11 months.....	\$454,000,000	\$400,000,000
Exports U. S., 11 months.....	\$64,800,000	\$69,000,000
Exch't at Cl. Hou's of U. S.	\$88,912,000,000	\$27,000,000
Sales of stocks at N. York	73,849,145	89,364,740
Stock Exchange, shares		
Railroads, gross earnings twenty companies.....	\$96,567,000	\$88,937,000

—*Commercial Bulletin.*

Slitting the Bark of Trees.

When Prof. Snow, of the State University, at Lawrence, lectured at Topeka, on "How Plants Grow," under the auspices of Capital Grange, several questions were put to him on the subject of slitting the bark of trees, which operation he favored under certain conditions. We are reminded of this by the controversy which has been recently waged in the Connecticut *Farmer* on the same subject. Among the disputants, N. Coleman, a practical horticulturist, says: "Trees that have been top-grafted, and thus have their heads cut away, are very likely to become 'hide-bound,' by the sudden loss of so much foliage required to feed so many cells, and Mr. C. has found from actual experiment the great value of vertical bark slitting, an advantage to be gained in no other way. There are many cases where the bark of trees becomes indurated, and it requires a great expenditure of force on the growing cells beneath to push this bark outwards. By slitting this hardened bark much of this waste of force is saved."

A bill has been introduced into the New York legislature, allowing women to hold the position of trustees of schools. This is in accordance with the governor's suggestion; and with the example of Massachusetts.

To remove rust from steel rail well with sweet oil; in forty-eight hours use unslacked lime, powdered very fine; rub until the rust disappears.

Sorghum Boiling.

Mr. W. E. Fosnot says in the last KANSAS FARMER, that he is thinking of experimenting by steam, but he says he "is at a loss as yet to know the best method." My advice is to take the method that has proven successful, and make no experiments at all. There is a prevalent idea among our sorgho workers that they are going to make some great discovery, hence an experiment is to be made, and in ninety-nine cases out of every hundred a total failure is the result.

One man wrote me from Nebraska, of a steam project he had, which was to nail sheet iron on the top and bottom of an oblong frame of scantling, and thus make a steam boiler, and set his boiling pan on it with the juice in that, and with fire under the lower one. My reply was, in substance, that he could not get two pounds of pressure he would be blown up, and with less than sixty pounds he could not do good boiling with juice directly upon the boiler surface; and lastly I said to him by no means make such experiments unless you wish to lose your money and life too.

Only well constructed steam boilers that will stand one hundred pounds to the square inch for making steam, and good coil pipes, well arranged for applying steam at from sixty to eighty pounds to the juice, is safe. Let those who have skill and money to spare, try experiments, and you seek the advice and plans from those who have proven by the past that they have a method that will succeed.

What are you to do (should your experiments fail) with your ripe cane and the cold coming on? If I were to lay down a plan in the paper, it would only be half understood, and might do more harm than good. Who would ever know to be a good musician by merely learning the rules? No, sir, practice is needed and much reading.

After I had devoted some five years exclusively to this business, prior to 1882, I was induced to write a work on it, and then I commenced to read the works in the library, when I discovered I had made a great mistake in not reading before, which, if I had, it would have saved me many thousands of dollars. Sugar has been made many hundreds of years out of cooked juice, differing only slightly from our, most of it not as good, hence the general principles of the manufacture are the same, differing only in the minor matters.

J. A. HENKES.

St. Louis, Missouri.

Trimming Hedges.

I have just read an article in the FARMER of Feb. 25th, on trimming hedges, in which the writer takes exceptions to an article which appeared in the issue of the 11th of February. Now I write to take exceptions to the last article. It was written no doubt with good intentions, and so was the former for aught I know. The last writer says the spring is the proper time to put down, but not to trim a hedge. I say the proper time to trim depends on the age and size of the hedge.

So far as plowing the hedge row in the fall I agree with the writer, unless the ground be unbroken prairie when it should be plowed in May or June, re-plowed in the fall, and the hedge set the next spring.

Again, the writer says, plant six inches apart or 33 plants to the rod. I say 20 to the rod is ample, if good plants are used, and having more room, they make a vigorous growth.

Now instead of trimming every year thereby weakening the plants, they should be well cultivated for three years, or four if necessary. The plants will be much larger than if trimmed each year. It is a principle of wood growth, that every branch or leaf, severed from a tree or plant when in leaf, weakens the plant or tree just in proportion to the amount cut off. When the plants are of the proper size to form the hedge in the latter part of winter or early spring, trim the sides with a hedge ax, and with a hatchet cut or slash the hedge, leaving a stump three feet high, about every two feet plash or bend down and interweave between the standing stumps, bending some well down to the ground or cutting any way not needed, and finally cutting away any straggling brush, leaving a symmetrical frame work which should ever after indicate the line to which pruning should be done when the hedge is a fence. Prune when in full leaf to dwarf or check wood growth.

H. A. S.

Raising Amber Cane.

It is evident that the cultivation of amber cane will claim no inconsiderable part of the attention of many farmers in the northern states this season, especially of Minnesota, Wisconsin and Illinois. Inquiries reach us from persons in each of these states, and from Iowa also, in regard to this industry, and local papers at various points likewise show that there is no little interest abroad in regard to it.

From what has already been accomplished in the production of syrup and sugar from amber cane, it is hardly too much to say that the prospect is very favorable to complete success, and the outlook promises that this may become one of our most important industries. As our people come to understand fully what is requisite to success, and acquire the skill necessary in all branches of the industry to secure it, there seems to be little room to doubt that we shall make a large proportion of the sweets consumed in the country, or, at least, materially reduce the quantity annually imported.

The world's consumption of sugar is continually increasing and our own rapid growth and increased requirements constitute a prominent

factor in the problem of supply; and it now looms though amber cane is to constitute one of the most important elements in bringing about the important result of measurably providing for our requirements.—*Prairie Farmer.*

An Agricultural Department.

It has been adopted by the House Committee on Agriculture providing for a secretary and an assistant, who, like the members of the Cabinet, are to be appointed by the President with the consent of the Senate. If this should become a law the Department of Agriculture will be very materially enlarged, improved, and will take its place among the other divisions of the government which are presided over by a secretary.

No animal is so badly abused as the pig. The old man thought it a great hardship that we required him to clean their floor thoroughly once a day. But he ultimately found it much easier, as each daily cleaning was a mere thing. Pigs are naturally cleanly, if treated to be so, and when comfortably provided for, thrive better and fatten faster; and he could think the farmer would prefer to eat pork to that taken out of a manure hole.—*Country Gentleman.*

Patrons of Husbandry.

NATIONAL GRANGE.—Master: J. J. Woodman of Michigan; Secretary: Wm. M. Ireland, Washington, D. C.; Treasurer: F. M. McDowell, Wayne, N. Y. EXECUTIVE COMMITTEE.—Henry James, of Indiana; D. Wyatt Allen, of South Carolina; W. G. Wayne of New York. KANSAS STATE GRANGE.—Master: Wm. Sims, Topeka, Shawnee county; Secretary: F. B. Maxson, Emporia, Lyon county; Treasurer: W. F. Poppeno, Topeka, Shawnee county. EXECUTIVE COMMITTEE.—W. H. Jones, Holton, Jackson county; Levi Dumbauld, Hartford, Lyon county; J. S. Payne, Cadmus, Linn county.

COUNTY DEPUTIES.—J. T. Stevens, Lawrence, Douglas county; T. B. Tyers, Beaty, Marshall county; E. B. Powell, Augusta, Butler county; C. F. Morse, Mo. Lincoln county; A. J. Pope, Wichita, Sedgewick county; A. P. Reed, Coffeyville, Coffey county; J. E. Williams, Lincoln county; S. W. Day, Ottawa, Franklin county; G. A. Hovey, Belleville, Republic county; J. E. Barrett, Greenleaf, Washington county; W. W. Cane, Topeka, Shawnee county; J. McDonald, Solvay, Jackson county; Charles Dabbs, Clay Center, Clay county; Frank B. Smith, Rush Centre, Rush county; G. M. Summersville, McPherson, McPherson county; J. S. Payne, Cadmus, Linn county; Charles Wright, Lawrence, Douglas county; F. A. Williams, Milford, Morris county; John Anderson, Huron, Atchison county; George F. Jackson, Fredonia, Wilson county; D. C. Spurgeon, Leroy, Coffey county; James W. Williams, Peabody, Marion county; R. T. Ewald, Great Bend, Barton county; G. S. Wootley, Eureka, Greenwood county; James McCormick, Burr Oak, Jewell county; L. M. Earnest, Garnett, Anderson county; D. P. Clark, Kirwin, Phillips county; George Foll, Jarred, Pawnee county; A. H. Salt, City, Sumner county; James Faulkner, Iola, Allen county; J. E. Ellis, Miami county; George Amy, Genale, Bourbon county; W. D. Covington, Smith county; F. O. Kirwin, J. H. Wood, Woodward county; R. P. Williams, Erie, Neosho county; J. O. Vanorsdal, Winfield, Cowley county; George W. Black, Cloud county; W. J. Campbell, Red Stone, Cloud county; John Kehr, Fairfax, Geary county; S. F. Fick, Bunker Hill, Russell county; J. E. Miller, Sterling, Rice county; W. D. Blipine, Severance, Dickinson county; Arthur Sharp, Girard, Crawford county; F. B. Maxson, Emporia, Lyon county; A. M. Switzer, Hutchinson, Reno county; E. N. Wood, Ottawa, Ottawa county; G. S. Kneeland, Keosauqua, Wabasha county.

TO OFFICERS OF SUBORDINATE GRANGES. For the use of Subordinate Granges we have a set of receipt and order books which will prevent accounts getting mixed up or confused. They are: 1st, Receipts or Dues, 2nd, Secretary's Receipts, and 3rd, Orders in Treasurer. The set will be sent to any address, postage paid for \$1.00.

We solicit from Patrons, communications regarding the Order, Notices of New Elections, Feasts, Installations and a description of all subjects of general or special interest to Patrons.

Good Advice.

W. H. Check, Master N. C. State Grange, published recently a short address to the granges of that state, which contains advice that is as well suited to Kansas and other western states as to the "Old North State." The following is an extract from the address:

"The last session of the national grange carefully considered the present condition of the American farmer, with the hope of finding relief from their burdens and redress of their grievances. It appears that the greatest impediments to be overcome on the road to thrift and happiness, are obstacles placed therein by unfriendly legislation and by the combinations of moneyed monopolies. To surmount these it becomes necessary that we buckle on our armor, assume the offensive, and strike at the root of the evil. Ours is a free government, a government of the people, who are armed with a weapon mightier than the sword or the bayonet, a weapon of peace and of power, one ever able when intelligently used, to assert and maintain our rights.

To the ballot box we must go to accomplish our purpose, and go not as political partisans, but as a people bound together by common wants, common interests, and like grievances.

In the history of the last few years the great problem to be solved by the laboring man has been the question of bread—food for himself and his family. He who by his hands tilled the land has often been the one to feel the pangs of hunger, while those who toiled not, revelled in easy and luxury. Something is wrong. The remedy is with us, even in our hands. Exercise it intelligently, hardship will fly from us, plenty will smile on us; then with corn in our cribs, money in our coffers, and prosperity throughout our land, the American farmer can proudly claim to be the author of his country's greatness, her citizen in peace, her soldier in war.

Appreciating the great necessity of thorough conduct of action in this important movement, I do earnestly request that the master of each subordinate grange in the state will at once go to work to have a delegate at our next annual meeting. We want every county represented.

"If there is no live grange in your county, this is a most fitting opportunity for the revival of a dormant one. If no dormant one can be revived, and no regular delegate sent forward, then we request any former member of the or-

der who is in sympathy with our movement, to come to the meeting, that we may consult together for our country's good. Arrangements will be made that such friends may participate in our deliberations."

The Grange Over the Border.

Our Canadian neighbors seem to be very active in grange work, and their organ, the Canadian Farmer, zealously and ably supports the order. We clip the following from a recent number of that paper:

"In no instance, we venture to say, is there so much need of theoretical and practical training, and those of the most thorough kind, than in that of the farmer. From the very nature of his occupation, the variety of soil with which he has to deal, the uncertainty of the atmospheric and other influences that affect his crops, the enemies that have to be guarded against and other circumstances that must be taken into account by every practical and successful farmer, he must necessarily be not only an observant, but a reading man as well. He must not only carefully note and treasure up for future reference and use what he himself sees and reasons on, but he must be a thoughtful listener, either by ear or eye, to what others have to say in regard to their experiences. In this way he will become fully equipped to grapple with all the difficulties and solve all the problems of his profession, able to render a reason for all that he does in connection with the farm, and thus be sufficiently sure of the results when he comes to the end of the farming year and strikes the balance of profit and loss. Now the grange can do all this. It can provide for the instruction of its members in agricultural chemistry, and adopt every means for giving instruction experimentally as well as in theory. This there is no gainsaying, and those who would deny the usefulness of the grange, do so simply because they do not recognize either the greatness of the need of this kind of instruction, or because they ignore the sufficiency of the means employed for supplying it. As was truly said in the secretary's report at the last meeting of Dominion grange, the place supplied by the Royal Agricultural College in England, is endeavored to be filled by the grange in Canada and America, and if it obtains, as it deserves, the countenance and support of the government, the day will come when it will be a power for good in the land, and those who are now its bitterest opponents will see cause not only to abstain from opposition, but to lend it their hearty co-operation and substantial help."

The Grange as a Temperance Organization.

The influence of the order of the patrons of husbandry in promoting the cause of temperance, has from the first been of a most decided character. It is a fact that the best element in every agricultural community have always given their hearty endorsement to the principles of the order. At first it was a matter of surprise to those who were called upon to address the immense gatherings of patrons, that there was such good order, and an entire absence of rowdiness, such as had heretofore been common in the neighborhood before any granges had been organized.

The grange as a temperance organization has and will continue to assert its powerful but silent influence.—*Grange Bulletin.*

A patron of West Virginia writes to the Farmers' Friend: "We have been running a co-operative store for four years, which has rendered perfect satisfaction in furnishing to our members all their living in the purchase of the common necessities of life for at least 25 per cent. less cost than under the old system of dupe and pack-horse. We commenced our store with the small capital of \$500, which has been gradually increased, up to this time, to the amount of \$5,000, clear of all incumbrances. We sell to non-members at the same per cent., especially the few good old farmers (as we sympathize with them) whom as yet seem to be blind to their greatest interests, both socially and financially, by staying out of the grange; but, fortunately, there is but the fewest number within the limits of the grange."

On Co-operation.

[Extract from a circular letter of the executive committee of the Missouri State Grange:] "The amount of money necessarily paid by the farmer in the state of Missouri for farm implements, amounts upon a very low estimate to over one million dollars annually. If retail dealers, traveling agents, etc., make only fifteen per cent. on sales, then \$150,000 could be saved annually by buying through the grange agency. But instead of fifteen per cent., they frequently cost in purchasing through retail dealers from twenty-five to forty per cent., so that through the retail trade it averages at least twenty-five per cent. over and above the wholesale grange rates. Then the amount that might have been saved to the farmers is \$250,000 on farm implements alone in a single year. Hence the amount annually paid by the farmers in Missouri to support retail dealers, traveling agents, drummers, etc., would be equal to 25,000 good merchantable hogs at ten dollars each; or 10,000 steers at twenty-five dollars each; or 3,000 good horses or mules at eighty-four dollars each; or say 1,000 mules at \$80, \$80,000; 1,000 horses at \$75, \$75,000; 2,000 steers at \$35, \$70,000; 2,500 hogs at \$10, \$25,000. These sums put together will make the amount that might be saved annually to the farmers in the state by co-operating in purchasing their farm implements through their own agency."

Advertisements.

Our readers, in replying to advertisements in the Farmer, will do us a favor if they will state in their letters to advertisers that they saw the advertisement in the Kansas Farmer.

Eggs, Eggs.

From pure Light and Dark Brahmas. Write to F. E. MARSH, Manhattan, Kas.

Eggs! Eggs!

From pure-bred Black Spanish, white Leghorn, Plymouth Rock and Light Brahmas, \$1.25 per dozen or 2 dozen for \$2.50. Mammoth Sandpiper Seed for Poultry, 10c per packet. H. GRIFFITH, Topeka, Kas.

Eggs for Hatching.

L. & D. Brahmas, Buff Cochins, Plymouth Rocks, Brown & W. Leghorns, Poles and Ashbury ducks, eggs warranted fresh and true to name. A few trices each of the above fowls for sale. All of the best and most fashionable strains. I also raise and offer for sale.

8 Varieties of New Seedling Potatoes.

All of the best; hardy, prolific and good keepers: Alpha, Ruler, Burbank's, Snowflake, Early Ohio, Genesee County, King and Improved Peerless. I. DONOVAN, Fairmount, Kansas. Write for prices, etc.

Mound City Poultry Yards,

Mound City, Kas.

Breeder and shipper of pure bred Light Brahmas, Plymouth Rocks and Brown Leghorns. Am now booking orders for eggs as follows: Light Brahmas, \$3.00, Plymouth Rocks, \$2.00 and Brown Leghorns, \$1.50 for 15 eggs. Checks for sale after July 4th. Address:

S. L. IVES.

HIGH CLASS POULTRY.

(SEE ADVERTISING.)

Breeder & Shipper.

EGGS FOR HATCHING

In Season.

And for Hatching, etc.

WOOL-GROWERS

Can rely upon immunity from contagious disease in their flocks after use of LADD'S TOBACCO SHEEP WASH. GUARANTEED an immediate cure for scab and prevention of infection by that terror to flock-masters. GUARANTEED to more than repay the cost of application by increased growth of wool. GUARANTEED to improve the texture of the fleece instead of injury to it as is the result of the use of other compounds. GUARANTEED to destroy vermin on the animal and prevent a return. GUARANTEED to be the most effective, cheap and safe remedy ever offered to American Wool-growers. No flock-master should be without it. I have the most undoubted testimonials corroborative of above. Send for circular and address orders to W. M. LADD, 21 N. Main St., St. Louis, Mo.

Bee Hives,

Italian Bees

Eclipse, New American, Langstroth and Simplicity hives complete or ready to mail. Full colonies Italian Bees in good movable comb without honey. Have the most undoubted testimonials corroborative of above. Send for circular and address orders to W. M. LADD, 21 N. Main St., St. Louis, Mo.

To Bee-Keepers.

Many of our subscribers are lovers of Honey and would keep bees enough to supply their own tables at least if they knew how. We have made arrangements to furnish all such persons the \$2 per month Bee-keeper's Magazine at only \$1 a year (formerly \$1.50) or the KANSAS FARMER and Magazine for \$2.00. Also all bee books and articles used in Bee-keeping at very low prices. The Magazine gives beginners just such information as the must have to make the business successful and profitable. Send the money direct to us and we will see that your orders are promptly filled. For Prices of Extractors, Hives, Smokers, Uncapping knives, etc., Address, Publisher of the KANSAS FARMER, Topeka, Kansas.

HOGS.



Southern Kansas Swine Farm.

THOROUGHLY BREED POLAND-CHINAS AND BERKSHIRE Pigs and Hogs for sale. The very best of each breed. Early maturity, large growth, and fine style are marked features of our hogs. Terms reasonable. Correspondence solicited. RANDOLPH & RANDOLPH. Emporia, Kansas.

Shannon Hill Stock Farm

Thoroughbred Short-Horn Cattle and Berkshire Pigs, bred and for sale. Only first-class animals allowed to leave the farm. Address: G. W. GLICK, Atchison, Kansas.

A. Z. BLODGETT, WAUKEGAN, ILL., IMPORTER AND BREEDER OF

CLYDESDALE HORSES.

Imported and pure-bred stock for sale. Send for Catalogue.

THOROUGH-BRED

DURHAMS FOR SALE CHEAP.

One bull 5 years old, kind and gentle to handle. No better in the state. Has been shown twice a year and never failed of winning a prize. 1 yearling, 2 bull calves, cows, heifers, and sow calves. Address: VINTON ALLEN, Brown's Grove, Pawnee Co., Kas.

Breeders' Directory.

BLUE VALLEY HERD.—Walter M. Morgan, Horrell Cattle and Cows and Sheep, Irving, Marshall county, Kansas. Choice Young Bulls For Sale.

G. B. BOTHWELL, Breckenridge, Mo., breeder of Spanish or Improved American Merino sheep of Hammond stock, noted for hardiness and heavy fleece. 300 rams for sale.

HALL BROS., Ann Arbor, Mich., make a specialty of breeding the choicest strains of Poland, Suffolk, Essex and Berkshire Pigs. Present prices less than last year's rates. Satisfaction guaranteed. A few splendid pigs, sows and boars now ready.

JOSEPH FRY, Dover, Shawnee county, Kansas. Breeder of the best strains of Imported English Berkshire Hogs. A choice lot of pigs from 2 to 8 months old for sale. Prices to suit the times. Correspondence solicited.

FOR SALE, Scotch and black & tan rat pups, \$10 each; shepherd pups, \$15 to \$25; also pointers and setters. These are lowest prices. All imported stock. A. C. WADDELL, Topeka.

MILLER BROS., Junction City, Kansas. Breeders of and Record Poland China Swine (of Butler county, Ohio, strain); also Plymouth Rock and Brown Leghorn Fowls. Eggs, \$1.50 per 13. Descriptive Circular and Price List free.

Nurserymen's Directory.

THE KANSAS HOME NURSERIES offer a superior and Large Variety of trees for Western Planters, all the standard and choice varieties of Apples, Peaches, Cherries, Pears, Plums and Quinces. Small Fruits, Vines, Shrubbery, and Ornamental Trees. No. 1 Apple Seedlings. Prices to all applicants. Send stamp for samples. A. H. & C. GRISWOLD, Lawrence, Kansas.

LEE'S SUMMIT AND BELTON NURSERIES, Fruit Trees of the best, and cheapest. Apple Trees and Hedge Plants a specialty. Address: ROBT. WATSON, Lee's Summit, Jackson Co., Mo.

A. WHITCOMB, Florist, Lawrence, Kansas. Catalogue of Greenhouse and Budding Plants sent free.

MIAMI COUNTY NURSERIES. 11th year. Large stock good assortment of trees for Western Planters, all the standard and choice varieties of Apples, Peaches, Cherries, Pears, Plums and Quinces. Small Fruits, Vines, Shrubbery, and Ornamental Trees. No. 1 Apple Seedlings. Prices to all applicants. Send stamp for samples. A. H. & C. GRISWOLD, Lawrence, Kansas.

Dentist.

A. H. THOMPSON, D. D. S., Operative and Surgeon, Dentist, No. 126 Kansas Avenue, Topeka, Kansas.

TEETH extracted without pain, by Nitrous Oxide gas, or laughing gas, at DR. STULTZ'S Dental Rooms, over Funk's Clothing Store, Topeka, Kansas.

POULTRY BREEDERS TAKE NOTICE.

I have a few choice Plymouth Rock and Brown Leghorn fowls for sale at reasonable figures if applied for soon. Address Mound City Poultry Yards, Mound City, Kansas.

JAMES A. BAYLES,

Lee's Summit, Jackson County, Mo., Has the largest and best Nursery Establishment in the West. Correspondence promptly answered.

BERKSHIRES

—AT THE—

COLLEGE FARM.

We offer for sale a few litters of very choice pigs' the get of such noted sires as Imported Mahomet 1979, Gil Blas 3627, —a son of Lord Liverpool— and others. "Salices," "St. Bridges" and "Miss Smith" in the herd. Pigs ready to ship now. Also

SHORT-HORNS,

(Young Marys), of both sexes. Address: F. M. SHELTON, Supt. Farm, Manhattan, Kansas.

Pure White Doura

—OR—

Egyptian Rice Corn.

I will supply parties at \$2.00 per bushel and 20 cts per sack, marked and delivered on board of cars, or 25 cents per pound by mail, postage paid. S. S. DICKINSON, Iarned, Kansas.

Little's Chemical Sheep Dip.

We have just tested this DIP on a flock of 400 sheep in COLD WATER, (one to one hundred.)

36 Hours after Dipping

all scab and evidence of inflammation disappeared and left the skin SMOOTH AND CLEAN, and the sheep in fine condition. Sold by

ROOT & HOLLINGSWORTH,

Kinsley, Edwards Co., Kansas.

NOW READY (Object Teaching) FOR

Stock Doctor and Live-Stock Encyclopedia.

embracing Horses, Cattle, Sheep, Swine and Poultry—their breeds, breeding, training, care and management; their diseases, prevention, symptoms and remedies. Giving latest and most enlightened methods. By J. D. Russell Manning, M. D., V. S. With 1000 pages, 400 illustrations, and 2 full-page charts. The book for owners. For terms address

N. D. Thompson & Co., Pubs., St. Louis, Mo.

THE Beautiful Indian Territory.

When we went to Texas, we picked out the route down through the finest portion of Missouri, by way of the "Queen City" Sedalia, thence to Fort Scott and Parsons, through the garden portion of Kansas, passing along the wonderful "Valley of the Neosho," with its rolling upland prairies, broad majestic rivers, springs of pure water, deep ravines, rich plains of waving corn, dotted here and there with pretty farm cottages nestled under the green slopes.

—Going south from Parsons, Kansas, our route led down towards the blue waters of the Gulf of Mexico, and we entered the Charming Indian Territory, just below Chetopa, Kansas.

Beautiful Indian Territory, inexhaustible in its variety of resources, with its mines, forests and prairies; its mountains, cataraacts and canyons; its valleys, dunes and streams; the brightest skies, the grandest sunsets, the softest twilight and the most brilliant moon and glittering stars; her fair surfaces covered with the rarest fragrant flowers; home of the wild horse, deer, elk, bear, turkey, grouse and birds of song. Broad winding streams, clear as the bluest mirror in the halls of the fairies, wind along the green prairies, stretching in airy undulations far away, as if the ocean in its gentlest swell stood still with all its rounded billows, fixed and motionless for ever. No man's country on the globe equals these vast, fertile lands of the red man. With a lingering look at them we crossed the Red river and entered Denison, the "Gate to Texas." From this point our route led thro' the finest and richest portion of Texas, through the grain and cotton growing districts, and the wonderful sheep and cattle ranches. What wonderful marks of progress we saw! Our earnest advice to those going to Texas, is to be sure and take the route through the Beautiful Indian Territory, and enter the Gate City, Denison; see that you go by way of the Great Missouri Kansas and Texas Railway.

If you wish a beautiful illustrated guide book, describing Texas and Kansas, and containing articles on cattle raising, and where the best and cheapest lands are, it will be sent you free of charge by returning a card to

JAR. D. BROWN, Texas and Kansas Encampment Agent, St. Louis, Mo.

THE KANSAS FARMER.

E. E. EWING, Editor & Proprietor,
Topeka, Kansas.

TERMS: CASH IN ADVANCE.

One Copy, Weekly, for one year, \$1.50
One Copy, Weekly, for six months, .90
One Copy, Weekly, for three months, .50
The greatest care is used to prevent swindling humbugs securing space in these advertising columns. Advertisements of lotteries, whisky bitters, and quack doctors are not received. We accept advertisements only for cash, cannot give space and take pay in trade of any kind. This is business, and it is a just and equitable rule adhered to in the publication of THE FARMER.

TO SUBSCRIBERS.

Subscribers should very carefully notice the label stamped upon the margin of their papers. All those marked 18 expire with the next issue. The paper is always discontinued at the expiration of the time paid for, and to avoid missing a number renewals should be made at once.

Great Inducements to Subscribers.

We offer the KANSAS FARMER to single subscribers TWO YEARS for TWO DOLLARS payable in advance. We wish to place the FARMER in the hands of every farmer in Kansas and increase its circulation beyond the borders of the state, and to this end we offer the above inducement which is virtually reducing the price to single subscribers to one dollar a year, our only advantage being the advance payment for the second year. Club agents will be allowed to include two year subscribers in making up their clubs of \$10.00. Five two year subscribers paying \$10 will entitle the agent to a copy of the FARMER for one year; or a mixed club of one and two year subscribers, when the money for his club amounts to \$10, the agent will be entitled to a copy free for one year. Now let us see what our agents can do in raising clubs before the spring opens. Six weeks yet remain to work for clubs and a free copy of the KANSAS FARMER.

City and Country Life.

The value of country life has ever been a prolific theme for those who make the laws of health and development of the human race a study, and with the advance, in this, as in all other branches of scientific investigation, the value of country air habits of exercise, freedom of action and general liberty from restraint, morally, socially and physically, the advantages and superiorities of the country to the town, for the rearing of children and the growth of sturdy, healthy, useful men and women, is yearly becoming more apparent to all classes who make up the thinking and reflecting portion of our population.

Out of one hundred representative business and professional men in Springfield, Mass., to whom the Rev. Washington Gladden sent a circular of inquiry regarding their youth, eighty-six returned answers. Of these, sixty-four were brought up on farms, twelve spent their boyhood in villages, and twelve were brought up in cities. Six of those brought up in villages and cities were accustomed to do farm work, and were practically farmer boys, and only five reported that they had no work in particular to do in youth. To sum up—Of eighty-six solid men of Springfield, eighty-one were workers in boyhood.

City life is unnatural, and detrimental to the growth and healthy development of the young, as confinement and tainted air is to every species of the animal kingdom. The open air is as essential to feed and promote the growth of the young in forming tissues as it is to growth of leaves and branches of trees and vegetables, and man has no substitute for this purest of all elements.

City life, with its foul air, its restraint on room, its bustle and excitement, its contact, constant and unintermitting, with the human species, engenders a thirst for strong drink, and its moral atmosphere is contagious with bad habits and impure thought. The great evil of using alcoholic and other stimulants, and chewing and smoking tobacco, so universally practiced in cities, is doubtless attributable to a morbid state of the nervous system arising from a want of pure air and fresh diet, water and proper physical exercise during the period of growth of the young animal, more than all other causes.

When the laws of growth and health in relation to the moral development of men are better understood, the wealthy in cities will send their children to schools in the country where trades, and especially a knowledge of agriculture, are taught, in place of classical colleges, moss grown with the customs and reverence of monastery life, and where hazing and all manner of deviltry are practiced for the want of proper physical exercise and interesting, manual labor.

The cities of the 19th century are preying upon the physical and moral health and strength of the race, to an extent that is not generally realized. The finesse of crime and the willingness to exonerate, or lightly punish its perpetrators, is evidence that charity of a type that views vice with mild eyes, is more rapidly developing than virtue. The morals of the times excuse dishonesty and sharp practice, because the city life of the times makes it almost a necessity to keep up appearances and exist without preying on one another.

City life is bad in all its tendencies and effects on the young. It might properly be compared to raising a calf in a confined stall in place of out on the green pastures. He will grow up vicious, restless, or unhealthy, or partake of all those defects at maturity. The same process will produce a similar result on the boy.

But how shall country life be made as attractive or nearly so, as city life. Variety, company and excitement are the secret charm of city life. It is not that the labor of the city is less exacting and wearying than that of the coun-

try, for it is far more so. It is not that it is more remunerative, for it is less so in the aggregate. How shall the much needed reform be accomplished? The answer is by improving our system of education. By elevating farm life by infusing it with a higher degree of intelligence. By improving its social customs and its economies, by teaching its vocation to labor less with their limbs and more with their brains, which will enable them to keep more of what they earn and allow middle men and an army of handlers of their produce to appropriate less.

These essentials to a reform in farm life cannot be reached by what is known as industry or incessant and diligent toil, but by thought; more educated thought would add to the wealth and comforts of the farm a thousand fold more than all the patent manures ever invented.

The American Fruit-Drier.

We have received a circular or pamphlet from the American Fruit-Drier Manufacturing Company, located at Chambersburg, Pa., which gives out and description of Dr. Byder's fruit-evaporating machine. From an examination of the pamphlet and the endorsement of leading fruit growers, we are very favorably impressed with the principle on which this evaporator is constructed. It is simple, economical and cheap in cost as compared to other evaporators, the price placing the machine within the reach of every family who is fortunate enough to own a garden or orchard, and who raises more fruit than they can use or dispose of in its fresh state. The Family Drier costs \$75, and is capable of drying eight or ten bushels of apples per day. A smaller, or exhibition size, cost \$50, and has a capacity of five or six bushels. The company's larger machines are suitable for extensive drying establishments and large orchards.

The principle on which the American Drier is constructed is radically different from other evaporators, having the drying chamber at an angle of forty degrees, more or less, to the heating furnace in place of vertical. This partial knock down of the drying box is a decided improvement over the vertical, permitting the vapor-laden heat to pass over and away from the fruit, which is kept constantly in a steam bath by the vertical plan. This improvement is claimed by the American Fruit-Drier Manufacturing Company—and we have no doubt of the correctness of the principle—to make a superior article of evaporated fruit, perfect the operation much faster, and reduce the cost of driers on this plan, far below that of other makes of the same capacity.

All who have fruit which they could utilize, should send a postal card to the company, at Chambersburg, Pa., for a circular, which in addition to cuts and full description of the American Fruit-Drier, contains much valuable information on the subject of evaporated fruits, which is fast becoming a very important and profitable farm industry. Those who are planting orchards should plant with the object of making evaporated fruits of their crop, in place of following the old principle of converting the surplus into cider which after many months is converted into vinegar—the half being wasted in the process—and finally traded and sold for little more than the original cost of the casks.

As much clear profit can be got out of nicely evaporated fruit as when sold in the fresh state at the best market prices, and all wastage saved. And in the saving of this great waste which attends the handling of green fruit, is where the profit is made. We hazard the assertion without fear of successful controversy, that a crop of a thousand barrels of apples can be marketed by the aid of the evaporator, which will bring the owner as much clear profit per barrel, as green fruit, with but a nominal loss, while in the gathering, sorting, packing and shipping the same apples in their green or fresh state, there will be a loss of at least twenty-five per cent.

A New Leaf in Farming.

Turning a new leaf is a maxim indicative of advance, and a departure from old and usually bad habits. There are lively manifestations at present of this turning of a new leaf in farming. A very wholesome sign of this is the interest in and inquiry about new crops, to vary and enlarge the resources of the farm. General Le Duc, notwithstanding the sport he has afforded the press of the country, and especially the commercial press, which leaves no opportunity unimproved to indulge a fling at the farmer and farm life, deserves a kind word for the zeal he has shown in seeking to benefit agriculture by introducing new varieties of crops. The spirit of inquiry and investigation once started is likely to be pushed to the achievement of most beneficial results. Already the fruits of this new interest are being reaped, to a limited extent, with a fair promise of a fine harvest in the not remote future. Not only are new varieties being introduced, but a marked improvement over old methods and old products of the farm, has taken place recently. That in the quality and size of cattle and their early maturity, has been most conspicuous. In the improvement of sheep and swine, there has been scarcely less advance made. The interest in horse flesh having run in the direction of gambling and the turf almost exclusively for a long time, has recently taken a sharp diversion, or rather branched off into a more practical and useful channel, and the breeding of strains of large, fine horses for purposes of slow and quick, or heavy and light draft, is advancing with rapid strides, as one of the profitable industries of the farm. Heretofore the raising of plug horses was of doubtful utility, the same amount of care, time and feed being required to produce an animal of the latter class, worth

one hundred to two hundred per cent, less at three years old, than a horse of the large, improved breeds, which are being introduced by such breeders as M. W. Dunham, the Powell Bros., Smiths & Powell, and others.

Science applied to the manufacture of butter and cheese, is working a wonderful revolution in the products of the dairy, adding to their value a hundred fold, while materially increasing the quantity by improved inventions and methods of managing the milk.

Poultry and honey have, within a few years, grown to be important interests which figure among the statistics of agricultural wealth very handsome aggregates, showing a gratifying increase each succeeding year.

The production of sugar and syrup from beets and sorghum cane, is attracting much interest throughout the country, and the indications are such as to almost warrant a revolution in the sugar supply of the world.

Fruit, which has been cultivated by the large majority of farmers throughout the country, with a view of supplying home demand, more than any serious thought of making it a staple, money crop, is advancing to a conspicuous place among the profitable selling crops of the farmer. The orchard is no longer looked upon as a companion-piece to the farmer's kitchen garden, but late developments in the art of drying and canning fruits, and the demand in home and European markets for all that can be produced, is another step in the path of progress on the farm, opening a new chapter in agriculture.

These new industries and improved processes require improved modes of farming and more intelligent management. The farm is calling for more and a better class of laborers to conduct its operations. In the language of holy writ, the fields are white with the harvest, "but the laborers are few"—few of the class demanded by the exigencies of the times. The possibilities of farm life are yearly extending, offering a profitable and diversified field for the scholar and man of aesthetic tastes, in those not altogether new, but greatly improved branches of rural life mentioned above.

The waste of the farm in the past has been most prodigal. A more economic practice in agriculture is demanded by every consideration of profit. There is now a market open to receive every article that can be produced on the farm, and a mode of preparing and fitting it for market, but requiring an intelligence above the average. The smart boys are not so much needed in the crowded marts of trade and the overstocked professions, as on the farm. A life of independence, usefulness and satisfaction awaits and invites them there. A handsome income is either wasted, or the means of acquiring it lie dormant on every farm. To learn the possibilities of agriculture, the resources it is capable of, and how to utilize them, is the problem which presses for solution; and a systematic unity of action among the agricultural classes is demanded, to retain more of the products of the farm in the hands of their producers.

Artesian Wells.

Some of our western readers who are chafing under the protracted drought in that region, and who, as is natural, grasp at every straw, think that irrigation by means of artesian wells could be accomplished. This is an idle dream, as an artesian well cannot be produced, except certain geological formations are present. Where such do not exist, flowing wells cannot be made, and we have no evidence that any part of the plains of Kansas presents those geological features—at least not within reach of human skill—to make it possible to secure such wells. A great body of water must be reached by the auger, with internal pressure sufficient to force a stream through the artificial vent before artesian wells are possible. The theory which has obtained of artesian wells owing their existence to hydraulic force, is questioned if not refuted, and the constant, natural flow from such wells is attributed to centrifugal force ever present in the earth's motion.

But even if the necessary conditions were present beneath the western plains to establish a flowing well in every roll of the ocean-like prairies, the water which would flow from a four or five inch vent would not suffice to irrigate the land embraced within the boundaries of one farm. The cost of an artesian well is thousands of dollars. Such wells have generally to be driven hundreds of feet deep. Ten thousand wells would be but a mere bagatelle to the limitless extent of our western plains; and to bore ten thousand such wells would cost millions of dollars, and if once constructed and their throats constantly filled with an upward stream, their discharge on the vast surface of the droughty prairies, would be but as a bucketful of water to the Atlantic ocean. Watering the great western plains by the construction of dams across sloughs and artesian wells, is an idle dream. The steady advance of settlement and cultivation, with the requisite time to accomplish necessary changes in the soil, will bring the desired rainfall to the, at present, dry border, as they have to the eastern and middle portions of the "Great American Desert."

Sale of Jersey Stock.

We invite the attention of our readers to the public sale of Jersey stock of Willow Grove Farm, at the Union Stock Yards, Indianapolis, Indiana, by G. M. Hoover, manager, advertised in the KANSAS FARMER. Mr. Hoover writes us that arrangements for special hotel rates for all parties attending the sale, have been made with Mr. Sherman, proprietor of the New Dominion Hotel, at Indianapolis. This sale will prove a rare chance to obtain fine Jersey stock.

Fifty head of these fine butter-makers will be sold, together with other fine-bred stock.

Can't Afford to Take the Farmer.

Here is a little anecdote clipped from the Grange Bulletin which we are constantly reminded of by our agents, who tell us theeth with so many farmers who can't afford like an agricultural paper which is constantly keeping watch and ward over their interests, which interests are constantly being en away from them for the want of that inflation that would cost them less than half at a day, and which would often prevent la they sustain of sometimes a hundred dolla single transaction. Such men are poorl hard pressed because they will remain in igan. They might as well say they could afford to purchase necessary seed after put their ground in order for planting, and ext to reap a crop, as to plead poverty as an ex for remaining ignorant of information that necessary to their prosperity to acquire, as to plant seed to raise a crop. But the foll ing is the anecdote:

"He could not afford to take the Bulletin but he paid the agent only \$40 for his new Siger sewing machine a short time ago—when Mr. Hill has written it twenty-one times in letters in the Bulletin during the past year he was sending them to Patrons at \$1 each. Tell him to avoid such little mistakes in the future by subscribing at once, and take his name and there."

Capital Grange.

The annual special of this grange was held in Costa's Opera House, in Topeka, February 26th. A most enjoyable time was had, and results exceeded the expectations of the most sanguine members. The total receipts were \$355. The net results were \$177, which will be laid by as a nest-egg for future use.

Sheep Shearing.

The annual public sheep shearing on the Merino Stock Farm of Mr. Samuel Jewett, 21 miles northwest of Independence, Mo., March 31st. All wool-growers are cordially invited to this great clipping carnival. Mr. Jewett's enterprise and public spirit in keeping up these exhibitions, is commendable. Such meetings tend greatly to promote the sheep interest of that region of country. The worthy proprietor of the "Farm" has our thanks for the cordial invitation extended to the editor.

The light fall of snow which we have had in the eastern part of Kansas the first of the week, will greatly benefit the wheat. On the whole, the present winter in this part of the state has been a favorable season for that crop, two or three soaking rains at intervals of several weeks having wet the ground thoroughly, and kept up a bountiful supply of moisture about the roots of the young plants, which has served as a thorough protection from the combined effects of drying winds and frost, so destructive to young plant life in winter.

Catalogues Received.

We are pleased to note the following catalogues received since our last issue:

Wholesale price list from Messrs. Baird & Tuttle, Bloomington, Ill.; also their plant catalogue for spring of 1890. This is from the old, well known Bloomington Nurseries.

Catalogue of small fruits, from J. G. Rubach, Princeton, N. Jersey.

From Wm. Davis, Leavesworth, Kan., a neat illustrated pamphlet of "High class, pure bred poultry."

Wholesale catalogue of evergreens, from David Hill, Dundee, Ill.

Joseph Harris, Moreton Farm, Rochester, N. Y., sends us his catalogue of choice garden and flower seeds for 1890. Everybody will recognize the name as the author of "Walks and Talks" in the American Agriculturist.

"The Heart of New Kansas," a pamphlet historical and descriptive of southwestern Kansas, more especially Barton and Pawnee counties. Price, 75c. B. B. Smyth, publisher, Great Bend, Kansas.

Nellis' Floral Instructor and priced catalogue of flower seeds, from A. C. Nellis, Canjoharie, N. Y.

From E. Moody & Sons, Lockport, N. Y., trade list of nursery stock.

From C. E. Allen, Brattleboro, Vt., a finely illustrated Seed Catalogue for 1890. A beautiful cut of that choice geranium, "New Life," ornaments the first page.

From N. H. Gentry, Sedalia, Mo., catalogue of "Wooddale" Berkshires. Mr. Gentry is a prominent breeder of pure blooded Berkshires.

From A. Z. Blodgett, Waukegan, Ill., catalogue of Clydesdale horses.

From J. F. Miller, Ind., catalogue of thoroughbred Alderney cattle.

Some of our correspondents use pale or purple inks when writing for the press. The latter fades frequently by the time it reaches us, so that it is impossible or very difficult to read it. Use black ink or a good lead pencil—if on soft paper the latter is best. Leave a space of a quarter of an inch at least between each word. If the orthography is correct, and the ink is dotted and it's crossed, we can read almost anything. But if the words are crowded, letters not plainly formed, and spelling bad, the task is often difficult.

R. M. D. of Harper, Kas., wants to know how to treat seed of evergreens to have them germinate. Experts inform us that this process requires extreme care, and novices are not likely to succeed, especially in the region of Harper.

Artichokes.

We have had several inquiries about artichokes, the tuber being new to most farmers, but an old, well known plant, nevertheless. Trumbull, Reynolds & Allen, the extensive seed and farm implement dealers of Kansas City, have been gathering all the information on artichokes, amber cane, pearl millet, and other new crops which are exciting inquiry among progressive farmers, and have issued a circular embodying the principal points of interest, the result of their inquiries. The following extract is from their circular in regard to the nature of the Jerusalem artichoke. A grain of allowance should always be had for coloring in seedmen's circulars, loud colors being fashionable in that school of art. The main points of information sought after by farmers, will be found in the following extract from the circular. "Artichokes are doubtless a valuable root crop for stock:

J. C. Evans, Esq., Vice President Kansas Exposition, gave us a very interesting article on the artichoke, for our annual catalogue, from which we make a short extract. He has been raising them for thirteen years; never knew what it was to have cholera amongst his hogs, and don't believe any other farmer will who will raise and feed artichokes along with their grain. Frost does not hurt them; they may remain in the ground all winter, and in the spring will come out fresh and juicy. Horses, cattle, sheep and hogs are very fond of them and need very little grain when fed on them. No other crop is as cheap hog food; and when allowed, and the ground is not frozen too hard, the hog will do his own digging and keep fat. They are very nutritious and are said to contain more nourishment matter than the sugar beet. They are very excellent food for milch cows, causing a large flow of very rich milk, that will make water equal to the best June butter. If one has plenty of cellar room, they are as handy to feed as corn, requiring no preparation for any kind of stock. Hogs, when fed on them, are less subject to disease of any kind.

If there are odd, ill-shaped corners on the farm, they are quite suitable for artichokes, as they can be fenced off from other crops and the hogs turned in.

"Plow the land deep early in spring; harrow well and mark with a shovel plow, three and a half feet apart; cut the tubers to one eye and plant one in a place two feet apart; cover with the same plow by running on both sides of the row. As soon as the plants are up, cultivate to keep down the weeds; three plowings and one hoeing are usually enough if done at the right time. The last work should be done when they are about waist high, and the surface should be kept as level as possible. One acre of good land, treated as above, is worth as much on a farm, as food for stock, as five acres of good corn."

Write something when you take up the pen, for the purpose of communicating through the FARMER and you will be sure of a hearing. Either ask for information or impart some. "Vermonters" promises to do so, but has failed in both respects in his communication. We send him some blanks, and trust he will keep these two fundamental objects in view.

Those whose subscriptions expire this month ought to at once send us their names to be entered for another year. Send us at least 30 days before the expiration of the month.

W. N. Hall, Sterling, Kansas, your calves had hydrophobia; had been bitten doubtless by a rabid wolf or dog some weeks previous.

Important to Book Agents.

"Dr. Manning's long looked for object teaching School Doctor and Live-Stock Encyclopedia, with 1,000 pages, 400 illustrations, and two charts, is announced by N. D. Thompson & Co., publishers, at St. Louis, Mo. It covers the subjects of Horses, Cattle, Sheep, Swine and Poultry, in health and disease, and is a work of such practical character and value as to be in great demand. A rare chance for agents.

Washington, D. C., Jan. 10, 1890.

H. H. Warner & Co.—Dear Sir: I write to say that after having taken your Safe Pills and finding them all that is claimed for them in your circular, I cheerfully recommend them as the best pills in the market.

JOSEPH PRATHER,
409 M. street, Washington, D. C.

Inquiries and Answers.

ED. FARMER: I am a subscriber to your valuable paper, and would like you to answer, through its columns, a few questions:

1. What is the best method of applying burned bone and wood ashes to vegetables, whether on the surface of the ground or below?
2. Are wood ashes good as a top-dressing for onions, and how much to the acre? Would ashes from a burned hay-stack be the same as wood ashes?

3. Where can I procure seed of the Umbrella China tree, and instructions for planting and growing?

Winter wheat is looking very well here, but needs rain. Most of the farmers are busy plowing. Most of the oats are sown. The country is settling up rapidly. There were sixty land buyers got off the train at this point on the 5th of this month.

If desirable, I will tell in my next how I build a good stable for three horses, and granary, for \$17.
Iola, Kansas.

By all means tell us how the stable and granary were built.

The best method of applying burned bone and wood ashes to root crops or corn, is in the hill or row before planting. Sprinkle a small hand-

THE COOLEY CREAMER.

ers and butter makers of Kansas, we wish to call your attention to the great success of the submerged process of setting milk for raising cream—as evidenced by the large

Extracts taken from letters received from parties under the O'Brien name. The saving of labor is fully 50 percent. "Proves to be a great saving of labor and time." "The saving of labor is fully 50 percent." "I can't get milked without it if I had but one cow." "Am getting from 5 to 8 cents a pound more over the milk than making by the old process." "I placed it in a small balanced line attached to my barn, where it hangs and worked equally well in the coldest as well as in the mildest weather." "I have used it for about 10 years for summer than for winter, and it has proved to be a great saving of labor and time." "I had but two cows in the summer, but I was able to get more milk from them than I could have done without it." "I have used it for about 10 years, and it has proved to be a great saving of labor and time." "I can make a better quality of butter and more of it, with much less labor."

To the many that have signified to us their intention of getting one next spring, we say, purchase now, and get the benefit of it during the winter while butter is high. It is equally as good for summer use as for winter use. You want good advice, and we give it. Write to us at Chicago. Drydenman giving prices and names of agents.

W. B. O'BRIEN & SONS, 100 N. WABASH ST., CHICAGO, ILL.
J. H. KANAN & SCHAFFER, STATE AGENTS, 100 KANSAS AVENUE, TOPEKA, KANS.

Barnes' Wire Check Rower.

The Only Entirely Successful Wire Check Rower Ever Invented.



Seven years practical use has proven the success of the Barnes' Wire Check Rower beyond question. It is fast taking the lead with dealers and among the farmers who have rendered an unanimous verdict that it is the best Check Rower made.

The following are the advantages over any other check Rower:

- Use of wire in place of a rope, and that one wire will outlast two ropes.
- The wire will not stretch and shrink like a rope.
- The wire is as easy to handle as a rope.
- The wire does not cross the machine.
- There is no side draft.
- It will plant perfectly and more in check.
- The operator does not have to get off the machine to throw the wire off at the end of the field.
- It will work any planter as now made.

Write for a FREE CATALOG. Take no other.

CHAMBERS, BERING & QUINLAN, Exclusive Manufacturers, Decatur, Ill.
For sale by SMITH & KEATING, General agents for Kansas. Dealers in Agricultural Implements
Kansas City, Mo.

Only Double Ring Invented.
Champion Hog Ringe
 RINGS & HOLDER.
 No sharp points in the flesh to cause irritation and soreness, as in case of rings that close with the rings in the flesh, and produce soreness of the nose. The Champion Hog Ringe is the only one that closes on the outside of the nose. **BROWN'S PATENT** Triple Groove Hog and Pig Ringer. This is the only single Ring ever invented that closes on the outside of the nose. It never comes a serious defect in all triangular and other rings which close with the joints together in the flesh causing it to decay and to keep the hog's nose sore.

CHAMBERS, BERING & QUINLAN, Exclusive Manufacturers, Decatur, Ill.

10



"VICTOR KNIGHT."

Imported Clydesdales

ALSO
HAMBLETONIANS.

And other desirable strains of
Trotting Stock,
 For Sale Cheap and on Easy Terms.


All Stock guaranteed to be as represented. Catalogues sent free. Address,
POWELL BROS.
Springboro, Crawford Co.



GILT-EDGE BUTTER MAKER

Butter Maker


This powder maker "Gilt-Edge" Butter the year round. Common-sense and the Science of Chemistry applied to Butter making. Only August and Winter Butter made equal to the best.



BUTTER MAKING

This powder makes "Gilt-Edge" Butter the year round. Common-sense and the Science of Chemistry applied to Butter making. July, August and Winter Butter made equal to the best June product. Increases product 6 per cent. Improves quality at least 20 per cent. Reduces labor of churning or half. Prevents Butter becoming rancid. Improves market value 3 to 5 cents a pound. Guaranteed free from all injurious ingredients. Gives a nice Golden Color the year around.

cents' worth will produce \$2.00 in increase or product market value. Can you make a better investment? Beware of imitations. Genuine sold only in boxes with trademark of dairy-maid, together with words "GILT-EDGED BUTTER MAKER" printed on each package. Powder is sold by all leading General Store-keepers. Ask your dealer



cents' worth will produce \$2.00 in increase of product at market value. Can you make a better investment? Beware of imitations. Genuine sold only in boxes with trademark of dairymail, together with the words "GILT-EDGED BUTTER MAKERS" printed on each package. Powder sold by Grocers and General Store-keepers. Ask your dealer for our book "Hints to Butter-Makers," or send stamp to us for it. Small size, $\frac{1}{4}$ lb., at 25 cents; Large size, $\frac{1}{2}$ lb. \$1.00. Great saving by buying the larger size.

Address, BUTTER IMPROVEMENT CO., Prop'rs,
 The "Dairymail" Butter Makers' Association, BUFFALO, N. Y.

WATCHES! CLOCKS!

WATCHES! CLOCKS!
JEWELRY!
SILVER--PLATED WARE!
Large stock and Low Prices at JAMES DOUGLASS' 205 Kansas Ave., Topeka, Kas.

**NEW CASH
SADDLE AND HARNESS MANUFACTORY**

NEW CASH
SADDLE AND HARNESS MANUFACTORY
135 Kansas Avenue, Topeka, Kansas.
H. D. CLARK, Manufacturer of Leather, Saddles,
and Buckskin Leather.

WHIPS.

ness, &c., and Dealer in Leather,
WHIPS,
Shoe Findings, etc., Wholesale and Retail.
FOR CASH ONLY.
Cash paid for hides, tallow, sheep pelts and furs

ORGANS.
with food and medicinal food.
giving as follows any food, drink, or
other article (the manufacturer,
owner or possessor, of any of the

P. O. Drawer 12, Bridgeport, Ct., U. S. A.