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THE KANSAS FARMER.

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Pruning.

Pruning is tree surgery and should no more be undertaken without a knowledge of the anatomy and physiology of trees, than should human surgery without a knowledge of their sciences as they relate to the human system. Every man in putting a knife to a tree to prune it, should be able to give a good, intelligent reason for the operation he is about to perform.

A fruit tree is a real living being, and should no more be hacked and cut without a real necessity for it, than is the human body to be so treated. A great diversity of opinion exists among horticulturists as to the benefit of pruning; some believing in quite severe pruning and others in none at all. That this operation, when performed with intelligence and skill, is beneficial, does not admit of question. It is said that to be an intelligent pruner a man should know when to prune, what to prune, and how to prune. The remark that a man should prune when his knife is sharp contains more wit than sense. That a knife should be sharp to prune is so evident that it scarcely needs statement; but that pruning should be done at any time that a man may have his knife sharp, indicates an ignorance of the most important principles of plant life. The time when pruning is to be done depends entirely on the purpose for which it is done; for this operation is performed for very different and even contrary purposes. We prune to increase growth and to check growth, to induce fruitfulness and to increase wood growth which is the very opposite of fruitfulness, to remove surplus branches and to induce the growth of branches where they are lacking. It is evident that for the accomplishment of such diverse purposes the proper time and mood must be understood and observed in order to attain successful results. A knowledge of the laws of tree growth is essential to an intelligent application of the rules of correct pruning. The sole object of a tree in every operation and function is the increase of its own substance and the reproduction of its own species. No sooner has the season's growth been completed than the work of preparing for the next year's growth is begun; buds are formed in which the whole of the next season's growth is found in embryo. And all the time from the fall of the leaf till the beginning of the growth of the next spring the tree is employed in laying up a store of food for the use of the young leaves and shoots in the spring. All the time during the winter when the sap is not actually frozen in the vessels of the wood it is circulating through the tree, slowly it is true as compared with its rapid rate during the spring and summer, yet sufficient to carry up and deposit in the immediate vicinity of the buds a considerable amount of vegetable pabulum for the use of the young shoots, as soon as they start into life under the genial sun and showers of spring.

Now suppose a portion of the branches are cut from a tree in the fall or early winter, the amount of this plant-food will be the same but it will be distributed among a less number of branches and buds, and hence when they start to grow in the spring they will naturally make a more luxuriant growth than if all the branches were left on. This increased vigor of the young leaves will react in the production of a greater number of young vigorous feeding roots, and thus the whole tree will be invigorated. Tender trees and stone fruits, however, are liable to be injured by hard freezing if pruned

in the fall, so they had better be left till the hard freezing of winter is past. Another objection to this season for pruning is that a portion of the pabulum carried up instead of being diverted to other branches is apt to be deposited just below where the branches were pruned off, and when growth starts in the spring it is liable to break out in adventitious buds and produce "water sprouts."

It is evident from what has been said that when the object is to increase the vigor of a tree it should be pruned in the fall or as early in the winter as it can be safely done. The same is true if for any cause it is desired to produce a very strong growth in any tree. On the other hand, if the desire is to produce fruitfulness, a different time should be chosen to perform this operation. It is a well known fact that whatever increases the vigor of wood growth diminishes the tendency to produce fruit buds and the production of fruit. Therefore if it is desired to induce fruitfulness by pruning it should be done at such a time as will tend to check the flow of sap and reduce the vigor of the tree. Experience has shown that this time is during the latter part of the growing season, say in July or August. If branches and foliage be removed at that season it has a severe effect on the vitality of the tree, and it is found that whatever weakens the vigor of a tree and thus endangers its life tends to the production of fruit-buds. It seems that the sap must flow with considerable slowness through the branches to become properly elaborated for the formation of fruit-buds. In order to do this a tree must have acquired some age or be in some way checked in its growth in order to produce this condition. It is true there is a great difference in different varieties of fruit trees, some bearing much earlier than others of similar vigor. But whatever may be the nature of a tree in this respect, all will be similarly affected by late pruning.

If the desire is to simply remove surplus branches without affecting the vigor of the tree a time between the two extremes named above should be chosen. In practice I have found the best time to be just after the first leaves are about full size, or at the time apple trees are in full bloom. Wounds made at this time heal over more quickly and healthily than at any other season, and as the leaves are expanded and ready to appropriate the flowing sap there is less tendency to the production of "water sprouts." No bleeding of consequence will occur at this time, even the grape vine may be pruned at this season without bleeding.

Having spoken of the time for pruning the how and "what" must be deferred to a future time.
L. J. TEMPLIN.
Hutchinson, Kas.

Osage Orange Seed—How to Prepare and Plant.

In some portions of this state where the osage orange was first planted, there necessarily must be a great many trees that bear more or less fruit that contains the seed that has grown the tree, therefore to the lucky ones I will give a method of "disintegrating" the seed from the pulp. In the fall gather up the balls and pile them up in heaps of from three to ten bushels, the same as you would pile up potatoes, but do not cover them. Let them remain until spring, until they thoroughly rot, which is very essential to the separation of the seed from the very tenacious pulp. They should now be placed in a box or barrel and mashed to a pulpy mass. Make a box about eighteen inches wide, twelve inches deep, and three or four feet long. Place in this box a false bottom of slats raised two or three inches from the bottom of the box inside. The slats should be half the width of the lath, and just far enough apart to allow the seed to fall through to the bottom of the main box. Set this box under the pump spout and pump it full of water. Put in some of the pulp and thoroughly stir it with a stick or your hands. If the seed leave the pulp freely, your balls have been properly handled. The pulp, if you keep your box full of water, will swim out over the top. You may have to scrub or wash out some of the seed with your hands in order to get all of the seed, (which is not a very agreeable job.) After the seed has been separated from the pulp, wash them in clean water, drain thoroughly, and spread them out upon a floor in the shade to dry. Spread very thinly so that they will not mildew. When thoroughly dry send to market in sacks or boxes.

As there are several methods of getting out the seed from the ball, I hope this article will induce others to give their method also.

About the best way to prepare the seed for planting, is to place them in a coarse gunny-sack, and tie a rope to the top of it and lay it

flat down in a stream of running water, turning it over every day until the sprouts can be seen coming through the sack, when they are all in the best possible condition to plant, and should be planted immediately. They will sprout in six days or two weeks, so always have your hedge row ready. There are other modes of sprouting seed, with hot water, etc., but to the uninitiated this is decidedly the best plan, as he is certain of success.
G. F. H.
Hutchinson, Kansas.

Farm Letters.

From Mitchell County.

Stock in good condition in this county. Some men have lost cattle by turning into stalk fields. I never have lost any. I give them plenty of salt and water and allow them to remain in the stalks not more than a couple of hours the first day or two. After that leave them in and give them access to water and salt.
A. H. L.

From Coffey County.

Cattle are doing nicely; there are quite a number being fed for early market. There are a few sheep kept in this vicinity, mostly of the Cotswold and Missouri grades; they seem to do quite well when properly cared for. Stock cattle are very scarce here; two-year-old steers are worth \$19@23; yearlings \$13@17; cows, \$16@25; calves, \$7@12; horses \$40@100. Hogs are worth nothing and still going down. Fat hogs can be bought for \$1.65 per cwt. Fat hogs are \$1.90 per cwt. Most of the corn is husked and cribbed, worth 16@18c per bushel. Most of the farmers had a very good yield, averaging from 25@60 bushels per acre according to locality and quality of soil.

From Douglas County.

This part of the country is very productive, soil being very fertile, plenty of good building stone and good, healthy water. It is particularly adapted to corn-raising and wheat-growing; the average of wheat per acre was 22 bushels in 1877 and 20 bushels in 1878. Average of corn, 50 bushels in 1877 and 45 bushels in 1878. We know of some fields that averaged 75 bushels. My manner of preparing the ground for wheat is as follows: I plow the ground in June or July, and about the 20th of August sow, drilling in well. Our fruit crop is still splendid, raising pears that weighed 1 lb. 6 oz., measuring 13 inches in circumference.
M. SCHOEFFLIN.

From Ellis County.

Jan. 10.—I see by the Kansas FARMER, that a man in Pennsylvania wants a good opening for buying and shipping grain. I think Ellis station on the K. P. R. R. is just the spot. There will be a large quantity of wheat this year to be shipped from this place. All communications cheerfully responded to by addressing the subscriber at Ellis, Ellis co., Kansas.
We are having a severe winter here for Kansas, snow about 10 inches deep, and very cold; some times 10 degrees below zero. Fahrenheit has not thawed any for four weeks. Settlers are told by land slunks, that stock need no shelter or fodder, and many who believed them are receiving a lesson to their sorrow.
JOSEPH FULLER.

From Kingman County.

Though this portion of our county is but two years old, we can boast of a wide awake class of citizens. Townships and school districts are being organized, and though some are encountering hardships at present, we are looking forward to a prosperous future for our county at no very distant day. None of our farms have been plowed more than twice, but they seem to possess great fertility, splendid crops being harvested from second breaking, and some from off soil that surpassed the most sanguine expectations. The frontier is rapidly pushing westward and not much vacant land is to be found in the eastern part of the county, but not many miles westward good lands are awaiting the pre-emption settler.
J. N. A.

From Neosho County.

Jan. 7th.—The weather during the fall was fine. Farmers plowed until Dec. 13th. At that date we had a severe storm of snow and sleet, coating everything with ice. Many trees were broken by the weight of ice with which they were loaded. Sufficient snow fell to make good sleighing. To-day have had about four inches more snow.

Corn in our county was a light crop. More wheat put in this fall than ever before. No disease among the stock. Hogs selling at \$1.65 to \$1.85. Corn 15 cents; wheat 60 cents; oats 15 cents; eggs 15 cents and butter 12½ cents. We would like a good timmer to locate in our town. We have three hardware stores, but "nary a tinner."

From Marshall County.

Jan. 6th.—I noticed in the FARMER, No. 52, an inquiry in regard to the manner of ascertaining the weight of hay by measurement when in stack or mow. In some parts of New York, in the mow 512 cubic feet will make a ton. Here in Kansas, in the stack of wild hay, 7 feet square or 343 cubic feet are a ton. This is after the hay has been stacked 30 days.

Fall wheat and rye looked very well here, when last seen, some 5 weeks ago, since which time the ground has been covered with snow, varying from 2 to 12 inches in depth; but we had a very dry fall, and if the snow lays until spring, fall grain can hardly fail to make a good crop. Fall wheat was good here the past year, but spring wheat was not half a crop; wet weather at harvest time injuring it very badly. Very

few cattle have been lost here this winter, and no cholera as yet, among the hogs.

Will some of the readers of the FARMER please inform me where I can get a homestead with water and timber? I would prefer going southwest, but would go west or northwest, or almost any place for a home as I do not like to rent land.

A friend, and I together get the FARMER as a premium from our county fair, and like it very much.
KANSAS.

From Cloud County.

During this term of snow we are so nearly frozen up that the items of interest are hard to be got at. As to the condition of crops, it is impossible to tell what state they may be in, as the ground is covered with snow to the depth of about six inches and has been since the 12th of last December. Winter wheat at that time looked promising although somewhat dry. Corn nearly all out of the fields. Wheat is worth 35¢@50¢, per bushel, and corn 15¢. Oats, rye and other small grains are now scarce here as people sow but limited quantities of them. I have a few head of cattle which have been fed since the first day of October, and they are in better condition now than when put up, and they have been fed nothing but about 6 ears of corn per head a day, and what prairie hay (cut in good shape) they would eat up comparatively clean, and plenty of good, fresh water every day drawn from a deep well, with a good shelter from storms and the cold north and west winds. Most all stock that get the right kind of attention and shelter are looking well so far as I have heard.
F. B. A.

From Greenwood County.

Jan. 7.—We are having a harder winter here than usual. We had ten inches of snow the 13th of December, the mercury frequently ranging from 10 to 12 degrees below zero; I have been in Kansas since '54 and I think the climate is changing every seven years. Stock is wintering well, a great deal of old wheat on hand. We are only offered 60 cents per bushel and the prospect never was better for another crop, with a little larger amount sown than last year. Corn was a fair yield, making an average of 40 bushels to the acre; oats 70 to 90 bushels; potatoes not very good. We have the finest location in southern Kansas, good water power and no mill. A great many good thirty miles to a water mill. Not much homestead land here, some railroad land for sale at \$1.25 to \$2.50 per acre.

A heavier immigration west this fall than has been for several years past, all bound for "the west." I don't think they could do better than to stop in Greenwood county. We improve our stock in this county by sending east and getting Durham bulls, and the finest thoroughbred hogs that can be had. Greenwood county can boast of the finest stock in Kansas. People in some counties complain of hard times; Greenwood county has not suffered any yet. Taxes all paid, plenty of cattle, hogs, horses, wheat, oats, corn; everybody well-dressed and all seem happy.
J. H. JONES.

From Smith County.

Jan. 6th.—This is one of the finest counties in the state, and it is being rapidly settled by a thrifty, intelligent population. There is not much vacant land in this township; none suitable for farming. Unimproved land is worth from one to fifteen dollars per acre; improved, from five to fifteen dollars, according to location and improvements.

Snow is four inches deep, with cold weather. Winter wheat looked well when the snow came. Rather more snow than last year. Last season's crop saved in good condition; yield, 20 to 35 bushels per acre; spring wheat, 12 to 20 bushels. Corn is fair; worms injured some fields slightly; yield not as good as usual—30 to 50 bushels; worth 20¢.

Stock is in good condition and generally healthy. Some horses died last fall; cause of death supposed to have been the feeding of wormy corn. No hog cholera here.

Pork is low—2¢@2½¢, dressed; Beef, 5¢@6¢; live, 2¢@2½¢. Winter wheat, 50¢@55¢; spring, 45¢@50¢. Rye, 20¢. Potatoes, 25¢@30¢. Butter, 15¢. Eggs, 10¢. Heavy work horses, \$75@ \$100. Cows, \$20@25.

Many immigrants are coming into the county. Houses are all full and more wanted. This county is well supplied with schools and churches. Business good; very little complaint of hard times.

The FARMER comes regularly, and is gladly received. We should not like to do without it. Every farmer should have it.
S. C.

From Greenwood County.

Ours is a beautiful locality in low, rolling and rich bottom lands, surrounded by the flint hills or ridges, with a good supply of timber and the purest spring water the year round—one of the finest localities in Kansas for stock-raising, as most of the land is owned by speculators. Our bottom lands yield 45 to 75 bushels of corn per acre. We are never without plenty of water, have about 1000 sheep in the neighborhood and large herds of fine cattle. There are some 30 families that get their mail here. Flint Ridge office is located 31 miles east of the county line, there is some government land still left, and some very good raw prairie land for sale in 1, 2 and whole sections for \$2.50 to \$5.00 per acre with running water and timber on the lands; there are also some homesteads for sale with improvements at low figures. We are located 18 miles north-west of Eureka, our county seat, on the west branch of Fall river.

We have had snow and good sleighing ever since the 12th of December. The thermometer has ranged since the 13th on the north side of the house from 28° above to 11° below zero.

This has been a hard winter on stock and many have died in Butler county west of us. Cattle and hogs well fed and sheltered are, however, doing well. Stock in general are in good

condition. A large amount of wheat is sown in this township that promises to turn out well from present appearance. Hogs are 2¢ a pound, corn, 20 and 25¢ per bushel; potatoes 50 and 60¢. The corn and wheat crop of '78 was immense.
A. A. GRASSLELL.

From Atchison County.

The winter has been bitter cold, yet free from those zephyrs our state is so noted for. All farm work has been suspended with the exception of the daily routine of choring. Cattle look well, and even in the extreme cold, hogs that are in warm shelters and slopped with cold boiled feed follow the cattle for the corn they can get, are fattening rapidly. In our neighborhood there is a scarcity of water on the range in winter and many are putting in wind mills to raise water for the stock. Our county is rapidly filling up, and in the school district east of us seven new houses were built inside of ten months and as many new families moved in. We have Sunday school every Sunday and preaching every two weeks by M. E. minister. Lyceum and singing school each week in the winter, and have lately purchased and paid the last dollar due on a Mason and Hamlin chapel organ.

Crops with us were good. Flax 9 to 14 bushels; oats 30 to 40 bushels; corn 30 to 40 bushels; wheat 12 to 18 bushels, and other crops in proportion, all these on the high prairie. In Atchison we find good market for flax and all classes of grain, and in the new pork house we sell already to a great advantage. Flax seed is worth \$1.15 to \$1.20; hogs \$2.20 to \$2.30; corn 18 cents. These prices are paid at Nortonville where we have a good class of merchants and buyers with sufficient funds at their command to do a first class business.

Land is worth \$4 to \$10 per acre owing to location; enclosed \$10 to \$12½; improved quarters \$2,000 to \$3,500. Several very desirable "eighties" with good improvements can be bought for \$500 to \$800 and within easy reach of school house.
J. W. FISHER.

From Crawford County.

One-fourth less fall wheat sown last fall than the fall before; Wheat cannot be seen now on account of snow. On the 13th of December last the heaviest sleet fell that I ever saw, it lays on the ground yet; we have had several small snows on it which makes excellent sleighing; snow about five inches deep. The sleet did considerable damage to orchards, ornamental and forest trees, in breaking off limbs, etc.; peach trees suffered the worst. Crawford county was settled in the year 1866, a few settled in the fall of 1865. It was first represented in the legislature of the state in 1868. Crawford county is situated on the east line of the state, and Cherokee county lying south of Crawford Co. borders on the state line south. Crawford Co. is rich in coal, it being mined in several parts of the county, which furnishes employment to quite a number of laborers; the famous Ft. Scott coal is mostly taken from the mines in Crawford Co. Some parts of the county are adapted to the growth of wheat and rye, other parts are better for corn, oats, etc. Potatoes, flax and castor beans are extensively cultivated; soil is rich producing agricultural products. Stock-raising is carried on to considerable extent. The farmers are waking up to the fact that their surplus corn converted into pork and beef secures cheaper transportation to market than any other way, on the railroads, four in number, which pass through the county; and yet it is a fact that no railroad bonds have been issued to railroads. I pay no tax to railroads only in the way of freight. Baling and shipping prairie hay is carried on to some extent. School facilities excellent, church facilities good. Mills convenient; towns as many as the country will support. No government land here, but plenty of land belonging to the Mo. River, Ft. Scott & Gulf R. R. Co. Tame grasses do well here. Vegetables and all garden sauce grow luxuriantly when properly cultivated; I never failed to raise potatoes when I properly cultivated them, not even in the dry year of 1874. A good dairy would do well here as there is none but one or two family dairies. All kinds of business represented here even to producing silk. Crawford county is settled with an intelligent, industrious, church-going class of people.
GRANT.

Eds. FARMER: In the Kansas FARMER for Jan. 8th, page 10, in an article from Sedgwick county, in speaking of the principal variety of wheat sown in the part of county visited, it reads Timothy variety, where it should be Fultz variety. I believe it to be the best wheat now known. Last fall I sowed 2 bushels of Clawson wheat which is looking well.
H. H. RAYMOND.

G. L. Gavitt, Wa-Keeney Kansas.

Premiums for wolf and the scalps of other animals, are paid in some of the counties of the state, and in others no bounties are offered. The matter is under the control of the county commissioners, who may offer a bounty for scalps and fix the price, if in their judgment it is public policy to do so.

Attention of our readers is directed to the advertisement of Mr. Lewis Mayo of Leavenworth, wholesale and retail dealer in seeds and agricultural implements. Mr. Mayo has long been one of Leavenworth's most enterprising and honorable merchants. His specialties are the John Deere Plows and Cultivators, I. X. L. Grain Drills, Empire and Wood's Reapers, Mowers and Binders, Belleville Vibrators, horse powers and engines. If you want machinery, wholesale or retail, send for Mr. Mayo's circulars and price lists.

Horticulture.

Apple Trees.

THE VARIETIES TO PLANT AND HOW TO PLANT AND PRUNE THEM.

As for varieties A. G. Chase in the last issue of the FARMER, has given us a very good list indeed, though I cannot vouch for some of them from my own personal experience; although I have been experimenting with fruits and trees in Northern Kansas for the last nineteen years. I have been gathering all the information I could from the Kansas FARMER since its first appearance as a small and modest monthly, and from many other agricultural papers for the last thirty years, but I have gained more knowledge from experimenting in different ways than from reading. I would revise A. G. Chase's list of 50 trees, thus:

Summer.—Cooper's Early White 5; Early Harvest 2; Red June 1; Sweet June 1.

Fall.—Fameuse 2; Maiden's Blush 2; Rambou 2.

Winter.—Winesap 25; White Winter Pearmain 5; Ben Davis 5.

For an orchard of 500 trees for market chiefly, I would plant for Summer Cooper's Early White 25; Early Harvest 10.

For Fall, Maiden's Blush 25; Fameuse 10.

For Winter, Winesap 250; Ben Davis 150; White Winter Pearmain 30.

Planting.—I would advise all intending to plant trees next spring to get them at the nearest home nurseries, and by all means give the "tree peddlers" the cold shoulder.

Go to the nursery yourself, see the trees taken up yourself, if possible, don't let the roots be exposed to the sun and wind longer than you could comfortably hold your head under water, don't let the roots be exposed to frost out of the ground, freezing don't hurt them in the ground. Planting too deep is worse than too shallow. Some think by planting deep they obviate the necessity of staking, but I have found by dear-bought experience the very reverse; a tree set deep will not put out the strong side roots like one set the proper depth, say about the depth it stood in the nursery; making a mound around the tree will do very well late in the fall, to stand during winter; but by all means scatter it away in the spring. I have removed such mounds from trees in the summer that had become so hard and compact that the rains could scarcely penetrate to the roots, at least near the body of the tree, and yet it did not answer the purpose of preventing the tree from shaking or leaning over by the wind. Don't choose slim tall trees when you have a chance to get low stocky ones, and don't trim off the lower branches all at once, but a few at a time, till you get a stem three or four feet high; then let the branches start, not two or three at the same height, as I have done with many, but one branch first, then another a little higher up the trunk, and a little around, and so on; keeping the top of the tree about as heavy on one side as the other, always preserving a leader, by shortening in, any of the side branches which are likely to out-grow it. Young trees will bear more trimming than older ones. Small limbs may be cut off without harm most any time, but it is not safe to trim much, except late in the fall, during mild weather in the winter, or about middle of summer. Early in the spring is a bad time to prune because the sap is then up and flush, with no outlet, as the leaves have not yet appeared. When pruning limbs of considerable size cover the wound with a solution of gum shellac dissolved in alcohol, or use grafting wax, made by melting together resin, tallow and beeswax in such proportions as to admit of being easily applied when softened by warmth, but not liable to melt and run in the sun's rays. An excellent grafting wax is made of 3 parts of resin, 3 of beeswax, and two of tallow. In pruning don't cut too close to the trunk or main branch, if you do, you may notice, as the tree grows, there will be a cavity, that will not soon heal over; and in some cases sour or fermented sap will ooze out and run down the trunk of the tree.

Distance.—When I commenced orcharding in Kansas, nineteen years ago, I realized to the full extent that I had to learn the business over, because the climate and soil are so different here from what they are east; so I advised with all those with whom I came in contact on the subject of varieties, distances apart, location etc. The result was, all agreed without exception to plant close; some said 15 feet, some 18 etc. The reasons assigned for close planting were, that they would thus protect each other from the high winds which we all feared so much. Well, I planted my trees twenty-two feet apart and in less than ten years the tops reached together; then I planted orchards 26 feet apart from tree to tree, now I am planting 33 feet each way, giving 40 trees to the acre with the most complete chance for thorough cultivation, without which it is folly to try to raise fruit.

D. S. J.

Cheap Hot-Bed Covers.

The following directions for making a cheap covering for hot-beds which was previously published in the Kansas FARMER, was recently inquired for by a correspondent:

"Cotton cloth covers, although not so good for the earliest beds, is preferred for all later ones. Make cloth covers a few inches wider and longer than the frame, hemmed and provided with small curtain rings fifteen inches apart around the border, stoutly sewed on; and by looking over the cloth is drawn air-tight over the frame. One quart of linseed oil, one ounce of pulverized sugar of lead, and four ounces of pulverized resin, are heated, dissolved and thoroughly mixed in an iron kettle and one coat applied while hot to the upper side of the cloth. This renders it tight and nearly transparent."

Carpet-bag Notes.

NO. VI.

The "City of the Plains" as Cawker city is sometimes called, is situated on high rolling prairie near the Solomon River in the western part of Mitchell county. The population of this town three months ago was 325. It has now reached 655. There are some very fine buildings erected here, and all the buildings in this beautiful town have a look of durability and stability that indicates to a stranger that the people have come here to stay.

The building stone in this part of the county is of many colors. Here can be found red, pink, gray and purple clouded stone in sufficient quantity to suit the wants of the residents here. There is also a very fine quality of white stone, that is easily and readily cut with a knife when it is first taken from the quarry, but which hardens up almost like marble upon exposure a few months to the air. This stone is generally shaped for use with a common hand saw.

Cawker city will be, during the coming summer, one of the liveliest little burghs in the state. The Central Branch Railroad will be built through this town on or before June 1st, the present terminus of the road being at Beloit, 20 miles east.

Two and a half miles east of Cawker city is the celebrated "Wacanda" or Great Spirit Spring. This spring I consider one of the wonders of Kansas. It is most undoubtedly an extinct Geyser. The stone around it bears abundant evidence in their shape and general appearance of having been at some time, perhaps thousands of years ago, thrown up by volcanic action. This stone commonly called "Geyserite," looks somewhat similar to a quantity of melted glass. The rounded edges, the air cavities and their peculiar shape show unmistakable evidence of having in the remote ages been thrown up by heated air, and cooled into their present shapes before reaching the ground.

If I am correctly informed, the Cheyenne Indians inhabited this region twenty-five years ago, and it was regarded by them as a sacred spot, they giving it the name of the "Great Spirit" Spring. It was their custom to throw into this spring anything that they valued, as a sacrifice to the Great Spirit and since the whites settled here they have fished out blankets, beads, muskets, pipes, hatchets, knives and other articles used by these savages. The mouth of the spring is about 40 feet in diameter. The stone formation around it is about 15 feet wide making a fine carriage drive; much used by the thousands of visitors, who yearly examine this curious and wonderful spring. The water tastes as salty as the strongest kind of brine. There are a number of mineral substances which have been found by close analysis of the waters of this spring and which combined together, as they are here, are supposed to be beneficial in certain diseases.

Around this stone formation for a distance of 200 feet, in all directions the earth has been worn away by the constant tread and paving of millions of buffaloes, for the depth of 25 or 30 feet, thus leaving the spring itself with the curious formation of stone around it a prominent point in the landscape that can be seen for a number of miles.

Without wishing to give much free advertising, yet as a matter of information I would mention that a large boarding house, hotels, etc., will be built here the coming summer, and, as the Central Branch Railroad will run within a few rods of the spring, it is quite probable that a station will be located here. This will undoubtedly be a favorite resort for travelers within the next five years.

Beloit, the county seat of Mitchell county is situated on the Solomon River in the midst of as beautiful a country (to suit my taste) as there is in Kansas. The population of Beloit is not far from 2000, having increased over 500 in the last six months. One hundred and sixty dwelling houses have been built here since August. I am more than ever convinced that it would be difficult to find in Kansas, or out of it, a prettier city than Beloit.

W. W. COXE.

Cawker City, Kansas.

Cure for Hog Cholera.

A farmer in this county, extensively engaged in the hog business, here and in Marshall county, and who has suffered from the loss of over one hundred hogs this year, has a remedy, which he says cures in every case. The remedy is so simple and costs so little, that I hope all our farmers will try it, and report success through the columns of the FARMER.

My informant is Mr. G. W. Baker, of Chapman's Creek, Clay county, P. O. Wakefield. He breaks a box of concentrated lye into a barrel of clean water, and when the lye is dissolved, gives it to the hogs as drink.

A neighbor of Mr. B's, also living on Chapman's Creek, who had lost some 200 hogs this season, tried the cure, with entire success; every one of the sick hogs got well, and none have sickened since. This neighbor's name is N. X. Hazelton.

Mr. B. says he had in his feeding lot, a hog which would weigh 400 lbs., so near dead that he thought it useless to try to save him, but second thought said, try anyhow. So he rolled him on to his back and poured a pint of the liquid, made a trifle stronger than that in the barrel, down his throat, and in less than an hour porker was on his feet, cracking corn nearly as lively as ever.

THEIAS.

Going in debt has wrecked more fortunes and hopes, made more mortgages, than any other mistake farmers are chargeable with.

The March of Improvement.

Since last year our town has built at least 100 good houses. The settlement and improvement in the country has kept abreast the town. As an indication of growth, we mention, our business men have done more business the last year than ever before. Our mechanics have been very busy, in fact our builders could not at many times secure help enough. In any direction one could hear the ring of the anvil, the sound of the hammers. But what speaks louder for us than all, is the noted increase of pupils in our county and public schools, and the decided efficiency manifested by our school officers, and especially the teachers. I doubt if our schools, both week day and Sunday schools, can be excelled in any county or state.

In the last year the Lutherans have built and finished a beautiful and commodious brick church at a cost of \$7,000. The Methodists have just inclosed a large brick church which they expect to finish in a few weeks, cost when finished \$6,500. So now we have four good substantial brick churches, and two good frame ones, representing the different denominations as follows, Baptist, Christian, Episcopalian, Presbyterian, Lutheran, Methodist, Universalist and Catholic. The Episcopalian and Universalists talk about building next summer.

Each denomination is represented by faithful, zealous Christian ministers, who exert a wholesome influence, not only by their preaching, but by their daily walk and conversation. Their Christian deportment towards each other is noticeable, and is felt in the growing "sociability" manifested by our people towards each other.

The increase in our mail matter in the last year is but another evidence of growth. Our people are great readers, and nothing but the very best papers come to this office, no trashy matter whatever.

Of course our farmers complain about the low prices but they have an abundance; not so much wheat sown as usual. Don't look so well as last year, but hope the snow will continue and improve it.

JOHN HARBOTTLE.

Abilene, Kansas.

Farm Letters.

From Washington County.

Jan. 2.—The weather is very cold with about four inches of snow on the ground, and it has snowed every two or three days for the last four weeks. Winter wheat yielded 20 to 25 bushels per acre; price 25 to 60 cents; spring wheat 10 to 15 bushels per acre, price 50 to 55 cents; corn averaged 40 bushels to the acre, price 15 cents; rye 20 bushels to the acre, price 25 cents a bushel; barley 20 bushels to the acre, at 20 cents per bushel; chickens \$1.50 per doz.; turkeys 5 to 8 cents a pound; butter 15 cents a pound; eggs 15 cents per dozen; hogs \$2.00 to \$2.50 per hundred; milk cows 15 to 25 dollars; steers 15 to 20 dollars; calves 8 to 10 dollars a head; work horses 75 to 100 dollars; improved land 10 to 15 dollars an acre; wild land \$3 to \$5 per acre; potatoes 30 cents a bushel, sweet potatoes 75 cents. There is a good prospect for peaches another year, if they escape the frost. Fruit trees are looking well.

Winter wheat looks well. There was not as much snow last fall as there has been heretofore on account of dry weather. There was some fall plowing done, but the ground was too dry to work. The corn is not all gathered yet, the snow having put a stop to that business. There are some good schools in this county, not as many as should be.

A. J. H.

From Wabunsee County.

Jan. 3.—The warm open winters of Kansas that we used to read about when we were in our old home east, has played out. The ground has been covered with snow for a month and now it is more than a foot deep and the mercury down to 14 degrees below zero, but we are not very anxious to see the snow leave just yet, as the wheat was looking badly before the snow fell, the ground under it is not frozen and the wheat is doing well. The farmers generally sowed grass wheat last spring as it had a reputation to make a crop where no other spring wheat would, but it was a complete failure, and there would be very little, if any, sown this year.

There will be but little corn carried over this year as the crop was not as heavy as the year before and there is more stock being fed, especially hogs, and most of them are on hand yet waiting for better prices.

We are getting our share of immigration. New houses are going up all around, and enquiries are being made every day for farms to rent, but the supply is not equal to the demand. I think persons contemplating coming to Kansas cannot do better than to come to this county, for the land is cheaper and better than it is further west, where the great mass of immigrants go. We have plenty of fine building stone, good water and plenty of it, and a fair share of timber. Good upland can be had for \$2.60 per acre, and improved farms can be bought for less than what the improvements cost. Our county is free from debt and taxes reasonable. J. M. J.

From Fairfax County, Va.

DEC. 31.—Much sickness has prevailed in Eastern Virginia during the past year, especially during the warm months. Jack Frost has brought us a respite from Malarial and Typhoid fevers, to give us Pneumonia and coughs. Yet we have much to be thankful for, and one of the items is the Kansas FARMER. Which we hope to live long to enjoy. We have had but a few inches of snow yet—although the weather is extremely cold, just before the snow covered the wheat it was looking very well, and I presume it will not be hurt by its white blanket. Corn with us is worth \$2.00 per bushel. Wheat \$1.00; rye 60 cents; oats 35 cents; good print butter 35 cents per lb.; eggs 25 per dozen; turkeys and chickens 12 cents per lb.; wood, pine \$1.75 per cord, oak \$2.50 per cord. Crops were fair during the year. Pork is now \$4.00 per hundred, and has been as low as \$2.50. Very little cholera attacked the hogs this year. The common milk cows of the country are worth about \$25.00, improved breeds come higher.

Some immigration comes from the New England States, but the high tax, and unsettled financial affairs of Virginia preclude us from gaining many good settlers. There are certainly room for many more. The people here keep a few sheep, and washed wool sells readily at 37 cents per lb. There are no large flocks of sheep in this vicinity. Year after year people are taking more care of their stock and land, and striving to improve both; a noteworthy change, since they no longer count slaves as their most valuable property.

A LADY FARMER IN VA.

Dairy.

Dairy Management—Butter-Making.

The following article is long but every line contains valuable information for dairymen. It was written by Wm. J. Scofield of Montgomery county, Maryland, a practical dairymen who confirmed his teaching by experience, and published in the American Farmer to which Journal we give credit:

I commenced dairying in 1865, an entire novice in the business, and like every other novice in a profession, made many blunders. To avoid a repetition thereof, I consulted various authors and many good housekeepers of my acquaintance; read numbers of essays on dairying, etc., but with all I found I had to learn some things from my own experience.

Now, if my experience in butter-dairying be worth anything to the novice as I was in 1865, they are welcome to anything this paper may impart.

As we must have milk before we can dairy, the first consideration is the cows. Many extensive and prosperous dairymen practice purchasing their cows on the general market, regardless of any particular breed, and keep them to the pail until they cease yielding a profit, then sell them to the butcher. To practice this mode one must be a good judge of milk cows and their value for beef. Others prefer keeping thoroughbred stock, some preferring one of the leading breeds and some another.

The leading breeds for the butter dairy are the Jersey, Guernsey, Dutch, Holstein, Ayrshire, and a dairy strain of the Durham. From my experience and observation I think it is best to keep thoroughbred cows; and the best breed is, first, Jersey, and so on in the order above named. The milk of the Jersey and Guernsey cows requires from 7 to 10 quarts to make one pound of butter of remarkably rich, nice flavor, and it requires from 15 to 16 quarts of most other breeds to make the same quantity of butter of not so rich a quality.

Before the dairymen provides himself with a herd of cows, he should have a dry, warm, clean, well-ventilated stable for them, with an abundance of wholesome, nourishing food and plenty of pure water, and a quiet, good-natured, trusty man (not a boy) to take care of them, always bearing in mind that a No. 1 milk cow is one of the most critical things on his farm.

Dairymen of equal carefulness, judgment and success will differ in regard to the best stable arrangements. Here suffice to say, keep your cows well and regularly fed, warm, clean and dry and regularly milked.

Food.—The best provender for a milk cow in winter is, 1st, properly-cured clover hay; 2d, a mixed hay of clover and timothy; 3d, golden millet; 4th, timothy. The best concentrated food is a mixture of whole wheat offal mixed with 1 part finely ground corn meal. Roots and pumpkins are valuable as green food to give as extras with the above, of which the carrot, beet, ruta baga, turnip, are the best, in the order named.

For pasture there is nothing as good as red clover; 2d, spear, or green grass; 3d, timothy; 4th, orchard grass. It is a great advantage to the cow to have early rye to soil or pasture, and before the other grasses are fit for use.

Milking.—As said above, have a good, trusty, gentle, strong, active man to milk the cows; have them milked regularly, quickly and clean.

Chopped or Sore Teats.—This is one of the dairymen's troubles. Anoint with a mixture of lime water and flax-seed oil, in equal portions, well stirred together. Occasionally ulcers form on the teats—I have had two such cases that will not yield to the above—for which take, say, one pint quick lime and one ounce of flowers of sulphur; put them in a suitable vessel and slake the lime with boiling water, kept well covered, then stir well; when the lime precipitates, take off the liquor and add an equal portion of oil, as recommended above, and anoint with it. I have cured obstinate cases with this that would yield to nothing else.

Garget.—This is another dairymen's pest. For a mild case the lime water and animal oil, as prescribed for chapped teats, generally gives relief. In some cases and a tablespoonful of spirits of camphor (of alcohol strength) to 1 pint of soap; then carefully and thoroughly rubbed on the part of the udder affected, and thoroughly milk the cow well daily.

In very severe garget, in conjunction with the above I anoint the spine from the head to the tail with spirits turpentine. Be careful to keep the cow warm and dry if the spirits of turpentine be used.

Calving.—There are many valuable cows lost in parturition, and it is a period of anxiety to the party, where the price of \$100 to \$1,000 is at risk. I have been fortunate so far never to lose a cow in calving. I like to give the cow 30 or 40 days, rest from milking.

In the pasture season I give them no other food but good pasture. In the feeding season I give good shelter and good hay, with a half feed of milk. Keep the cow as quiet as possible. When the cow has calved, give 1/2 to 1 pint of boiled flax-seed in her half feed of meal twice daily—as long as necessary. Do not increase the meal until the fever has abated—say from 3 to 8 days.

If the udder be much swollen and hard I am very careful to milk the cow clean, and then let the calf to her for its meal. I keep this up until the udder is relieved and in proper condition. In from 3 to 8 days after that the calf should not suck the cow. The after-management of the calf we will not discuss here.

Best kind of Dairy.—We can have no arrangement for making butter so good as a spring-house dairy, in building which care should be taken to have a plentiful flow of pure water, thorough ventilation and freedom from foul air, as milk rapidly absorbs all impurities from its surroundings.

The next best dairy is an underground vault, a description of which I will give: This requires more care to prevent must than the spring-dairy; it should be white-washed once a month.

Setting the Milk.—There has long been a difference of opinion between deep-setting and shallow setting of milk. Those who advocate shallow setting claim a large yield of cream. The cream will rise and the milk will keep as well one way as the other provided you get rid of the animal warmth quickly, and bring the milk to a low temperature—from 62° to 58°. If you can have cold and deep water, the deep-setting economizes space and facilitates the escape of calorific. With a dry vault dairy we must set the milk shallow, so as to have a large surface exposed for the escape of the warmth.

Straining.—Care must be taken to free the milk from notes, otherwise you will have them in the butter. The best kind of strainer is a basin with a 2-inch hole cut in the bottom over which solder gauze, made of brass wire; have a frame in which to set it on the floor while the milk is poured in. It saves a great deal of attention to skim but once daily. In the morning skim the milk up to 12 hours, then work the edge cream from the pans into the milk; then

double the milk that will keep sweet until next morning and then re-skin it. The milk also produces more cream in this way.

It is important to have the cream of a churning as near the same age and acidity as possible. To do this you should know how many jars or vessels you will churn; then in skimming start all these vessels at the same skimming; continue this until they are full; then start another set for another churning, and so on. Be careful to stir your cream at least once daily to prevent too active fermentation. I have heard of persons who never stir their cream after being skimmed, and suffer a cake of clotted mould to form on the cream, and when they go to put it in the churn break it off and throw it away. It seems to me this must be a waste and deleterious.

Churning.—The butter is an important part in the economy and quantity; the cream should be as evenly and generally agitated as possible. To do this there is no churn as good as a revolving cylinder, with four of its staves set in the cylinder edgewise at equal distances, projecting inside 2 1/2 or 3 inches. As the cylinder revolves on its axes these projecting staves break the current of the cream and agitate all alike, and yet not too violently. With this kind of churn several difficulties are overcome that we are liable to with any dash churn. The cream is more uniformly struck, causing uniformity in the bursting of the pellicles holding the globules of butter, consequently making a better yield and a more perfect article of butter. If the cream be below the proper temperature for churning with a dash churn, it will swell and run out of the churn and will not "break" until it is brought to the proper temper. This is avoided with the revolving cylinder.

When butter is made in considerable quantities it is best to gear it to horse-power. The proper temperature to churn cream varies with the season and the temperature in which it is churned. In the summer I put the cream in the churn as low as 50°, and churn it in an anteroom to my dairy in a temperature from 65° to 68°; the churn having been cooled with ice-water. In the winter I put it in the churn at 60°. If the butter comes too soft, and you have no better way to harden it, you can put pounded ice in the churn. If it be firm enough to gather and yet too soft to manipulate, draw off the milk and put in ice-water and stir it slightly until the butter is sufficiently firm. Never manipulate your butter when too soft—in an oily condition.

Some dairymen and most writers on dairying advocate washing the butter before salting. I have thoroughly tested this matter a number of times, and to the tasters, (the best connoisseurs,) who were ignorant of the different parcels of butter, with always the same result—the butter is not so good, even while fresh, nor will it keep so well.

Apiary.

Apiculture as a Business.

On the above subject, S. M. Locke in his address before the New York Convention said:

Apiculture dates back to the earliest history of our race. Marked notice has been taken of the bee and honey in all ages, and it now has become prominent as a business. We have learned that the Island of Cyprus has been noted for the purity and value of its honey and wax; and I hope ere long our own favored climate may possess some Cyprus bees. Bee culture was probably introduced into our country by early settlers, but it received its first impetus as a business about twenty years ago.

By reference to the report of the National Convention in New York, the fact will be discovered that there is a growing demand for honey which will be supplied. We do not now begin to furnish honey enough to supply the increasing market; and yet some are croaking about glutting the market; or overstocking the United States with bees. This idea is so absurd as not to need notice.

True, in this as in all kinds of other business there are losses, but I mention that for the amount invested, and the care and attention required, no other business presents better prospects for a safe investment and steady gain, with fewer losses.

But what advances has apiculture made within the last fifty years? Beginning with box hives or gums, and obtaining honey by murdering the bees with brimstone, we soon began to use top box for surplus. Then Huber came with his hives and articles, in which he explains the natural instincts and habits of the bee. Following him, S. B. Parsons of New York, was I think, the first to introduce the Italian bees into our country. Soon we find Quimby, Langstroth and King following with the movable frame hives, and then apiculture began to appear in a more favorable light and receive more attention.

Next comes the extractor, a valuable invention, without which our bee masters would be lost, and with which honey can be placed on the market at a price which will compete with the finest syrups, and according to medical authority, honey is much the best to use. Combs can also be saved for future use.

Next comes comb foundation, a most useful and indispensable invention. With it we can save at least one-half of the work of the bees, and make use of our old wax, get straight combs and avoid drone comb, where not wanted; and the comb produced by it is more uniform.

Many valuable improvements have been made in bee hives. I am studying the hive question thoroughly, and expect soon to see placed upon the market a hive which shall be more easily and more speedily handled than any thing I have ever yet seen, giving all necessary room for surplus, and being a good hive in which to winter or summer stands. I am of the opinion that wintering on summer stands will be generally adopted. I am watching the experiment of wintering swarms with two queens in one hive, with a thin division board and entrance from opposite sides of the hives; and I hope to find success.

If you are a mechanic, you can make your own hives, or get them ready to nail, and the profits are sufficient; but remember, in order to succeed you must work in this as well as in any business.

These winter evenings are the time for the farmer to carefully read up about his calling, and in the spring and summer he will thus be prepared for action.

I believe, from experience and observation, that well-improved grass lands, with many kinds of grass not overstocked in the dry season, and a liberal supply of hay, cut early and well cared for, will produce as good if not better cattle than too much stuffing with grain, which has a tendency to contract the inward and prevent thrift when confined to grain alone.—Spangler.

If an agricultural editor wants to raise a large crop of volunteer correspondence—costing nothing and worth the money—let him print a paragraph on either side of the chess question.

Hygiene, Economy and Luxury.

THROUGH THE INSTRUMENTALITY OF SUB-EARTH VENTILATION.

EDITORS FARMER:—Laterally, there has been a rapid development of an appreciation of this marked innovation in the art of ventilation. Its peculiar characteristics of being unportable, and so inconspicuous where it is in use, that a casual observer might ride by or even visit a building where this unique and efficient system exists, and unless he remain in the building in a very hot, or very cold day, long enough to discover its wonderful potency in tempering and purifying the air, he might remain unconscious of its presence in the building.

These facts and the utter indifference of the average hirelings in charge of the buildings in which it has been mainly used, i. e., in dairies and creameries, until of late, it has been applied to cheese-curing rooms, have seriously retarded the dissemination of a knowledge of it, and its more general introduction and use. Nevertheless, there is a growing demand for it in all parts of the country.

I will relate a strange coincidence. The same mail brought to me letters of inquiry about the detail of S. E. V., sub-earth ventilation, from Plainfield N. J., Natches, Miss., Emporia, Kan., and Stevenson, Montana, Ter., and I am now building in Wis., Iowa, Pa., and N. J. Thus it will be seen that there is a desire to improve the facilities for the manufacture of dairy products over a large portion of the country.

I have a correspondent in Philadelphia who has one in Russia, and I am informed that S. E. V., has recently been patented in that country; an evidence that the system is appreciated there as well as here.

During the past year the demand for it has rapidly increased, and for purposes never anticipated by its inventor. Among the new purposes to which it is proposed to apply it, are tempering and ventilating houses used for artificial incubation; storing smoked meats; for ice-cream saloons, in which it is proposed to reduce the temperature as low as the most fastidious may desire.

Such a cool and delightful temperature in social resorts, with a perpetual change of, and a condition of temperature and purity in the atmosphere of an apartment perpetually maintained, will certainly be pleasant. A confectioner in speaking of it, the other day said, "it will be perfectly paradisaical." I did not ask him how he knew, but when compared with the most perfectly tempered and ventilated buildings of the mundane sphere, it is acknowledged by all *par excellence*; and its adaptability, usefulness and value can only be conjectured, but that it will be immense, is already clear.

It has of late been adopted for use in a butter house in central Miss., by the side of a cotton field. S. E. V., properly arranged has not only been found to perfectly meet the requirements in a creamery, or butter factory, and cheese curing room, but for the amateur dairyman, this system seems specially adapted. It also supplies a want long felt by denizens of the city, who desire to spend the fervid season in the more salubrious country.

Those air castles, based on the ideal charms of the God-made country, in which perfect, ripe fruit, sweet, cool, nectarian cream and milk, are so readily to be had, have proved to be air castles indeed, and mainly for the want of just what S. E. V., is now supplying to hundreds. On suburban homes, wanting in proper means for ripening plucked fruit, the poacher generally gets the best, and the lion's share of it, and often produces a serious disappointment and annoyance, to the proprietor and family. The milk is often sour ere the cream has risen, and these luxuries, on which all had feasted in anticipation, have proved a myth, and disappointment and disgust preclude realization, which annoyances and disappointments might have all been averted by the use of a properly arranged sub-earth air duct.

Greater and hitherto unknown luxuries to denizens of both city and country, may be supplied through this new and potent auxiliary of luxurious living.

Branch pipes from the main cold air duct may be made to conduct any portion or the whole of the current of air to the dining room, at meal time, in the fervid season, and the pipe may be so arranged as to discharge the whole volume into the wine cooler, whence the cool pure zephyr, as from the cave of Eolus, may be made to temper the entire apartment *ad libitum*.

The purified and tempered air may also be taken in any required volume to any other apartment of a dwelling, and the entire house may be desirably tempered, and the air constantly changed, while every window and door in the house are closed.

There are few families or individuals in the country, who have not spent many a sleepless night on account of those musical winged pests, which seem to enjoy most the blood of the would-be slumberer. With proper sub-earth ventilation, and closed windows and doors, no annoyance by insect or vermin need be suffered nor any hot, sleepless nights need be borne. Obsolete indeed, and dead to all comfort and luxury, must be the person who would not prize such hitherto unknown domestic comfort, and would not loudly proclaim praises on S. E. V., which is now conceded to be a peerless system of tempering air and ventilating structures, whether for storing inanimate matter, or for animate beings, in both normal and an abnormal physical and mental conditions.

For supplying air to hospitals, S. E. V., is not only believed to be unequalled, but the ventilating engineers of the world have not attempted during the eight years that it has been before the world, to supply a system of claimed superior merit.

J. WILKINSON.

Harvard, Ill.

Notes on the Farm—Diseases of Stock—Transportation and other Matters.

Two months or more ago I gave your readers a short synopsis of observation among the farmers, made during a trip to Anderson county, since which time I have not written anything for the press. But I have been very much interested in the various matters discussed editorially, and otherwise, in the columns of the Kansas Farmer. The chess question, to my mind, seems to be about settled in favor of the negative. The hog cholera question yet remains a very unsettled one in many of its details, and as it is one of the very important questions to the farmer anything throwing more light upon it would be hailed with pleasure. There has not been much of this disease in this vicinity since last spring. I made a post mortem examination of several hogs that had died of the cholera and found the principal trouble to be in the throat and upper portion of the lungs. One lot of 15 shoats, that during the early part of last spring were put in a pen in which large hogs had been kept the year before, soon began to show signs of disease. Loss of appetite and loss of flesh were followed, or accompanied with cough and difficulty of breathing.

The shoats were moved to a clean new pen and treated with sulphur, carbolic acid, etc., externally and internally and fed on new milk but in spite of every attention they all sickened and died except one which remained perfectly healthy all the while and is yet alive and doing well. From a very limited amount of knowledge upon the subject I am led to believe that the trouble is akin to diphtheria, the local disturbance in the throat and upper portions of the lungs, being a result of pyemia or blood poison, the nature and cause of which is not fully understood. The most successful remedy used here was a mixture of lime and salt given dry. To theorize a little further: as fine particles of lime inhaled into the air passages is believed to be beneficial in dissolving the false membrane that forms in the throat and windpipe in cases of membranous and diphtheritic croup it is reasonable to suppose that the virtue of the lime and salt remedy depends largely upon this action when given to hogs having the cholera. But C. W. J., and others are gathering some facts in regard to this subject, for the readers of the FARMER, so for the present I will waive further consideration of it. The indications now are that we are going to have another good crop year, and the tide of immigration at present temporarily checked, will continue to pour into the state. Times are very hard with many of the new-comers, and money does not appear to circulate very freely among any class here. Hogs have been held for higher prices until they have, at present rates, (2cts) "eaten their heads off." Cattle are doing well—a great many are being fed in this vicinity—more than in any previous year. Some of our feeders lost a few steers in the fall by gorging them on corn. I was called to assist in the examination of one that had died, the owner fearing the trouble might be Texas fever or some other dreaded malady. There were no symptoms of disease in fact in common with Texas fever the inflammation being confined principally to the manifold. With less dry feed more exercise and moulages the remainder of the steers avoided a premature death.

We need cheaper transportation for our products. This question has been talked about so much, that like the money matters we have all got tired of it. Yet there is no other question of more vital interest to Kansas than that of transportation, and I, for one, will feel like condemning in unmeasured terms any legislator who fails to do what he can to secure the much needed redress in this regard. High freight is the "Anti-Fat" that is causing the leanness among our people. There is no reason why the increased purchasing power of money should not apply to railroad fare and freights equally with all other things. If our railroad companies are not getting rich there must either be mismanagement or the present system of transportation not in accord with the demands and necessities of our state.

In referring to a former letter of mine one of your Pennsylvania correspondents asked for information in regard to hard-pan soil in Kansas. A neighbor of mine took the paper containing the queries, intending to give an answer containing the required information but as yet he has not reported. I only desire to say at this time that what is known as hard-pan in this part of the state is the sub-soil. From various causes this is on the surface generally in small patches with us, and is hard to manipulate but in the course of time it becomes more easily worked and makes good farm land. It is richer than the black or surface soil in those elements which constitute the base of the richest and most durable soil in Kansas, such as Iron, Alumina, Phosphoric acid, Manganese, Lime etc., but it is deficient in organic matter. Owing to the abundance of good land having black surface soil from one to ten feet deep, it is best not to undertake to make a fortune on a farm the soil of which is largely hard-pan. M. A. O. Black Jack, Kas.

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As near as I can learn, wheat and corn are not much above half a crop. As I have been reading from different counties in Kansas through the FARMER, I would like to hear from Russell and Ellsworth counties, as those were my choice, being as far west as I would wish to go. In regard to its soil and productiveness in wheat, corn, oats, vegetables and fruit-growing, is coal visible on the surface? I have heard that it crops out between Russell and Ellsworth counties. Whether many streams abound with timber of any account? How most people are prospering and if they have any fear of the Kansas foe, the grasshopper, in the future. If any one is acquainted with any of the government land that could be taken up as a timber claim, where and how situated, also if there are any claims that can be had at reasonable rates and what they would range at. I would like a farm in some good location to follow my occupation, (farming) as that is my delight. Hope someone will answer through your valuable paper. C. H. Union, Mo.

The Unrivalled Prosperity of Kansas.

A writer from Chicago, in reviewing the agricultural condition of the states west of the Missouri, in the New York Herald, awards the palm of prosperity and advance to Kansas. He says: "In looking over the record of Kansas, we find that the development of the state has gone on with astonishing rapidity, but during all the years of its settlement its era of prosperity has not been so great as during the past twelve months. There seems to have been a new impetus given to the tide of immigration, and a large portion of that which was sweeping away to the vast plains of the far northwest has been deflected to the southwest, and out upon the fertile fields of this productive state. The testimony of hundreds of correspondents who have settled in Kansas, and have begun the tillage of its virgin soil, as received by me, is that they have reaped far greater advantages than they could in any other section of the west, even with the great inducements elsewhere held out. This is by no means written in the spirit of special or personal interest in Kansas, for the writer has no individual interest in anything beyond the general good of the entire country—if a local pride in Chicago may be excepted—but he can not ignore the fact of the wonderful and fairly startling advance which the "bloody border" has made. Traffic in lands, government and private, has set afloat an increased volume of currency, local trade has picked up, the crops have been good, and for wheat the prices particularly satisfactory. Farmers investing in moderate-sized farms and paying down nearly the total value of the same, find themselves comparatively able to cope with the lugubrious of incumbrance, and see their way to an early relief from the financial burden."

Col. Forney, in his new paper, discards the editorial "we," and adopts the first person singular "I." It won't prove popular.

Patrons of Husbandry.

NATIONAL GRANGE.—Master, Samuel E. Adams, of Minnesota; Secretary, O. H. Kelley, Louisville, Kentucky; Treasurer, F. M. McDowell, Wayne, N. Y.

KANSAS STATE GRANGE.—Master, Wm. Sims, Topeka; Secretary, P. B. Maxson, Emporia; Treasurer, W. P. Popenco, Topeka.

COLORADO STATE GRANGE.—Master, Levi Booth, Denver; Lecturer, J. W. Hammett, Platteville.

MISSOURI STATE GRANGE.—Master, H. Eshbaugh, Hanover, Jefferson county; Secretary, A. M. Coffee, Knob Noster.

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 for Dues, 2nd, Secretary's Receipts, and 3d, Orders on 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.

Notice.

Masters of Subordinate Granges in Shawnee Co., will notice that there will be a meeting at Capital Grange hall, on the fourth Saturday in January at 1 o'clock, to elect a county deputy.

Neosho Grange.

New Year's night being the regular night for the meeting of Neosho Grange, we decided to have a public installation and feast. At an early hour the house was filled with a lively crowd, notwithstanding the weather was very cold and the wind blew furiously. After waiting for some time for the brother to arrive that had been invited to install our officers, a sister of our Grange officiated and performed the ceremony in a very creditable manner. Fine music, both vocal and instrumental, was interspersed through the exercises.

After the installation the feast was served and was enjoyed by all. Then followed quite a long recess which was spent in sprightly conversation, snatches of songs and instrumental music. The master called to order and the worthy lecturer read a paper which did credit to the editor and contributors.

The master then announced that the exercises were closed and all went home feeling that they had spent a pleasant and profitable evening, and some of the invited guests wished themselves grangers if they always had such good times (which they do). The writer can speak from an experience of five years' membership in the order.

MATRON.

Prosperity of Pennsylvania Granges.

Extract from report of the Worthy Lecturer of Pennsylvania State Grange:

I have been impressed with the fact that the Grange today is in far better shape in Pennsylvania than at any time heretofore. True, there are dead and dying organizations, but a bountiful harvest will be left. Enduring as we have certainly endured, a severe and long continuing crisis—enduring a crash that swept into destruction a multitude of the best-managed business associations, with goods falling to one-third value, with a large surplus of productions, with forced sales of bankrupt goods and thus vacillating markets, is it any wonder that our business enterprises should be disappointing if not disastrous? Yet our strong ship has braved the storm. I find in a certain county a Patron's store with goods all consumed by fire, and no insurance; yet there is no lack of confidence there, but an irresistible determination to cling closer to our organization. I go into granges where purchasing funds have unaccountably, and yet not criminally, disappeared and debts made, and yet the purse strings have been again unloosed, debts paid off; funds created and enterprises renewed upon an infallible basis. We have passed through the furnace of transformation. The dross has been consumed and the gold remains. Thus our organization being today composed of strong men and women, and having the advantage of a terrible, but as instructive experience, am I not warranted in asserting that the Pennsylvania Granges are in a better shape for a successful future than heretofore?

As soon as business revives, the over-production diminished, forced sales cease and margins become fixed, then will those who have kept faith reap the advantages of the direct trade we have established in the very midst of disaster. Out of sacrifice comes good, out of loss at times comes gain. It is a happy co-incidence that the panic just passing away should have aided in advancing the Grange purpose of dispensing with the surplus agent and fostering direct commercial negotiation between manufacturer and wholesaler on the one part and the farmer upon the other. A large, steady Grange trade, with ready cash, was indeed tempting to the far-off "first hands" struggling to hold their credit and keep the wheels turning. When business becomes brisk and reorganized again, then again will hordes of these barnacles doubtless attempt to create and assume costly offices between the two parties. But now we will have the prestige of an organization composed of a strong unflinching material—an organization irresistible because of its Spartan schooling and because it is composed of the cream of the citizenship of Pennsylvania. Honor and honesty lie closely to the soil.

Dominion Grange.

Perhaps in the history of the Dominion Grange, no more important meeting has before been held, than the one just passed—a full report of which we have given—important because of the various questions that were expected and were brought before the meeting, questions of constitutional law, with many proposed additions and amendments, as also questions of a general character of interest to the entire agricultural class, and the whole country at large, for the object of this—"Farmers' Parliament," as it has been termed,—is not alone the advancement of selfish interests, but the general welfare of the whole country. The specific and first object of the Grange is the improvement of the farmers' condition socially, intellectually, and materially; as a natural following of this, advancement in the whole country's welfare. There were present delegates from Ontario, Quebec, Nova Scotia, and New Brunswick, and the Legislative ability, and general intelligence exhibited in the discussion of the questions before the assembly would do credit to any class of men. Unaccustomed to taking part in deliberative assemblies, it might be expected that that degree of Systematic Legislation would not be shown as in a convention of men, who frequently meet in general conference upon questions relative to their respective interests, yet we venture to say, abler or more energetic men are seldom seen than those composing the Dominion Grange, and the debates were for the most part pointed and able, showing forcibly the educational influence of the subordinate granges in this direction.

Questions of vital interest to the Order were freely and fairly discussed, many constitutional changes being proposed, and which if all carried into effect, would have instituted a complete revolution in the laws of the Order, and we believe, been disastrous to its best interests. We have always held strong conservative opinions regarding our constitution, and the general laws governing the order, and therefore view with suspicion the propriety of any such sweeping change as that proposed, giving the right of office to those only who were actual delegates from Division granges, excluding officers from re-election unless they happen to be delegates from their Divisions, and which if adopted would necessitate an almost universal change at every annual meeting, a course which we think would be ruinous to the welfare and perpetuity of the Grange.

Such subjects as the Insolvency Law, Market Tolls, the Common School Law, etc., which were so ably discussed, are deserving the attention of farmers, and the many valuable suggestions made will secure that ventilation through the Grange—the representative society of the agricultural interests of the country—they deserve.

One feature of this last session we must refer briefly to, and that is the noticeable increase in the number of ladies present, which added much to the interest and dignity of the session, and they not only lend a charm to the session but lend agreeable assistance in the deliberations of the assembly, and their reports will be read with much interest, showing them qualified to discuss subjects pertaining to their respective positions with intelligence and wisdom.

We are not among those who would discourage the presence of the ladies at our annual meetings, but would rather encourage their attendance as one of the happiest features of the session. On the farm our sisters are so intimately connected with our work that we cannot well do without their influence and council in an assembly where the deliberations are directed to the advancement of the welfare of the order, and the interest alike of the house and the field.—Canadian Farmer.

Have a Grange Library.

Every patron who has the good of the order at heart, will not let an opportunity pass for promoting the educational feature of its work. It is a duty which he owes to the order and is in accordance with the obligations he has taken to promote its best interests. Every true patron cannot but be pleased to note the interest which is taken in the order in regard to the formation of a Grange Library. Every Grange should begin at once with the new year, if it has not already done so, to build up a Grange library. Resolve to pay into the treasury of the Grange ten cents quarterly for this purpose. The trifling sum of ten cents which all can easily spare, will in no sense be deemed a burden, and will return a thousand fold on account of the increased intelligence in each Grange, which will naturally result from the greater educational facilities which the Grange will afford. Will not each subordinate Grange which has not already done so, set about this important work at once. It will pay. Possibly a dime sociable, or other methods common for raising money for church purposes, would be better and more satisfactory. At all events provide some means for starting a Grange library at the earliest possible moment.—Grange Bulletin.

Breeder's Directory.

A. KNAPP, Dover, Shawnee Co., Kas., breeder of Pure Short-Horn Cattle, and Berkshire Pigs.

S. EICHHOLTZ, Breeder of Short-Horns, Berkshires and Bronze Turkeys, Wichita, Kansas.

FOR Choice Merino Rams and Ewes. Also Imported Canada Cotswolds at Moderate Prices. Address A. B. MATHEWS, Kansas City, Mo.

T. FROWE, Auburn, Shawnee Co., Kansas, Breeder of Spanish Merino Sheep. Has 30 bucks for sale; call and see them or write; prices reasonable.

BADDELEY, Leavenworth, Kan., Breeds Black Cochins & Brown Leghorns. Stock not surpassed in America. Send for descriptive Circular and price list.

R. DUNLAP & CO., Iola, Kansas, Breeder of pure Poland-China Hogs and pure Cochins, Light and Dark Brahmas, and B. B. R. Game Bantam Fowls, stock first-class. Write for prices.

AMUEL JEWETT, Merino stock farm, Independence, Mo., breeder of Spanish Merino sheep, constantly on hand at reasonable prices. Call and see them or write for particulars.

W. H. H. CUNDIFF, Pleasant Hill, Cass Co., Mo., breeder of thoroughbred Short-Horn Cattle of fashionable strains. The bull at the head of the herd weighs 3000 pounds. Choice bulls and heifers for sale. Correspondence solicited.

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

Physician.

MRS. DEBORAH K. LONGSHORE, M. D., late of Philadelphia, Pa. Office and residence on Topeka Avenue, first door south of Tenth St., West Side.

Dentists.

A. H. THOMPSON, D. D. S., Operative and Surgeon, Dentist, No. 189 Kansas Avenue, Topeka, Kansas.

Nurserymen's Directory.

A. WHITCOMB, Lawrence, Kansas. Florists' Catalogue of Greenhouse and bedding plants, free.

KANSAS HOME NURSERY offers the largest assortment of the most exclusively HOME GROWN Fruit and Ornamental Trees, Vines, Roses, Orange Quinces, Apple Seedlings, No. 1 and extra large seedling samples. A. H. & H. C. GRIESE, Lawrence, Kansas.

HENTIC & SPERRY,

Attorneys at Law,

TOPEKA, KANSAS. Practice in Federal & State Courts.

Sheep For Sale.

500 Grade Mexican Weathers for sale by W. J. COLLINS & SON, Larned, Pawnee Co., Kansas.

VERY IMPORTANT.

To Sheep Farmers.

Having proved our patent sheep dip to be a success without a single failure, we are now prepared to cure sheep of scab on reasonable terms, and warrant a cure. Apply to A. SCOTT & CO., Westmoreland, Potawatomi County, Kansas.

50 Poland-China Pigs

If you have any thoughts of buying one or more, write to WILLIAM CUTTER, Junction City, Kan.

GEO. M. CHASE,

KANSAS CITY, MISSOURI,

BREEDER OF

Thoroughbred English

Berkshire Pigs.

—ALSO—

Dark Brahma and White Leghorn Chickens.

None but first-class stock shipped.

BERKSHIRE PIGS

—AT THE—

COLLEGE FARM.

A grand lot of 6 to 7 months old, of highly prized Sallies, St. Bridget, and Lady Leonidas families, and the get of such noted boars as British Sovereign II, 522, Cardiff's Surprise 1965, and others. These pigs we offer at very low prices. Also a few

ESSEX PIGS

of the choicest blood. We also offer for sale a middle aged polled GALLOWAY bull, and two JERSEY bulls at surprisingly low prices. Address E. M. SHELTON, Superintendent Farm, Manhattan, Kansas.

RIVERSIDE HERD NO. 1.

(Established 1868.)



I am now offering for sale a choice lot of No. 1.

Poland China and Berkshire Pigs,

(recorded stock) at reasonable figures. Parties wishing to purchase will call on or address me. All Pigs warranted FIRST-CLASS, and shipped on receipt of price. J. V. RANDOLPH, Emporia, Linn Co., Kan.

CREEK VALLEY

Farm Herd.



Thoroughbred Berkshires, consisting of 213 head 100 summer pigs mainly the get of the grand imported boar, "Stockwell," brother to the famous 1st prize and Sweepstake boar, "Royal Hopewell," bred by same party, (Wm. Hower, Eng.) and imported at same time. Stockwell was awarded 1st. premium at the Kaw Valley Fair, Lawrence, Kas. 1878, and second premium in Sweepstakes for best boar of any age or breed at the Kansas City Exposition, 1878, being the only time he has been shown.

My pigs are from Registered cows, and those eligible to registry: are of excellent breeding and (what is of still greater importance) of excellent form. The number of pigs I have will enable me to ship only choice ones, and a Specie Basis prices.

Parties from a distant desiring to inspect my herd in person, will be conveyed from and to depot free of charge, where notice is given. I have never had a better lot of pigs than now; and as formerly, shall guarantee satisfaction to all purchasing on order. Address SOLOMON ROGERS, Prairie Centre, Johnson Co., Kansas.

THE KANSAS FARMER.

HUDSON & EWING, Editors & Proprietors,
Topeka, Kansas.

1879.

1879.

THE OLD RELIABLE.
The Kansas Farmer.

FOR 1879.

The KANSAS FARMER will enter its 17th year January 1st, 1879. The publishers will give the readers for 1879, the best volume of farm and family literature ever made in the west. We present, herewith, some splendid inducements for agents to work for the FARMER:

SUBSCRIPTION PRICE.	
3 months (13 papers) to any address,	50c
6 months (26 papers) to any address,	\$1.00
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5 copies 1 year to any post-office addresses 8.00

10 copies 1 yr. to any post-office addresses 12.50

(with extra copy to club-agent.)

25 copies 1 yr. to any post-office addresses, 25.00

(with extra copy to club-agent.)

CONDITIONS AND SUGGESTIONS.

Names may be taken for more than one post-office in or out of the state.

It is desirable that all names for a club be sent at one time, but where a club-agent wishes to secure the premium before he has had time to secure his list, he can do so by sending the amount of money due for a club he is raising, and adding the names afterwards.

Money can be sent at our risk, by post-office order, express, registered letters, or bank draft.

Premiums are guaranteed to reach agents, as they will be sent by mail well packed and registered, to secure their safe delivery.

Sample copies will be furnished free to all club-agents.

CLUB-RATES GOOD UNTIL FEBRUARY 1st, ONLY.

The common-sense business rule, which has been in force in the KANSAS FARMER office for years, has been and is, to place no name upon the subscription book until the money for the paper has been received. One week before the expiration of the subscription, notification is sent to the subscribers asking them to renew. If this is not done, the paper is discontinued when the last paper is sent. This secures to every person just what they pay for, and they are not compelled to take a paper for two or three years they do not want, and the publishers are saved all the loss, trouble and annoyance of unpaid subscriptions. These are general business rules, applicable to all our subscribers.

A Farmers' Joint-Stock Association.

"The reports from State Grange meetings this year are all of a very encouraging nature. The attendance has been unexpectedly large and the sessions have been harmonious and devoted to the main to practical measures."

The above item is clipped from one of our agricultural exchanges. We believe the declaration is substantially true, and the fact is a very encouraging one. It shows that the farmers are getting down to steady work, are beginning to realize the situation, and are dressing in line, standing shoulder to shoulder and touching elbows, as the soldiers say. These are evidences of discipline, and discipline means strength, power and a successful campaign. Every paper we pick up has something to say about co-operation. Co-operation has become one of the most popular subjects of the day, though by no means a new one. The farmer's various associations are discussing it all over the country, but so far as we have discovered, they have not grappled with the subject except in a partial and supplementary way. Co-operative stores in some places have been established, clubbing together to purchase manures for the farm and household necessities has become common, and cheese factories and creameries have proven very beneficial in some dairying neighborhoods. As inconsiderable and imperfect as these attempts have been, the benefits arising from them are most pronounced and satisfactory.

Let us suppose that a community or brotherhood, if you please, of farmers, have made mutual aid and co-operation a subject of study and discussion in their grange, and propose to test the corporation system in conducting their business.

A territory embraced in three miles square contains 5760 acres or 9 sections of land. This will divide into 36 farms containing 160 acres each; but as more or less of this would be taken up by rough lands, water courses and roads, and the farms would vary in size, it is safe to set down the number of farms at 20 to 30, which will answer our purpose for illustrating a more perfect plan of co-operation than we have as yet seen anywhere discussed. This plan is the ordinary joint-stock association, on which all corporations, having greater proportions than mere co-partnership, are organized, under state laws.

The amount of capital represented by the value of the property embraced in the farms and

stock named in the articles of incorporation, would represent the capital of the association, and each member's interest in the concern would be represented by the number of shares the appraised value of his property would buy. From this he might exempt his dwelling, household goods and a plot for a garden and yard. The corporation would be officered and governed as all other legalized associations are.

Central buildings would have to be constructed where the farm implements, machinery and stock owned by the corporation would be kept, and where hired laborers would be lodged and boarded. This would give the community the advantage of owning the best bred animals to improve the stock of the farms. Cheese factories and creameries would be among the most valuable institutions of the company, to which canning, preserving and fruit-drying establishments would be added. A professional horticulturist would be employed by the association to plant, cultivate and properly attend the orchards, under whose management the quality and quantity of fruit would be both improved and increased. When buildings, drainage, etc. were required, the services of a practical engineer would be employed.

A plan similar to the one here sketched would not necessarily infringe upon the privacy of any family. The members of the family would employ their time in labor upon their own farm, the hired labor of the association being employed no more than was absolutely necessary to complete the work in season, and each farm charged with the cost of labor performed on it. Each share of stock would be assessed with its pro rata of expending the amount deducted from the produce when sold, or collected by any arrangement the officers might determine.

While the expenses of farming would be reduced to a minimum, and the labor employed be of the best skilled, and directed by the most competent men and women, selected with a special reference to their fitness to manage the department of work they were assigned to, the terrible drudgery which is the dread of every farm house, such as cooking and otherwise providing for a gang of hired laborers, would be avoided. Besides the economy of labor everything on the farms could be turned to profit. Fruit, vegetables and meats would be prepared at the central establishment, and the goods credited to the owner, who would be charged with the actual cost of preparing them for market. With appropriate appliances and skilled management, the enhanced value of the butter alone, the produce of twenty or thirty average farms, would foot up a handsome sum in a year.

Money wanted for the improvement of property could be borrowed by a well established association at half the rate of interest for which individuals could procure a loan. The entire property of the association being bound for the loan, and semi-annual payment of interest would always command money at a low rate. The strong would protect the weak and the wise the ignorant in the association; the property of individuals being bound only to the association for money advanced, a greater amount would not be expended on it than the property was able to repay, and the home of a weak manager would escape the present constantly impending danger of being swept from him and his helpless family.

Officers and directors being composed of the members of the corporation, the expenses would be nominal or very light for official duties.

We have here attempted merely a skeleton sketch, not having room in such an article for more than a reference to a few of the most important details. Any one familiar with the management of corporations will readily comprehend the plan roughly marked out, which is written merely for the purpose of suggesting the possibilities which are within reach of the farmer, if he will step out from his isolation and fancied independence, and use wisely the machinery that other industries are using with so much profit and power.

The concurrent or collateral advantages resulting from associations of the above class would be many and reliable.

We have named only one, that of borrowing money, if needed for improvements, at a low rate of interest. The political influence such associations would wield in the legislature of their state, may be comprehended by referring to the power exerted in the law-making bodies of the country by other corporations. We need only instance banks, mining, railroads and other joint-stock associations. Their power and influence to make contracts for reasonable rates with carrying companies for freight. Wholesalers who handle large quantities of goods, and buyers, would feel that respect for the association which intelligence, backed by power always commands.

We leave the subject for the present. The intelligent farmer may take it up and pursue it with profit. The great problem for agriculture to solve is, how to combine and control its diffused and wasted power and resources.

Bonds and Mortgages.

A strange fatality seems to possess the western farmer for going in debt, private or public debt, either or both, as the opportunity may offer. His excuse for this ruinous, destructive policy is to hasten improvement, to "develop his property." The fruits borne by this mistaken theory are of the bitterest possible variety. Beside them the fabled apples of the Dead Sea are sweet!

Just now the anomaly may be contemplated, of some of the eastern counties of the state—Douglas, Leavenworth and Atchison, for instance, declaring that their bonded indebtedness is so heavy that it is quite beyond the range of possibility for them to pay—that thirty-three

per cent. of the value of the property of the counties would scarcely pay this bonded debt, and for the property owners to raise the amount of money to cancel this intolerable debt, and live, is simply impossible. In Atchison, negotiations are pending with a view of sealing the indebtedness down considerably below one-half. In Douglas the sore-pressed property-holders seriously contemplate repudiating the whole debt, and a suit by the bondholders against the commissioners of the latter county in the U. S. court for refusing to levy a tax to meet the bonded indebtedness, was decided against these county officers. Leavenworth county is defying its creditors and offering to compromise at fifty per cent. and less, and it looks as though the principle of the bankrupt law and laws to relieve insolvent debtors would be applied for the relief of whole municipalities.

While this state of affairs, like a danger signal, threatens the eastern part of the state, brought about by the adventurous spirits who organized and controlled the young state, the same spirit is rife in the western, new counties recently organized. A railroad company makes a proposition to the citizens of a new county to vote bonds sufficient to grade a road-bed or build a railroad as the case may be, and the company will track it and furnish rolling-stock, rent the road, or some other of the many special arrangements that can be made. There is no railroad within fifty miles, and the people are clamorous for a railroad. They have been used to the convenience of railroads near their eastern homes, and must have them here at any sacrifice. They have no facilities for reaching market with their produce, and bonds are voted readily and recklessly, whenever the opportunity is given. It is or will be the old story, of course. The corporations or capitalists who step in, finish and operate the road, virtually own it.

The net earnings on new roads in new countries especially, are never sufficient to pay the interest on the bonded indebtedness. The county is taxed to pay it, and eventually to pay the principal. The road passes into the hands of capitalists and other corporations, and the people who hastened to vote bonds have nothing to show for their "public spirit and enterprise," as the advocates of these bond schemes put it, when they are tickling the ears of the dear people, but a heavy bonded debt which takes all their produce to pay—that produce they were so troubled about getting to market.

This is only one phase of the bond fever, which is more prevalent among prairie farmers than the intermittent fever or ague. They are ready to vote bonds for any species of "public improvement." The mania for getting in debt appears to possess farmers as a class, more than any other people. It is a common thing among pre-emptors to hurry up and get a fee-simple title to their lands in order that they may borrow money to make "improvements," and eastern capital is coming into the new western states "by cart loads," as we have heard it rather hyperbolically expressed, for investment in the new farms. The investments are made readily at as near one-third or fourth of the value of the property as the lenders can determine, and the farmer, nine times out of ten, becomes nothing more than a tax-paying tenant to the eastern capitalist, from whom he was so eager to borrow at nine to twelve per cent.

This ruinous system is being pursued all over the west, and in ten years or less, the property thus borrowed on will change hands for the mortgages that are against it. This mania for voting bonds and borrowing money at high rates of interest, has brought a hundred fold more distress on western farmers than all other causes combined. And yet it would seem that a halt is never to be called.

It is the duty of the leading men and women of the granges to take hold of this business and break it up. If the slow, steady round of industry will not suffice to gradually improve the condition of the farmer on the new prairie, borrowed money certainly never will. Without borrowed money and a mortgage he can retain his home and improve it, perhaps slowly and painfully, by industry; with the borrowed money and the mortgage in nine times out of ten he will certainly lose it.

The people of the counties should be prohibited by state law from voting a bonded indebtedness in their capacity as county government, without a special act of the legislature, and then only for necessary county buildings.

This subject is a broad one which calls for thorough agitation and discussion. If the ruinous practice of debt-making is continued, it will leave our beautiful new prairie states, in a decade, miserable, debt-ridden, unimproved provinces. The taxes in nearly every county and town in these new states are three times as heavy as they ought to be.

Eggs 35 Cents a Dozen.

Fresh eggs are now retailing at the above price in this city. Every cold winter's eggs run up to fabulous prices, and if poultrymen had them for sale at this season they would reap handsome profits. At least five winters out of six the weather is cold enough to produce a dearth in the egg market and an advance in the article which makes it very profitable for those who have fresh eggs to sell. Eggs in the summer are hardly worth the trouble of carrying to market in many places. In all towns throughout the country where the winters are severe, eggs are in demand at high prices. The difficulty of having layers in the cold season has been successfully overcome by providing warm houses for the fowls. There is no farmer who cannot, if he will, provide such a place, at little cost, that will accommodate fifty to a hundred fowls. A southern slope is preferable, or a site with the greatest possible protection from the north and north-west winds.

If fowls are scarce and dear, as they are on most prairie farms, straw is plenty and cheap and can be used for building much more comfortable quarters for the fowls than simply boards.

If fifty fowls are to be accommodated plant a double row of light posts eight feet apart and two feet between the lines of posts. Make your line forty feet long which will serve to form the back wall of the shelter. Saw the posts off four or five feet above the ground, and nail three common fence boards on each line of posts, one at the top, another about six inches from the ground and one in the middle. You have now a space two feet wide between the double line of fence which pack well with dry straw. Construct the ends of your shed in the same manner, and a part of the front on each wing, leaving an open space on the south or front side of fifteen or twenty feet.

The front should be a line of posts 7 feet in the clear from the ground. Nail along the top of this line of posts a stout board to serve as a plate, and the whole should be covered with boards forming a shed roof. A straw roof will answer, as cattle sheds are often covered, but boards are better, which should have a layer of straw placed on top of them to more effectually protect from cold. For roosting places run along near the back of the shed, one above the other in the form of steps two and three feet from the floor, poles or boards four inches wide. Cover the floor of your shelter with a pretty thick layer of dry straw, well tramped down, and in the centre where the sun shines longest, keep a good supply of fresh dry earth, coal ashes or both. The straw carpet and wallowing bed should be renewed frequently so that the house may always be kept sweet and clean.

If the weather is very severe the opening in front should be provided with curtains of oiled muslin, looped on a wire stretched along the top, which would cost but little and increase the comfort of the fowls very materially, which is the same in effect as increasing their profit.

A stock of young fowls selected with care and judgment in the fall, and warmly housed and provided with proper food through the winter, will lay well during the severest winter weather.

This fact is well established, and this source of profit is a legitimate one for the farmer. All that is required is the proper intelligent effort. The above described accommodations are easily and cheaply built, within the reach of every farmer, and will answer a better purpose than most of the costly structures described in poultry books.

They could be almost wholly renewed with fresh, clean straw at any time without the outlay of money. The proper selection of fowls, their feeding, care and management are from time to time discussed in our columns, and any special information needed upon inquiry will be cheerfully furnished by the KANSAS FARMER. There is more profit in a small flock of fowls for the money and labor invested, if intelligently managed, than in any other farm stock.

Holding Fat Hogs.

A very large per cent., if not the majority, of fat hogs are still held by the farmers. We think this was a mistake on their part, and advised differently those whom we happened to converse with on the subject in the fall.

The price was low then, but it has not improved much since. Many, doubtless, will weigh less now than when they went into winter quarters. The corn they have consumed has been worse than lost. It has required all the animals consumed to supply them with sufficient warmth this intensely cold weather, exposed as the most of them are in the open air, with little or no shelter. Farmers provided with close, warm stables and pens for wintering fat stock, can keep the animals improving, but they, even then, consume much more food in proportion to the increase in weight, than in mild weather, but with the accommodations supplied on the average prairie farm, it is a ruinous waste to hold fat stock for winter feeding. The corn which the hogs are literally burning up in their natural furnaces in order to maintain sufficient heat to sustain life, it is true would not command a very large price, but it was worth fifteen to twenty cents a bushel; fed to hogs it suffices to keep the animals warm, which should have been placed in the hands of the packer last October or November at the furthest, and is entirely lost. A safe rule for feeders to follow is to sell fat stock whenever it is in prime order, and especially when holding will carry it into winter quarters. The risk by death and accident is always considerable. It is a hard struggle for the animal to retain weight, and the chances are largely against any important gain for many weeks after the change from green to dry fodder. When the stock is disposed of, the money can be used to pay bills and make necessary preparations for future business. Those who have committed the mistake of holding fat hogs should sell at once for the best price the animals will command, and stop the expense of longer feeding. With the animals surrounded by an atmosphere at and below zero one-half of the twenty-four hours, no gain in fat or flesh is possible.

Editorial Notes of the Kansas Legislature of 1879.

Inauguration Ceremonies, Assembling of the Legislature, Election of Speaker, Etc.

MONDAY, Jan'y 13, 1879.

The assembling of the Legislature and the inauguration ceremonies with a military display, brought together a large number of people from every part of the state. Notwithstanding the cold weather, the broad streets and avenues of Topeka were thronged with people from early in the morning until late at night. At 12 o'clock, the military companies escorted the

Governor and Governor-elect and State Officers to the Capital, in the following order:

Band, Capital Guards of Topeka, Band, Craig Rifles, of Kansas City, Band, Independence Rifles, Council Grove Rifles. Governor Anthony and Governor-elect St. John, Secretary of State Cavanaugh and Secretary of State-elect Smith, in first carriage, followed by the Governor's staff mounted.

In other carriages were Lieutenant-Governor Humphries, State Auditor Bonebrake, State Treasurer Francis, Superintendent of Public Instruction Lemmon, Attorney-General Davis, and Superintendent of Insurance Welch.

Band, Drought Rifles, Seneca Rifles, Band, Paola Rifles, Ottawa Rifles.

In this order the line of march was followed to the State House, where, after due preparation was made in the placing of troops, citizens and carriages, the inauguration ceremonies were opened by music, followed by a most eloquent prayer by the Rev. Dr. McCabe, of the First Presbyterian Church of this city.

Major Anderson, Chairman of Committee of arrangements, introduced Governor Anthony, who made the following brief address:

Fellow Citizens:

The surroundings and ceremonies of this hour are fruitful of thought to the lover of his country. We come not here to crown a King, but a People. The supreme executive power of a State, possessing the possibilities of Empire, are to be surrendered by one in whom they have been vested, and assumed by one to whom they are about to be entrusted. The Governor of yesterday becomes the citizen of today, the citizen of to-day the Governor of tomorrow—the administration of a great government changing as gently as the portals of the morning open and dawn glides into day. In this simple yet sublime ceremony, the sovereignty of the people is asserted and majority crowned as Monarch.

The wise and good citizen will recognize today how closely patriotism is allied to philosophy, and how dependent it is upon benevolence. He will not be content with the present accomplishment of his State, and a knowledge that his people are free and happy; but will seek more diligently to know why it is so—what its elements, its perfect development, its possibilities, and its promise of endurance. Knowing that man must die, but cannot perish, he will come to believe his race and his country immortal, although mortal himself, and resolve to do his duty better than before.

I rejoice that the State is here by its Legislators, its Judges, and so many of its representative citizens. May this event be suggestive to all of the true elements of State and National greatness. Congratulating ourselves that the breadth and fertility of our soil insure unlimited production, and that population is measured by the abundance of subsistence, let us remember, also, that States are not powerful and steadfast in the ratio of population; that mere numbers without moral elements will not give strength; that "Religion, Justice, Counsel and Treasure," are the four corner stones upon which a State must be builded; and that a people grounded in religion, devoted to justice, wise in counsel, and prudent with treasure, can alone become prosperous and powerful, content at home and respected abroad.

It should be a source of particular pleasure that these soldiers are here, as an organized body, to participate in the duties of the day. Inheriting the discipline, resolution, and valor of Freeman, the martial spirit is a natural element of our character. We should rejoice that this is so; not because we are or ought to be a loving people, but because the characteristics and elements of a true soldier are equally the elements of a true citizen.

No people so inert and effeminate as to be without love of martial array can long master the conditions of peace and security. It was well said by Burke that the true soldier "is at once adventurous and prudent, circumspect and daring; whom his Creator has made of large discourse, looking before and after." The good genius of statesmanship "loves courage and commands counsel," trusting to the brave in war as not less wise in peace.

Turning to Governor St. John he said: Honored sir: In surrendering to the people the prerogatives and powers incident to this great trust for re-bestowal upon you as my successor elect, it gives me great pleasure to perform the duty assigned me of introducing you to this assembly. That the people look to you for greater wisdom in affairs of State than has characterized my administration, I know; that they will exact from you more faithfulness, I do not believe.

Fellow-citizens, I present to you Col. John P. St. John, Governor-elect.

Governor ST. JOHN'S ADDRESS.

Mr. President, Soldiers and Citizens:

As we look out upon the landscape where but a few years ago the painted warriors of the plains held full sway, and behold a beautiful city with its magnificent institutions of learning, its many church spires and broad avenues, its converging lines of railways, and its many happy homes springing up, as if by some magic power, to impress us with the fact that truly we live in a day and age of progress and civilization, turning back the pages of history, our Territorial days bring to us fresh memories of the brave men who struck the first blow and shed the first blood for Kansas, and as life springs from the good seed that is sown, and ripens into the rich harvest, so from the sacrifices of her martyrs, who today look down from that higher and better home, we behold all over the land the rich, golden harvest of universal freedom to mankind.

During the eighteen years that have intervened since Kansas was admitted as one of the States of the Union, her people, so noted for their bravery and devotion to principle, have proven themselves equal to every emergency. And it is with pride that we point to the fact that upon all great questions involving the liberty of mankind, the perpetuity of the Union, the integrity, honor and glory of our Country and its flag, Kansas has always been right.

The progress she has made, is without a parallel, in the history of States.

From a population, in 1865, of 136,000, we have grown to a population of 900,000 in 1879.

To the construction of her first mile of railway in 1863 we find added to-day, within our borders, over 2,300 miles of these great arteries of civilization.

From 708 school houses in 1867 we have grown to 4,520 in 1878.

Of such a State, rich and unbounded in its natural resources, and so grand in its achievements, every Kansan has reason to be proud.

In entering upon the discharge of my duties as Governor of our State, realizing the great responsibilities that will rest upon me, and acknowledging my own weakness, I can only promise you that my highest ambition shall be

Literary and Domestic.

EDITED BY MRS. M. W. HUDSON.

The Farmer.—Then and Now.

1878.
Farmer at the plow.
Wife milking cow.
Daughter spinning yarn.
Son threshing in the barn.
All happy to a charm.

1879.
Farmer gone to see the show.
Daughter at the piano.
Madam gaily dressed in satin.
All the boys learning Latin.
With a mortgage on the farm.

The Castle-Builder.

A gentle boy, with soft and slender eyes.
A dreamy boy, with brown and tender eyes.
A castle-builder, with his wooden blocks,
And towers that touch imaginary skies.

A fearless rider on his father's knee.
An eager listener unto stories told
At the Round Table of the nursery.
Of heroes and adventures manifold.

There will be other towers for thee to build;
There will be other steeds for thee to ride;
There will be other legends, and all filled
With greater marvels and more glorified.

Build on, and make thy castles high and fair,
Rising and reaching upward to the skies;
Listen to voices in the upper air,
Nor lose thy simple faith in mysteries.

—H. W. Longfellow.

How the Farmer Missed it.

If I had told her in the spring
The old story briefly,
When sparrow and robin began to sing,
And the plowing was over, chiefly:

But haste makes waste, and the story sweet,
I reasoned, will keep through the sowing,
Till I drop the corn, and plant the wheat,
And give them a chance for growing.

Had I even told the tale in June,
When the wheat through the grass was
blowing,
Instead of thinking it rather too soon,
And waiting till after the mowing:

Or had I hinted, out under the stars,
That I knew of a story worth hearing,
Lingering to put up the pasture bars,
Nor waited to do the shearing.

Now the barn is full, and so is the bin,
But I've grown wiser without glory,
Since love is the crop not gathered in,
For my neighbor told her the story.

Royalty in America.

There was such an ado made about the promulgation of an order that all ladies attending the recent "drawing room," given by Princess Louise at Rideau Hall, should wear low necked dresses that many people began to think Queen Victoria could not be the sensible mother, as well as just ruler, we have always heard she was.

That her daughter should come to America, although it was to Canada and a part of her own dominion, and try to enforce such a regulation in mid-winter in a Canadian climate, seemed intolerable, and the newspapers both of the United States and Canada, greeted the new governor-general and his wife with more plain talk than they ever before heard probably. More recently, however, the loyal British papers have smoothed the matter over by saying that the order was an exact copy of the one used on similar occasions by her Majesty in England, and they thought it fitting, since a real Princess had come among them, to follow her example.

Both the people of Canada and of the United States may, doubtless, congratulate themselves that they have taught the newly arrived royal pair a sensible lesson, for whether the order would have been enforced or not, it was an outrage upon a people who even have republican neighbors, but at the same time that we congratulate ourselves thus, we may in turn quite as certainly learn some good lessons from the conduct of the Princess since her arrival on this continent.

We are all imitators to a greater or less extent; women especially have not much originality, and we are like men in the respect that we more readily adopt the customs of a "Prince of the blood" than of the wisest American citizen, republicans though we all are.

As an earnest that she does not consider a display of jewels a requisite of good society, nor a necessity for the proper impressiveness of royalty, she appeared at her "drawing room" without a single ornament, and the Ottawa correspondent who heralds the fact, adds pertinently, "think of that you Americanized young ladies who cannot go to market in the morning without a gold chain dangling from your necks, and who would feel yourselves disgraced in the social scale if you permitted yourselves to appear in your parlors without a display of jewelry."

Rideau Hall is a mile and a half from the Parliament buildings, and the Princess goes to town nearly every day, and like her English sisters walks in stout boots and with a firm step; moreover she does her own shopping, actually carrying home her own purchases if they are not burdensome, and conducting herself generally as any ordinary, sensible woman should. The Governor-general and the Princess both attend St. Bartholomew church where the services of the church of England are held, but one Sunday morning they had the good taste to go to the Presbyterian church, and the same afternoon they were seen walking a mile from home in the vicinity of Chaudiere Falls, the Princess in a long gray ulster and a white cloud around her head.

She sketches, designs lace, attends to charitable work personally, reads, walks in all weathers, and is so courteous that she puts to shame snobbery of every type. Certainly she deserves the thanks of all American women for setting the example, and hence we hope the fashion of industry, and for entering so prominent a protest against the extravagant display of dress which is a growing curse to us. It is destroying both the mental and physical vigor of our young people and making imbeciles of half the married women in this country whose husbands have a salary of over a thousand dol-

lars a year. It should make us blush with shame that our sturdy Canadian neighbors think it due to their welfare to contrast us to a daughter of Queen Victoria, and while they warn their young women against the ruinous folly and vulgar show of their American cousins, point to her as an example of industry and economy.

A Treasury Romance.

Kittie Rayne sat on the veranda and whistled "Within a Mile of Edinboro' Town," while John Fenwick sat in the parlor and scowled fiercely at the portrait of that young lady hanging over the mantel. But scowling didn't seem to have much effect on the portrait, and his anger seemed to have about as much on the original.

The truth of the matter was there had been a lovers' quarrel.

They had been engaged for six months. That was a long time for Kittie to keep her flirting propensities in check. But she had done it, and congratulated herself on the victory she had gained. Why is it that just as soon as we think we have ourselves under control, something comes along to tempt us, and in a good many cases we find that we are not masters of ourselves after all. I don't know why it is, I am sure. Kittie didn't either. But just about the time she began to plume herself on her conquest, Carl Davenport came along, and straightway up popped the old penchant for flirting. It seemed to her that she couldn't help flirting with Davenport. He was handsome and jolly, and there was something about him which seemed to dare her. She knew John wouldn't like it; that people would talk, and that her mother would institute a course of daily lectures—but, she kept on flirting.

John did care, and by-and-by he spoke to her about it.

"You are not jealous, I hope?" she said. "I'd never have thought that of you, John Fenwick, never!"

"No, I am not jealous," he replied. "But I don't like to see you so thoughtless. Would you like to have me flirting with Miss Powell or Miss Covert as you flirt with Davenport?"

"Oh, I shouldn't care the least in the world," she laughed back. "It's real fun, John. Try it and see."

That was all the satisfaction he got then. By-and-by he touched on the subject again, and they came near having a lovers' quarrel. But John, who had a holy horror of lover's quarrels, had the good sense to stop before they got in dead earnest. For half an hour there had been a tempest raging in the parlor. Kittie took up her position on the veranda, and whistled to show how little she cared, and he scowled.

To listen to her, he concluded that that particular moment her sole object in life was to see how many runs and trills and other embellishments she could get into "Within a Mile of Edinboro' Town."

At length he went out to her.

"I want to come to some understanding in the matter," he said. "I'll tell you what you must do. 'Either stop flirting with Davenport, or—'

"Or break off our engagement, is that it?" she asked, with a half flush in her cheeks.

"Precisely," he answered gravely. "I have borne it as long as I can. If you really care for him, of course it is better for us to understand the matter. If you don't care for him, I have a right to insist—"

"You insist?" she cried, with flashing eyes. "You insist! I'd have you to understand, John Fenwick, that you nor any other man can order me to act according to your sovereign will and pleasure. I shall do just as I please, sir!"

"Very well," he answered sternly. "You understand the consequences, then?"

"I do," she said scornfully. "You need not wait for them. You can have your freedom now. Here's your ring; keep it for some woman who will allow herself to be dictated to, and who will come and go at your royal will. Good morning, sir."

And then she went in and shut the door in his face. Kittie, from behind the curtain, saw him go away without once looking back.

"To dare to tell me what I must do or must not do!" she cried. "I'll show him!"

By-and-by better thoughts came to her. "I suppose I was to blame," she said, reluctant to acknowledge it even to herself. "But he needn't have made a fool of himself by being jealous of me. He ought to have known that I didn't care for the goose of a Davenport, but men can't see an inch ahead of their noses. I'll bet he'll think I'm mad for awhile, and when he's had time to get ashamed of himself, I'll come around a little, and be good, and every thing will turn out nicely."

Kittie's plan was good enough but it failed to work. When she got ready to take John back into her good graces, he had gone away, and she didn't know where. The days slipped by, and Kittie hoped he would come back or write, but her hope was a vain one. He had evidently taken her at her word, and henceforth they were to be strangers to each other.

"And I was the only one to blame," sobbed Kittie. "It was all my doings and I loved him!"

It was a drowsy, summer day. The wind was languid with warmth, and seemed to make the day more depressing in its influence on brain and body than it would have been if no breath of air had stirred the drooping leaves outside the open window.

Catherine Rayne stood at her desk in the treasury building in Washington, and went through with her work in a mechanical way. It was hard to keep her thoughts upon it this sluggish afternoon, when everything seemed ready to swoon for want of a fresh breath of coolness to revive it.

A great change had come into her life since she gave back John Fenwick's ring. A sudden collapse of the bank in which their money had been deposited had left her and her mother dependent upon their hands for the bread they must eat and the clothes they must wear. She had accepted the change bravely. It needed some such blow to bring out the strength of her character. A friend in Washington had procured her a clerkship in the treasury department, and she had come there, bringing her mother, who was little better than an invalid. What she earned was enough to keep them comfortably, and she was thankful for that.

She had grown to be a grave and thoughtful woman. The years had come and gone, and she was thirty now, with silver threads beginning to show in her brown hair, and little lines of care about her mouth.

In all these years she had heard but little of John Fenwick. She knew that he was getting to be a prominent man at the west. But that was about all. It had always seemed to her that they would meet again somewhere. She wondered when, and how. Loving him as she had done, she felt what it is to lose and in the bitterest way loss can ever come to us. Ever since they had known her in the treasury department she had carried that look of patient sorrow in her eyes.

"I'm sure there must be some romance in Miss Rayne's past life," declared Susie Vernon. "I wish I knew what it was."

"She isn't looking at all well lately," said Susie to her neighbor, this drowsy day. "She is overworking herself. She'll be down completely if she isn't careful."

There was a sound of voices at the door, and one of the treasury officers came in with some gentleman. Visitors were so common that no one gave them more than a passing glance as they entered, then work went on again in its systematic way.

Catherine did not look up. But she became aware, by some subtle influence, all at once, that some one was watching her. She looked up, then, and gave a little cry that was almost a sob.

"Kittie!" It was John Fenwick's voice that spoke. It was his hand that was outstretched in welcome.

"Haven't you a word of welcome for a fellow?" he said, looking down into her face questioningly.

"I am glad to see you, John," she said, and then burst into a sudden fit of weeping.

"I have not forgotten in all these years," he said gravely. "Do you care for me, Kittie?"

"I never cared for any one else," she said. "I was wicked. I saw it all afterward."

"See here," he said, gently, and she looked up and saw the ring she had given him back years ago. "Will you wear it again, Kittie? I have had a lonely life. If you would only wear it!"

She held up her hand. He slipped the yellow circlet on her finger, and then and there before many wondering eyes he kissed her. The weariness seemed to have suddenly gone out of her face and life.

And Susie Vernon knew that there had been a romance in Miss Rayne's life, and that this was the best and happiest part of it.

Useful Hints for Cold Weather.

POPULAR ERRORS.

A common error, one often injurious to health and not frequently fatal to human life, is illustrated by the practice of some farmers we remember in our boyhood days on a western farm. The error is quite prevalent still. These farmers keep their sheep especially, and sometimes other stock, in open fields, or at best, in exposed yards and sheds, allowing them to feed from the sides of open hay stacks. Hay was cheap, and the sheep ate it voraciously. This large consumption of food was considered a mark of vigor, and of health even. (We do not forget that these farmers were accustomed to apply pine-tar freely to the noses of their sheep in spring, to cure a sort of catarrhal discharge always prevalent, but attributed to something outside of the real cause.) Many parents, alas! believe, and practice upon the belief, that thin clothing, sleeping cold, and bare legs and arms, harden children and make them vigorous. What are the facts?

Our bodies are warmed precisely the same as our rooms are warmed. In burning wood, coal, corn, wheat, oil, etc., the oxygen of the air unites with the carbon (coal) of these substances, producing carbonic acid which escapes unseen. In this combining, heat, before insensible, is given out in a sensible condition. (Scientists will excuse this form of illustration.) When we eat the corn, wheat, flour, meat, or other food it is worked up or digested in the stomach, goes into the blood, and there meets with oxygen from the air absorbed into the blood through the delicate membranes of the lungs. Each atom of food that unites with an atom of this oxygen in the blood, produces carbonic acid, and gives out heat which warms the blood, and through it the body. (The carbonic acid is breathed out through the lungs, and escapes invisible, just as it does from the fire.) When no food is taken for sometime, the reserved supply of fat and flesh stored in the body is consumed to supply the heat needed to keep the body alive. Let it be fixed in the mind that all the heat of the body must come from food actually burned in the blood, or, in the absence of food, from the burning of some of the substance of the body itself. We do not see the burning, simply because only very small atoms are burned at any one point; but the facts are just as stated.

But heat is always escaping from the surface of the body, and the more there is escaping, the more fuel (food) must there be supplied, or more of the fat and flesh of the body will be consumed and wasted, and the body decreases in weight and substance. If just enough is supplied, there will be no change. If there is supplied and digested more than enough food to meet this heating requirement and the other wastes, flesh and fat will accumulate in the body. It is not clear that if, by warm clothes, by warm rooms, and warm barns, we stop some of the heat from escaping from the surface of our bodies, and those of our animals, less fuel (less food) will be needed for producing heat in the blood? Those sheep referred to above were obliged to eat much hay to keep from freezing to death. A good shelter to ward off the driving winds and showers that so rapidly carried away their heat, would have saved a great deal of food. A warm barn or enclosure would have saved more. They crowded close together to each from each other the escaping heat which helped some bees, by clustering closely in winter, save a good deal of heat. This explains why animals take on flesh faster from the same food in warmer than in colder weather. They use up less in supplying heat. Cows, in warm quarters, and in warm weather, secrete and furnish us with carbonaceous butter, which they must burn to supply loss of heat in cold weather, when not warmly sheltered.

ANOTHER IMPORTANT POINT.—If we wish a certain amount of heat from a steam boiler, that furnace will give it with the least amount of fuel which is protected from loss of heat in other directions. If the furnace have a poor covering, or if it much of its heat escapes in the chimney, you must pile on the fuel, often to the gradual or even rapid burning out and destruction of the furnace itself. Now all of our food that is to be of any use must be worked over into the blood in the stomach. It does not get in to the blood until it is dissolved in the gastric juice. And has made a draft upon the liver and other organs for certain fluids to change it into a form which the blood will absorb. The more food the stomach has to work up to supply heat wasted through insufficient outside protection, the greater is the labor needlessly put upon it, always exhausting, and resulting in debilitation, if not disease. There is no questioning of the fact, that multitudes destroy the furnace (the stomach), or injure it, and over tax the other digestive organs, and bring on disease, consumption etc., simply by the fatal error of supposing that exposure to cold promotes vigor.—*American Agriculturist.*

Recipes.

BROILED CHICKEN.—Split down the back, put into a steamer and steam one-half hour; wipe off the moisture, rub well with butter, dip into bread crumbs and broil over a clean fire

until of a delicate brown on both sides. Season with pepper and salt.

TANGLES.—Six eggs beaten light, one pound of sugar, a quarter of a pound of butter, with as much flour as will make the mixture thick enough to roll. Cut into square blocks, slit, tangle and drop them to fry in hot lard until they are brown. Take out, drain and sprinkle white sugar over them. These are very good for lunch, with a glass of milk when they are cold. Kept in a stone jar they will retain all their freshness and moisture.

POTATO FANCY.—Mash one quart of hot boiled potatoes through a fine colander with a potato masher; mix with them one ounce but ter one scant teaspoonful of salt, half teaspoonful of white pepper, a pinch of grated nutmeg, and the yolk of two raw eggs; pour the potato into a plate and then form it with a knife into small cakes two inches long and one wide lay them on the buttered tin, brush them over the top with an egg beaten up with a teaspoonful of cold water, and color them golden brown in a moderate oven.

Home Economy.

Short dresses grow numerous.

If you have any milk to spare, that is, more than you want to feed to the swine, after home treatment, convert it into curd, and see how eagerly the hens will consume it, and how they will thrive upon it into the bargain.

The Danielsonville *Sentinel* gives this recipe to fastidious people for removing freckles: "Use kerosene when building a fire, or peck down the muzzle of a gun that you are sure isn't loaded."

Poultry should not be plucked too soon after killing. If feathers are pulled out while the blood is still fluid, the vesicle at the root of each feather becomes engorged and the skin spotted. Don't feed before killing; a fowl killed while digestion is going on will hardly keep a week.

TO STOP THE NOSE-BLEED.—A recent writer says that the best remedy for bleeding at the nose consists in the vigorous motion of the jaws, as in the act of mastication. In the case of a child a wad of paper should be placed in its mouth and the child should be instructed to chew it hard.

Every family finds more or less bones accumulating. Burn them with your wood, and the ashes these are enriched is one of the most valuable of all fertilizers. Money cannot buy any article which will so fertilize your soil. Bones thus consumed will quadruple the value of wood ashes, which in themselves are among the best of soil-enrichers.

TABLE SALT IN MILK FOR CHILDREN.—Dr. Q. C. Smith, in the *Pacific Medical Journal*, gives the following useful hints, which, by the way, is confirmed by other excellent authority: "When cow's milk is found to disagree with hand-fed babies or small children, it may in many cases be rendered entirely wholesome to them by adding to it a small portion of table salt, just enough to be perceptible to the taste. I have for years directed the practice of this expedient among our people, and know it to be of real value."

Good Advice.

When the weather is wet,
We must not fret;
When the weather is dry,
We must not cry;
When the weather is cold,
We must not shiver;
When the weather is warm,
We must not burn;
But be thankful together,
Whatever the weather.

Women and Their Doings.

In girls we love what they are; in lads what they promise to be.—*Goethe.*

Mrs. Anna D. H. Thompson is postmistress of Memphis, Tenn.

Fanny Kemble's "Records of a Girlhood" will soon be published.

Clara Louise Kellogg is going abroad in the spring to pass a couple of years.

Two New York hotels refused rooms to Dr. Mary Walker the other night.

George Eliot will edit the works of her late husband, George Henry Lewes.

It has become common to elect women School Commissioners in eastern Massachusetts, and in Brookline the Overseer of the Poor is a woman.

Miss Edmonia Lewis, the colored sculptor, has finished a bust of Gen. Grant. When the ex-president was in Rome he gave her sittings.

Miss Strong, a California artist, whose speciality is animals, gets fabulous prices for her productions. They call her the American Rosa Bonheur.

The Chinese minister to London has an agreeable wife, whose appearance in English social life has startled her friends at home.

Mrs. Burton, wife of Richard Francis Burton, the English traveler, is writing an account of her recent tour taken in company with her husband through India and Egypt.

It was at a charity ball; the girl was pretty and exquisitely dressed. She said: "Now Mr. don't put my name in this dress once before and it's horribly old. I was going to have a French dress from Worth's, but it didn't get here, so I had to wear this. Now mind, don't put my name in the paper, but, if you do, send me six."

Miss Juliet Corson, the instructor in cookery, has asked the National Commissioner of Education to collect information through his agents in the south and west concerning the style of cooking in those parts. The Commissioner will do so.

A New York lady has invented and patented a device for raising, turning over and moving hospital patients and other sick people in bed. It raises the patient to have his wounds dressed, and changes him from one cot to another without pain to him or extra lifting by the nurse. It is worked by pulleys and a crank.

Harriet Hosmer's new motor, whatever it may be is not the only one of her inventions. She has made a machine by which musicians can turn the leaves of their own music without interruption. She is also the discoverer of a process for making marble out of common limestone, by means of steam pressure. She has made a new modeling material of plaster of Paris and white wax, said to be far superior to clay. But the magnetic motor she regards as the crowning invention of her life. She is now having a four-horse power machine made. Miss Hosmer's high character is too well known to admit the possibility of her claiming a discovery which does not belong to her.

A Family Dairy.

We find this pleasant suggestion in Scribner:

"In a certain farm-house twenty years ago a great blank-book was kept and labeled Home Journal. Every night some one made an entry in it. Father set down the sale of the calves, or mother the cut of baby's eye-tooth; or, perhaps Jenny wrote a full account of the sleighing party last night; or Bob the proceedings of the Phi Beta club; or Tom scrawled 'Tried my new gun. Bully. Shot into the fence and hit Johnson's old cat.'"

On toward the middle of the book there was an entry of Jenny's marriage, and one of the younger girls had added a description of the bridesmaids' dresses, and long afterward there was written, "This day father died," in Bob's trembling hand. There was a blank of many months after that.

But nothing could have served better to bind that family of headstrong boys and girls together than the keeping of this book. They came back to the old homestead now, men and women with grizzled hair, to see their mother who is still living, and turn over its pages reverently with many a hearty laugh or the tears coming into their eyes. It is their childhood come back again in visible shape."

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.

1 DAY to agents canvassing for the Fireside Visitor. Terms and Office Free. Address P. O. VICKERY, Augusta, Maine.

60 Chromo, Perfumed, Snowflake, and Lace Cards, name on all 100. Game Authors, 15c. LYMAN & CO., Clintonville, Ct.

60 Chromo and Perfumed Cards, no. 3 alike, name in Gold and Gel, 10c. CLINTON BROS., Clintonville, Conn.

25 of the PRETTIEST CARDS you ever saw, with name on all postpaid. GEO. I. REED & CO., New York, New York.

GOLD Any worker can make \$12 a day at home. Costly outfit free. Address TRUE & CO., Augusta, Maine.

\$66 a week in your own town. Terms and \$5 outfit free. Address H. HALLETT & CO., Portland, Maine.

\$5 to \$20 per day at home. Samples worth 5c. free. Address STIMSON & CO., Portland, Maine.

\$57.60 AGENTS' profit per week. Will prove it or forfeit \$50. Sew articles and make money during the holidays, sent your address to RANDOLPH & CO., 107, 4th Ave, N. Y.

IF YOU WISH to engage in an honest, genteel business, and make plenty of money during the holidays, sent your address to RANDOLPH & CO., 107, 4th Ave, N. Y.

25 FANCY CARDS, all styles, with name in gilt and a splendid 8-page, 24 col. Story paper, 1c. Visitor, 1 year for only 25 cts. Club of 6, \$1. SCHELL BROS., Smith's Landing, N. Y.

A 32 column monthly STORY PAPER a year FREE with 50 printed Gold Leaf Cards, 15c. in 60c case, 25 cts. Eagle Printing Co., Springfield, Mass.



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It holds over \$5.00 of Silver Coins in "Halves," "Quarters," "Dimes," and "Nickels." The merest movement of your thumb pushes the desired coin into your hand, and another immediately takes its place as if by Magic. Makes change in half the time it takes to do so by the old method. No danger of dropping any. Sample handsome plate plated with "GILT" 25c. Trial Package, containing 1 dozen Coin Boxes, \$1.75. Postage, Stamps taken for Cash BIG PAY.

HUTCHINSON & CO.,

12 Union Square, N. Y.

THE NEW YORK SUN FOR 1879.

The SUN will be printed every day during the early part of the year. Its purpose and method will be the same as in the past: To present all the news of the day, in shape, and to tell the truth about the heavens fall.

The SUN has been, is, and will continue to be independent of everybody and everything save the Truth and its own convictions of duty. It does not take its cue from the utterances of any politician or political organization. It gives its support unreservedly to the Constitution and the principles upon which this republic was founded for the people. Whenever the Constitution and constitutional principles are violated, it is in the outraged conscience of 1879, by which the people are not elected to the President's office, where he still remains—speaks out for the right. That is the SUN's idea of independence for the right. For the future there will be no change in its programme for 1879.

The SUN has fairly earned the hearty hatred of scoundrels, frauds, and humbugs of all sorts and sizes. It has deserved that hatred not less in 1879, than in 1878, 1877, or in any year gone by. The SUN is printed for the men and women of to-day, by which it is chiefly with the affairs of to-day, whose concern it is to enlighten and the ability to afford its readers the promptest, fullest, and most accurate intelligence of whatever in the world worth their attention.

This end, the resources belonging to well-established prosperity will be liberally employed.

The present disjunct condition of parties in this country, and the uncertainty of the future, lends an extraordinary significance to the events of the coming year. To present with accuracy and clearness the exact situation in each of its varying phases, and to expound, according to its well-known methods, the principles that should guide us through the labyrinth, will be an important part of the SUN's work for 1879.

We have the means of making the SUN, as a political, literary, and a general newspaper, more entertaining and more useful than ever before; and we mean to apply them freely.

Our rates of subscription remain unchanged. For the DAILY SUN, a four-page sheet of twenty-eight columns, the price by mail, postpaid, is 25 cents a month, or \$2.50 a year; or, including the Sunday paper, an eight-page sheet of fifty-six columns, the price is 65 cents a month, or \$7.50 a year, postage paid.

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