





CONTAGION AND INFECTION.

NO. 1.

It has been said by the writer that the tendency of modern chemical inquiry is to the establishment of the doctrine, not only that organic matter could not spontaneously generate life, but that when maintained in the same conditions by which it is produced, that the matter of life being once in molecular equilibrium cannot spontaneously change.

This is an important doctrine, and its establishment must lead to the conclusion that there are no spontaneously generated diseases; no miraculous visitations or inflictions of Divine wrath; and that in every case of sickness somebody's ignorance is to blame for it, and in those deaths occurring before a mature, old age, when the machine is worn out by friction, somebody's ignorance is to blame for it.

Animal life, viewed from the chemist's standpoint, is a continuous chemical change where in the material consumed is as rapidly replaced by the processes of nutrition. An animal in life may be compared to a furnace in which a fire had been kindled. Fuel and oxygen being supplied to one, food and oxygen to the other, sufficient heat is generated to make the chemical combinations continuous. Cool the furnace, or animal body, below the temperature at which combustion takes place, and the fire goes out of the one, and life out of the other. Introduce substances that will not burn, and the fire goes out; so if the supply of air is cut off. How much more delicate than a furnace is the animal body, and with how much more care should we look to the fuel, the temperature and the air so needful to its sustenance.

If we consider diseases by the mode of infection, we will find them divisible into those communicated by the skin, the air passages, the alimentary apparatus, the eye, the genital cavities and by puncture. The first three will be all that will be considered here.

Of the host of infectious and contagious skin diseases, most of them are local and do not produce any general derangement of the system, except as secondary results, that is to say, by the suspension of the functions of the skin, or by the absorption of the poisons of the local disease, blood poisoning may result, but it is not a necessary result. Without naming the obscure diseases only known by technical names, the skin contagions are, itch, barber's itch, prairie itch, tetter, ringworm, shingles, scald-head, favus lupus, (and leprosy?).

The infections are erysipelas and gangrene. All these skin diseases, except possibly leprosy, have proved amenable to the antiseptic treatment. Ointments and lotions containing perchloride of iron, carbolic acid, salicylic acid, thymic acid, benzoic acid, sulphuric acid sulphur and the sulphurates, arsenic, mercury, quinia, tobacco juice, black pepper tea, etc., have all been used, singly and in combination. All of them of the proper strength will arrest and destroy the common moulds; if applied to the skin in solutions too weak for the prevention of moulds, they are too weak to cure skin diseases.

Of the infections of the air passages it may be seriously questioned if any of them producing fever as a primary result, or blood poisoning of any kind as primary results, can be communicated in that way; that is to say, it would appear that no germ can pass from the air into the blood as the direct result of inspiration. Yet it is true that after the local disease is well seated in the air passages, and the lung parenchyma destroyed, absorption into the blood takes place with great rapidity.

Of the infections of the respiratory organs, influenza and whooping cough are unequivocally communicated by inspiration. In diphtheria, croup, scarlet fever, and measles, it is probable that the contagion which gives rise to the fever, is a zymotic germ or germs swallowed, and that upon the exhalations occurring in the throat, other species fasten themselves, causing the membranous and pustular complications accompanying these diseases. At least, a study of the course of treatment of those doctors who have been pre-eminently successful, leads me to this conclusion. As the treatment for these diseases cannot be absolutely grouped into one system with certainty, it will not be attempted here; suffice it to say that the antiseptic local applications have met with great favor with many of the most eminent doctors, who, however, generally also resort to internal treatment, to arrest fever and exudation.

We come now to the great source of infections, the digestive apparatus. I do not desire to be understood as maintaining that this class of infections do not float in the air, for it is probable that many of them do; and as to malarial diseases, it has been proven that the germs do rise into the air to some extent, and if a digestion may be pardoned, the manner of this proof is worthy of relation.

It has been known for centuries that certain flat regions near Rome are uninhabitable during certain portions of the year, a malarial fever of great fatality afflicting those who attempted a residence there. Two Italians, whose names I have not preserved in my notes, resolved to investigate this a little. First, they observed that the attacks were most violent after the marshes had dried up. Second, they had observed that previous to this season, if the water of the region was not used there was no outbreak, that is to say, that working parties could work upon the Campagna in the daytime if they did not drink of the water of the region, nor wash in it, nor wash vessels in it, which could carry the contagion. One of them who was a physician,

had also observed that work could not be carried on, on the Campagna, after the marshes had dried up. The other, who was a microscopist, observed that when the marsh water was carefully dried up, or filtered off, that there remained certain black spores or seeds of certain species of fresh water algae. These looked quite like the black particles found in the spleen of persons who had died of malarial fever. They accordingly rigged a suction apparatus near the marsh, and after the marsh had dried up, pumped away the air of the marsh, drawing it for some time through glycerine. When examined, the glycerine had the black specks. These were injected into the blood of guinea pigs, with the result of causing death by malarial fever. From the spleen of these, the black dust was again collected, and variously administered by injecting into the blood, and spreading on the skin, giving in milk, etc., with the result of reproducing through successive generations, malarial fever, and finally culminated in their sowing these germs after several generations of spleen life, and reproducing the original algae of the swamp. But the doctor was still not satisfied; he steeped these seeds in quinia water, and sowed these, both in water and in living blood, and found them sterile. These are beautiful physiological experiments, and if there were a hundred doctors in the whole United States actuated by a like spirit, how rapidly the problems of disease and cure might be solved.

But to resume our subject. We find that almost all the fevers are of the zymotic type; that is, they are caused by the development in the blood, from seeds or spores introduced in alimentation, of some of the lower forms of organic life. In some, without doubt, there is no emission of spores from the blood, the disease being introduced by a spore which develops and is thereafter introduced by mycelia in the blood only, the reproductive apparatus never developing. Such are not infectious and rarely epidemic. In others the germs are emitted upon the air and lodged in water and milk, upon fruits and cold food, or they are drawn into the mouth to be washed down with the first drink, or to be mingled with the first food that is swallowed. These are important points, for if we study them we shall be better enabled to protect ourselves from infection when we are called to the bedside of those who are sick, or lie waiting the last, sad rites that we can pay to their bodies.

Of the microorganisms that invade the system through the alimentary canal, I am not competent nor is this journal the place for an elaborate classification, diagnosis and treatment, and I shall only group together such facts as possess interest from a chemical standpoint, and are comprehensible to all.

First then be it said, that the most of the diseases of the stomach, which assume the inflammatory character, are zymotic, if not in inception, then in progress, the bacteria invading the inflamed membrane, and causing difficulty in curing. So of those inflammations which affect the bowels, enteritis, dysentery, diarrhoea, summer complaint, cholera infantum, etc. These are not considered infectious, generally, because the putrefactive germs which cause them, seem to exist abundantly in the air, and they are not always able to produce serious trouble. But they become epidemic when a community is watered upon sewerage, or the infants of a village or town are fed upon swill milk, or upon the milk of cows, that are forced to drink sewerage or ditch water.

Atchison, Kansas. C. W. J.

Horticulture.

EDITOR FARMER: The March meeting of the Douglas County Horticultural Society, was held at the State University on Saturday, the 6th of March.

The general prevalence of the leaf-robber was noted—some trees being literally festooned by them. It was advised by the knowing ones to pick off the webs of these robbers and take them to an out-of-the-way place and there let them remain, so as to preserve the parasite, which would be destroyed if the nests were burned in the usual way.

The coaling moth also received considerable attention by our members. More work was deemed necessary in fighting the spread of this insect. Our trade-centers have already been taken possession of by them, from which they are spreading to the surrounding country. One member advised tacking a strip of cotton-flannel around the tree, in which the moth would lay its eggs, as they naturally seek a soft place in which to deposit their progeny, then run the flannel every few days through a clothes-wringer to crush the eggs. Then it was further advised to keep the cellar windows closed during the hatching season—May—and thus secure the newly-fledged moth hovering about the closed windows, while thus vainly seeking egress to the outer world.

To check the spread of the white grub it was thought best to build fires at night-fall around our grounds to which the beetle would naturally fly, and be thus destroyed by the fire.

Gardening next engaged the society's attention, and was introduced by a humorous talk from Mr. Sedgwick upon Adam as a professional gardener. Adam, he said, at-

tended well to dressing the garden and neglected to dress himself, while to-day the reverse is true, for our people pay more attention to dressing themselves and almost, or quite, neglect the garden. Then Adam, notwithstanding his close attention to business, was after awhile obliged to make an assignment and quit the business. In this example of Adam, people were now-a-days willing to follow in his wake.

Pea culture was next discussed—the result of which was that the sweet or wrinkled pea was the best to plant for domestic use.

Potato-culture next came under consideration and received a pretty thorough ventilation. The Early Rose and Late Rose had many friends, and the Peachblow, so long our stand-by for a late potato, was by some thought to be rather unreliable.

Before closing, a word concerning Prof. Gale's apple-list, which appeared a few weeks ago in the FARMER. I know that not a few of our Douglas county horticulturists were surprised that in his list of winter apples the Missouri Pippin was left out—an apple for early-bearing and vigor of growth has no peer as yet in the West—an apple of good size, firm flesh, good for cooking and for the table, and far out-weighting the Ben Davis on the scales. In a little knot of the leading apple-growers of this county, convened on the sidewalk of our city, the list of Prof. Gale was being discussed with some warmth and freedom, and the following facts were brought out: In an orchard of seven-year-old trees from graft, there were seventy fine Missouri Pippins which yielded, in 1877, one hundred and twenty-five bushels. In the same plot there were sixty Ben Davis of the same age and in the same soil, from which were harvested two barrels of six bushels only, and from all of the remaining trees of four hundred, less than twenty bushels were harvested. The writer gathered one hundred bushels last fall from two hundred trees of the Missouri Pippin, eight years old from graft. Instances of this kind can be multiplied in which this apple takes the lead of all other varieties in early bearing, and is especially adapted to a new state like our own, where new settlers, after they have gathered a little fruit from their own trees, set out by their own hands, lose, as if by magic, home-sickness, and discontent entirely disappears when the apple-trees begin to bear fruit.

The writer considers any set apple-list as hazardous at this state of our horticultural knowledge, as the future may reveal facts which will reverse all our pet theories of the present. If there has been any one lesson learned from our last apple-crop, it is that large apples outsell small ones in market, without regard to flavor. The Fameuse and American Summer Parnain go begging for buyers while a large, coarse apple is bought without a word of fault-finding. Another lesson is that too many early apples are a nuisance to any one.

J. S.

Agriculture.

THE POTATO CROP.

A paper read by Conrad Wilson before the American Institute Farmers' Club.

The annual yield of potatoes in the United States, according to the returns of the last census, was nearly one hundred and fifty million bushels. In view of the increasing attention lately given to this crop it will doubtless show at the close of the present decade a large increase in the amount of the yield, as well as in the number and improvement of varieties. In fact, it may be safely assumed that, in spite of the fears of many in regard to the ravages of the beetle, this crop will still show a yield at the next census of over two hundred million bushels.

By its valuable qualities and its large consumption, the potato ranks nearly in all countries as a leading food staple. It is, therefore, in every view important, and may be always discussed with interest and profit. There are, of course, some other crops that are grown on a larger scale, and some that foot up a larger yearly aggregate; but no product of husbandry is more variously useful or more generally raised by farmers, and none, if we except wheat, more universally consumed by the people.

A few examples illustrating the rate of yield and the cost per bushel for this crop will tend to show what possibilities belong to it, and thus perhaps stimulate the average farmer to aim at higher results.

Some experiments in potato culture were reported in January of last year, of which the following are a part of the results: H. C. Pearson, of Pittsain, St. Lawrence County, N. Y., produced from one pound of seed 1,982 pounds of potatoes of the Ruby variety. He also raised the same year; from one pound of seed, 1,707 pounds of the Alpha variety. J. I. Salter, of St. Cloud, Minn., got the same year from one pound of seed, 1,694 pounds of the Ruby and 1,695 pounds of the Alpha. While Alfred Rose, of Penn Yan, N. Y., got 1,576 pounds and P. C. Wood, of Illinois, 1,571 pounds each from a pound of seed of the Ruby variety. The year previous J. L. Perkins, of Little Sioux, Ia., obtained 1,686 pounds from a pound of seed of Ruby variety.

These amazing products were some of the results obtained by farmers competing for the premiums offered by Bliss & Sons, of New York. The inducements thus held out by this enterprising firm have led to valuable consequences, and the competition has developed the prolific quality of this vegetable to a degree that surpasses all previous conception. But while duly crediting the liberality and public spirit of Bliss & Sons, and the grand success of the winning parties, we cannot help regretting that the most important question in potato culture was not included in the competition. It is easy to see that in this, as in other products.

THE COST OF PRODUCTION

is the underlying question which measures the importance of all the others. Yet this does not at all diminish the value of the test made by Mr. Bliss. The Rubies raised by Mr. Pearson from a pound of seed fell short of a ton by only eighteen pounds. This fact has arrested the attention of potato-growers as well as consumers in both hemispheres, and confers merited distinction on both Pearson and Bliss, and certainly the tendency of such facts is to help forward the solution of the still greater problem of cost. The man who gets the bottom figures in this problem, though he may not "double the blades of grass," will more than double the product of potatoes. Since these prizes were awarded I have received statements of cost from several competitors and hope still to hear from others.

Alfred Rose has reported his cost in one competition at less than 15 cents per bushel, and J. L. Perkins about the same. J. I. Salter obtained a yield in one case at about 20 cents per bushel. His latest results I have not learned. Henry V. Rose and M. M. Rose have each reported a post slightly above the figures obtained by J. L. Perkins and the elder Rose. For the previous year Alfred Rose reported his cost at \$55 per acre and 9 1/2 cents per bushel. Mr. Perkins has also reported a later crop, since the competition, in which he makes the cost, without manure, \$5.40 per acre and 5 1/2 cents per bushel.

Various other farmers, since the Bliss competitions, have reported to me their yield and cost for potatoes. Lyman Alexander, of Minnesota, got 400 bushels per acre of the Peerless variety at a cost of about 7 cents per bushel. Arzo Smith, of Rock Bluffs, Neb., raised a crop of early Vermont, of which the yield was 824 bushels per acre, and the cost, as he made it, 4 1/2 cents per bushel. But the cost in this instance, as also in the two previous cases, requires some correction. Every crop should be charged for interest on the land, and, when no manure is used, a charge should also be made for exhaustion of soil. This would probably add 2 or 3 cents per bushel to the cost of the three last-named crops.

C. C. Holton, of Rochester, N. Y., has reported potatoes at 400 bushels per acre, and at a cost of 12 1/2 cents per bushel. A crop of 600 bushels per acre has been reported by one of the editors of the *Agriculturist*, 640 bushels by C. L. Bragdon and 700 bushels by B. F. Rice, of Polo, Ill. In one of the competitions for the Bliss prizes Mr. Perkins obtained 478 bushels per acre and Alfred Rose got 600 bushels of Brownells and 746 bushels of Eurekas.

Let us now take another view of the potato crop that may, perhaps, shed some light on its utility and value as a food staple.

FEEDING VALUE OF POTATOES.

Like Indian corn, this vegetable is everywhere extensively utilized as an article of food both for the human family and for nearly all domestic animals. Hence it is clear that the nutritive properties of the potato are a question of no little importance to the farmer, and one on which the light of further experience is still greatly needed.

How to convert potatoes, with the best economy and with the largest profit, into other forms of food, into milk, butter and meat, is a problem not yet fully solved. Various estimates have been made by practical men as to the effective value of the potato in the production of beef, mutton and milk, and, though opinions still differ, the proportion of other food staples that potatoes are capable of yielding is nearly indicated in the following statement:

A bushel of potatoes when judiciously fed to animals of a good breed will produce:

Table with 2 columns: Item and Quantity. Includes beef, mutton, pork, milk, and butter.

(It is of course not supposed that potatoes are fed exclusively in producing these results, but in suitable combination with other kinds of feed.)

Now the practical value of the above table depends materially upon the amount of potatoes produced from an acre. The average yield of the crop for the whole country is probably not over 100 bushels per acre. And yet it will be seen from the examples above reported that over 800 bushels have been produced, and even that is not by any means the final limit of yield. Considering the recent progress of potato culture and conceding the fact that 1,000 bushels per acre have been occasionally achieved by brilliant farmers, it seems hardly credible that the average yield for the United States is only 100 bushels per acre. What shall we say then? Shall we distrust the returns of the last census? Or shall we rather credit some progress to the eight intervening years, and claim that the average is now very much better? One thing at least seems clear. If the progress of the next two or three years shall correspond to the same period of the past, it may safely be

assumed that the average yield of potatoes for the coming decade will not be less than 200 bushels per acre. I venture, therefore, to assume this figure as the coming average, and if any of our twenty million farmers are disposed to quarrel with me for claiming this yield, my best revenge will be to prove the possibility and then to tell them how it may be done.

If now we apply to this estimate the figures of the above table, we shall discover what an acre of potatoes means when expressed in the form of other food staples. We shall find that it is measured

Table with 2 columns: Item and Quantity. Includes beef, pork, mutton, milk, and butter.

Again, as I have already shown that the total potato product of the country is nearly certain to reach 200,000,000 bushels as the average for the next decade, it will be seen that if the above figures are extended so as to meet this case of the total product then it will be found that the annual potato crop of the United States is equivalent—

Table with 2 columns: Item and Quantity. Includes beef, pork, mutton, milk, and butter.

Let us take another view of this subject. If Mr. Pearson had taken his crop of Ruby potatoes that were produced from a pound of seed and by a right mode of feeding had converted them into butter, according to the above estimate the outcome of his experiment would have been about sixty pounds of butter in the fall as the legitimate result of one pound of potatoes planted in the spring; or if instead of butter he had converted the potatoes into mutton, the result would have been 120 pounds.

Again, when Arzo Smith harvested over 800 bushels of potatoes from one acre, if he had fed that crop to a good breed of cattle it would have produced, according to the above estimate, at the rate of two pounds of beef for each bushel of potatoes, making a total of 1,600 pounds of beef as the product of one acre, or if instead of beef he had converted the crop into milk, the result would have been over 20,000 pounds.

These results, of course, depend in part on the above estimate of the feeding value of potatoes. On this point there is room for some difference of opinion. But it would be easy to show that when potatoes are combined with other well selected elements and fed in the right proportion to animals of good breed and good capacity, the estimate given is not far out of the way. But to place the matter beyond any question, if we reduce the estimate by 50 per cent, it would still be possible for Pearson to plant his pound of potatoes in the spring and harvest in the fall either thirty pounds of butter or sixty pounds of mutton; and Arzo Smith would still be able to show from his acre of potatoes that an acre of beef is equivalent to 800 pounds and an acre of milk to 10,000 pounds.

From Atchison County.

The weather is fine and spring-like, and the ground sufficiently dry to enable farmers to commence work in earnest. I find my estimate, in a former letter, of the probable amount of spring wheat that would be sown, is too small, I think 5 per cent of the tillable land would be more nearly correct than 3 per cent. The Odesa is inquired after for seed, more than any other variety; the supply in this locality was not equal to the demand, and some have procured their seed from Nebraska. I estimate that three-fourths of the spring wheat, and one-tenth of the oats is already sown. There is some gardening done. Fall wheat looks remarkably well. Stock cattle are doing finely; they have been on the range more or less since the 10th inst.; of course, they require feed yet, and will, for some time to come, Fat cattle doing well. A small number of cribs still uncovered, and some corn not gathered yet. Peach trees almost in bloom.

J. K. TRUBBLOOD.

A young lady in Winneconne, Wis., refused an offer of marriage recently on the ground that her father was not able to support a larger family.

"That's our family tree, said an Arkansas youth, as he pointed to a vigorous hemlock." "A good many of our folks have been hung on that tree for borrierin' horses."

WIFE: My dear, do you notice how green and beautiful the grass looks on the slopes of those romantic hills? Unpoetic spouse: "Well, what color would you expect it to be this time of year?"

"Ma!" screamed young Matilda Spilkins the other morning, when she got the paper, "Ma, Silver bill has just passed the House." "Has he, my dear?" replied Mrs. S. from up-stairs. "Why didn't you ask him in?"

It is said that a minister's son of Waterloo, N. Y., cast a gloom over an entire church fair by walking up to the grab-bag and prize cake table, and demanding that the game be explained to him before he bought his chips.

She was quoting, "There is more joy in —" "Yes," interrupted Filkins "more joy in this house than in the combined snow-cases of the Bowery dentist." An ominous silence has hung up its footfall on the door-mat.

Good clothes make more difference with the world's opinion than a good many people are willing to admit. How do you suppose Senator Conkling would look climbing the heights of fame with a patch on his pantaloons?—



Patrons of Husbandry.

OFFICERS OF THE NATIONAL GRANGE.—Master: John T. Jones, Barton, Ark. Secretary: O. M. Kelly, Louisville, Ky.

FOR THE USE OF SUBORDINATE GRANGES For the use of Subordinate Granges we have a set of receipts and order books which will prevent accounts getting mixed up or confused.

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.

PROCLAMATION.

WORTHY PATRONS: I have this day been officially notified by the Worthy Master of the National Grange, that the amendment reducing membership fees for men, to three dollars, and for women to one dollar, has been ratified by the requisite number of states and incorporated into our organic law, and that the proposed amendment giving states an increased number of votes in the National Grange, has been rejected.

WM. SIMS, Master Kansas State Grange. Topeka, Kas., March 20, 1878.

SUGGESTIONS FOR THE GOOD OF THE ORDER. After a six week's trip among the granges of the Sixth District, and meeting with the membership of six different counties, we feel much encouraged as to the present condition and future prospects of the organization.

In many localities, the grange is less prosperous than we could wish, but in very many places it is in much better condition than we expected to find it. In closing our labors as lecturer of the 6th District we feel like offering the following

SUGGESTIONS FOR THE GOOD OF THE ORDER.

FIRST: The grange in any given locality is just what the individual members make it.

For example; two years ago a little grange in Wabaunsee county; was upon the eve of surrendering their charter, but on suggestions of a few earnest members, concluded to try business co-operation on a small scale. By strenuous efforts they succeeded in raising a fund of (\$80) sixty dollars and placed it in the hands of an earnest and trustworthy brother to invest in staple articles in the grocery line.

All concentrated their trade as much as possible and bought and sold through their business manager and now their \$80 of stock has become \$600; they have built a little store costing \$335 and their total assets as represented by the \$600 of stock amounted on the 1st of January 1878 to a little over \$1100.

It is needless to say that Mission Creek Grange is now in flourishing condition, and the last we heard from there, one of the "old bachelor" brothers was about to engage in matrimonial co-operation and the grange were intending to take advantage of the occasion in the evening to give a grand entertainment, the net proceeds of which is to be the commencement of a grange library.

This is only one example among many of what individual effort has and can accomplish where the membership are united and can work together in one direction.

One step in co-operation soon leads on to another. And in this connection we might remark that in the same neighborhood where the grange above referred to is located, there is a cheese factory running successfully upon the co-operative plan. And some of the members informed us that they had realized as high as \$25 to \$30 per head, for the milk of each cow taken to the factory during the past season. The cheese is sold through their co-operative store.

SECONDLY, we remark that, The Grange helps those that help themselves.

In many localities members are shipping their own grain and stock, some granges are buying scales and building cribs and preparing to ship their own corn at the same time as the market suits. The grange is founded upon the principle that in "Unity there is strength, in division weakness." It is a fertile, broad field into which all tillers of the soil are invited as laborers that a rich and ample harvest may be secured; but the true patron must be an active "worker" and not a dull "drone."

THIRDLY, we observe that, Grange Co-operation is of three kinds, social, educational and financial.

These are the three pillars upon which the organization rests. These three features of the grange are so closely interwoven that any thing which promotes one is very likely to benefit the other two. And as a means of giving interest, mental profit and material benefit to grange meetings, we would suggest that each farm represented in the territory of a given grange be numbered by the secretary, and under the head of "new business," let the roll of farms be called by number together with the name of the brother or sister having the management of the same. When a given farm is called let the member representing it give an account of how things are progressing. Give a statement of any thing that may be for sale or to be purchased. The grange itself is but a representative farm—an organization embracing within its jurisdiction a number of farms, and aiming to bind in one united family, the farming population of a given district. What more interesting or profitable subject for members at their grange

meeting than to discuss their successes, failures and experiments in farm operations; thereby, not only making them better farmers but making the grange gathering a kind of advertising medium—a sort of general intelligence office, where all may have an opportunity of imparting and receiving information as well as enjoying a social family reunion?

In addition to the above, a question box at the secretary's desk, where any member may drop a question upon any subject they may see fit, to be read and discussed under "suggestions for the good of the order," will often form a source of amusement and profit. Of course the calling of roll of farms, nor the question box will not be understood as intending to interfere with debates, essays and select readings or other literary entertainment which may form the special order for a given meeting. Holding an open grange gathering at some of the members dwellings has often proven of benefit. We find in our travels that one of our most common causes assigned for decline among dormant granges is "lack of promptness on the part of members in attending upon stated and special sessions of the grange."

And this lack of punctuality in attendance grows out of the fact that the meetings themselves are not as interesting or profitable as they should be and might be by a little timely forethought on the part of each individual member. In Riley county we find Manhattan Grange taking steps to secure a building fund that will at some future day result in an appropriate grange hall. The co-operative store at Manhattan is based and run purely upon the Rochdale system as recommended by the national grange, and bids fair to be one of the most successful enterprises in the state.

In locations where business co-operation succeeds best our order is most prosperous. It is a fact that cannot well be overlooked that in order to hold our membership steadfast there must be a "financial benefit" constantly accruing to each individual from their connection with the order.

All admit the social and educational advantage, but many have an eye alone and single to pecuniary profit. It is the fostering of this feature that will add to the numerical strength of the membership in every locality.

The educational feature of our order in its bearing upon the younger portion of the farming community has not, as yet, received that attention in the subordinate granges that its importance would seem to demand. While discussing this matter with some of the members in Davis county, a sister of the order, who was one of the board of examination of teachers in that county, suggested that our graded schools, now provided for by law, and which outside of cities and towns are a thing almost unknown, should be so reconstructed as in all country localities to embrace an entire township, and be known as graded schools of agriculture wherein pupils that have passed examination in the common school course, should be taught six months of the year in those branches most needed by the practical farmer in everyday life; thus bringing home to the very doors of our agricultural population that industrial education which at the present time is attainable only at heavy expense by sending the children away from home to the Agricultural College; a thing which not one farmer in fifty is able to do for want of means. We believe the idea a good one and entitled to the careful consideration of all parents living upon the farm, whether patrons or not.

Our National Constitution recognizes "Knowledge as the foundation of happiness," and "Happiness as the acme of human ambition;" hence, if we would prove our "faith by our works," we should educate our children to the fullest extent and in the best manner possible.

In conclusion we feel like making one other "Suggestion for the good of the order" and farmers in general.

The importance of dry shelter for tools and stock, and the advantage of a little green pasture in winter as a preventive of disease in cattle.

As we have traveled on horseback and passed farm after farm, from county to county, we have beheld all kinds of agricultural implements aggregating thousands upon thousands of dollars, lying out of doors exposed to all kinds of weather and diminishing in value from rust and decay, far more than from use.

The following query has been suggested to us: "What amount of money is annually paid out by the farmers of Kansas, on account of loss and depreciation on agricultural implements occasioned from exposure when not in use?"

Upon many farms in the state, we venture the assertion that the wastage in three years for want of proper shelter for tools would build a first-class tool house. This might be made a profitable subject for discussion in the grange room. And there are those stock corals, hogs and cattle in mud two feet deep and not a single dry spot to lay down upon. The poor brutes shivering in mud and wet seem to cry aloud for a "dry resting place."

During a winter like the past this lack of dry sheds for stock would almost seem like "cruelty to dumb animals," to say nothing of the loss to stock-men in dollars and cents.

In some localities we have visited, single individuals have lost over twenty head of cattle during the past fall and winter by turning into stalk-fields as they claim. This disease would seem to be in the nature of "dry murrain." One fact we have noticed, that where cattle have had access to a green field, either of rye or tame grass this fatal disorder does not prevail.

Would it not be well for our stock-men to have a field of tame grass upon which to occasionally graze their cattle during the winter months?

While in Williamsport township, Shawnee county, we had occasion to visit the farm of brother C. C. Gardner where we had the pleasure of walking across 40 or 50 acres of fine English blue grass sod as one need look upon. A large herd of cattle during the entire winter had access to 25 or 30 acres of this sod ground, yet it was not badly cut up by tramping, although the grass itself was eaten very short. The ground was sloping prairie. If this is a fair sample of what English blue grass will do on high prairie when pastured all winter it will indeed pay every stock-man to have a field if it is only to keep the stock out of the mud during such a winter as the past has been. Parties wishing to try English blue grass can obtain the pure seed from C. C. Gardner, Wakarusa, Kansas.

The prairie grass will soon go the way of the Indian and the buffalo. Is not the future wealth of Kansas more in its tame grass than in its cereals? This might be a good question for discussion for a grange meeting. But we have prolonged this article to much already, and in closing we wish to urge patrons, one and all, to be encouraged.

In a thousand ways our order is accomplishing and will ever continue to accomplish much good to the tillers of the soil. The grange is the farmer's best friend and the country's brightest hope, JOHN G. OTIS, Lect. 6th Dist.

CHICKEN CHOLERA.

During the past few years this subject has been one of paramount interest to poultry-raisers and fanciers, both on account of the extent of its prevalence and the great fatality usually attending its ravages. The poultry journals and poultry columns of agricultural papers have been filled with communications from enthusiastic investigators of its nature, cause and cure. Some writers after giving the subject a thorough investigation, arrive at the conclusion that errors of diet produce the whole trouble. Another attributes it to the presence of lice; others, diving deeper into the mysteries of creation, find a sufficient cause in a weakened constitution, the result of too fine breeding, or injudicious crossing. Along with accounts of the disease come cures and specifics innumerable, some valuable, some otherwise.

Notwithstanding all that has been said and written, the disease continues to rage, threatening in some localities to extinguish the entire poultry interest; as human endurance is liable to give out, when year after year you are compelled to witness the taking off of scores of your finest birds, just as they approach maturity.

If anything, Mr. Editor, has a tendency to make a young fancier wish he never had been born, it is to enter his yards and find half a dozen or more of his choicest specimens with their necks drawn up, feathers reversed, and other evidences of the enemy's presence. The majority of us have been there.

After reading what can be gathered on the subject, and from a number of years' actual experience in dealing with it, the writer is of opinion that, about all of our exact knowledge of this subject can be summed up in a very few words, as follows: Chicken cholera is an acute, contagious and infectious disease; and when once developed in a subject, not amenable to treatment of any kind, but preventable.

Without renewing the controversy as to the nature of contagion in general, let us accept the views of the latest and ablest investigators and writers on the subjects of infection and contagion, and the rationale of the process of prevention becomes simple enough. During the last ten years there has been a singular unanimity of opinion among these men, that all contagious and infectious disease is caused by the growth and multiplication of a lower form of life within or upon a higher form. In other words, the germ theory of disease has been generally adopted, and there is little doubt but that it is the correct one. Therefore, to prevent the disease in question, agents destructive of the lower forms of life would be indicated, both by the use of proper food and its being rightly used.

For internal use, good results have been obtained with something like the following: Take carbon (charcoal), 1 lb.; sulphate of iron (coppers), 1/2 lb.; sulphur, 1 lb.; salicylic acid, 1 drachm. Mix and grind to a fine powder. Dose, a tablespoonful to twelve fowls.

If the disease threatens or exists in the vicinity, give in the food, in moist screenings by preference, about twice per week. If it has made its appearance among your fowls, remove the diseased ones at once, and give every day. (In most instances it would be better to kill and bury out of sight as soon as possible.) Continue this course until they cease to get sick.

For use about the premises, nothing is equal to carbolic acid. The author prefers the crude article, such as can be purchased at about seventy-five cents per gallon. About one gill of this is added to one gallon of water, in a common gallon pail, and the mixture should be sprayed over the entire interior of the poultry-house, after every cleansing, using care to apply it thoroughly beneath, as well as on top, of the perches. If there are any portions of the yard or run more frequented than others, apply it there, also. In fact, make it an object to saturate the atmosphere of your premises with the drug, thus forestalling any germ that may happen that way. As a spray-producer, a wisp-broom, or an old

kalsomine brush, answers every purpose, and a few trials will enable any person to make the application without protection for the clothing, even. During the past season the above method checked the spread of the disease at three distinct outbreaks, in a pen of one hundred and twenty-five, with a loss, all told, of nine.

NEW 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 this advertisement in the Kansas Farmer.

SHORT-HORN CATTLE.

L. A. KNAPP, Drovers, Shawnee Co., Kansas, breeder of Pure Short-Horn Cattle. Farm 18 miles south-west of Topeka, and 12 miles south of Roseville.

Walnut Grove Herd,

S. E. WARD, Proprietor. Breeder of Pure bred Short-Horns. 1st Duke of Walnut Grove, 3918, S. H. Record. A. H. Book \$26.423 and Maxrka Led 2nd 5.513, S. H. Record at head of Herd. Young Bulls and Heifers. The get of the above sires for sale cheap. Inspection of my herd and correspondence solicited. Six miles south of Kansas City. Address, S. E. WARD, Proprietor, Westport, Jackson Co., Mo.

PURE BRED BERKSHIRES. I have now a very choice collection of pigs sired by imported "Kansas King" 1859 and Matchless Liverpool and out of fine sows sired by my famous old Boar Richard 1059, Lord Liverpool 231, and Lord Liverpool 2nd. Can sell at "let live" prices and will guarantee satisfaction to every purchaser. Stock all eligible to registry in A. B. Record. Address, SOLON ROGERS, Prairie Centre, Johnson Co., Kansas.

JOINT PUBLIC SALE OF Short-Horn Cattle AT THE FAIR GROUNDS, ST. JOSEPH, MO. Wednesday, April 10th, 1878.

The Subscribers announce that they will sell at public sale, as above stated, about 45 head of Short-horn cattle, consisting of 30 head, the entire herd of E. M. GARDNER, also, a part of the herd of J. G. COWAN & SON, including

YOUNG MARYS, YOUNG PHYLISES, BELINAS, ROSEMARYS CAMBRIAS, POMONAS AND IANTHES

Their will be a number of fine young SHOW HEIFERS

offered, the get of Rosebud's Duke 5766 and London Duke 6th 3919, ROSEBUD'S DUKE 5766, at Rose of Sharon bull, bred by that veteran breeder, Abe Renick will be among the number sold.

Full Catalogues on application, after March 10, J. G. COWAN & SON, New Point, Mo. E. M. GARDNER, Graham, Mo. Col. J. W. JUDY, Auctioneer.

Vinland Nursery & Fruit Farm COMMENCED IN 1857.

located at Vinland, Douglas County, Kansas, on the E. L. & G. R. Rail Road, ten miles south of Lawrence. W. E. Barnes Proprietor, offers for sale a complete assortment of nursery stock. Thrifty and Reliable fruit trees, consisting of Apple, Pear, Peach, Plum, Cherry, Apricot and Nectarine trees, Vines and small fruits in variety. Ornamental trees and Shrubbery, also the largest stock of Evergreens to be found in the state.

We shall have a sale ground in Topeka during the transplanting season, where will be found a good selection of the above. Price list sent on application. Address W. E. BARNES, Vinland, Douglas County, Kansas.

AGRICULTURAL COLLEGE PRACTICAL EDUCATION!

Thorough instruction and drill in the English Language, Mathematics, Physiology, Agriculture, Botany, Entomology, Horticulture, Chemistry, Surveying, Geology, Meteorology, Political Economy and all Practical Sciences of use to the Business World. A liberal education and Daily Practice in the Field or Shops given in a Four Years Course.

No Tuition or Contingent Fees! Students can enter at any time and earn part of their expenses by voluntary labor. Send for catalogue to JNO. A. ANDERSON, President, Manhattan, Kansas.

SHORT-HORN CATTLE.

ALBERT CRANE, Durham Park, Marion County, Kan., breeder of pure Short-horn of fashionable blood. Stock for sale low. Also, best Berkshires in Kansas. Catalogues Free.

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.

Breeders' Directory.

O. BADDERS, Leavenworth, Kan. Breeds Black & Brown Leghorns. Stock not surpassed in America. Send for descriptive circular and price list.

D. W. H. H. GUNDIFF, Pleasant Hill, Cass Co., Mo. breeder of thoroughbred Short-Horn Cattle of fashionable strains. The bull at head of herd weighs 3000 pounds. Choice bulls and heifers for sale at reasonable prices. Eggs \$3 per 13; 26 eggs, \$5.00.

J. I. IVES, Mound City, Lyon Co., Kansas, make a specialty of Brown Leghorn Fowls bred pure from the best strains in the U. S. A few choice birds for sale at reasonable prices. Eggs \$3 per 13; 26 eggs, \$5.00.

J. R. DUNLAP & CO., IOLA, KAN., Breeder of pure Poland-China Hogs and P. Coccins, Light and Dark Brahmas, and B. B. R. Game, Bantam Fowls, Stock first-class. Write for prices.

BELL & SON, Brighton, Macoupin County, Ill. Illinois. Breeders and Dealers in Spanish Merino Sheep. Thirty-five miles from St. Louis on the Alton and St. Louis Railroad. Stock reliable; prices reasonable; Reference furnished.

ALBERT CRANE, Durham Park, Marion Co., Kansas. Breeder of Pure Short-Horn Cattle of fashionable blood. Young stock for sale cheap. Send for catalogue. Herd of 900 head, Also Berkshires.

COOK, Iola, Allen Co., Kansas, Breeder of Pure Poland-China Hogs, Short-Horn Cattle and Light Brahma Chickens. All Stock warranted first-class and shipped C. O. D.

W. H. COCHRANE, Emporia, Kan. Breeder of Short-Horn Cattle. Stock for sale. Correspondence solicited. Planet, 17945 at head of herd.

JOHN W. CAREY, Canton, Ill. breeders and shippers of pure bred Poland-China hogs. This stock took the \$1,000 premium at Canton, Ill. 1871 over 35 competitors.

M. & W. P. BISSON, Galesburg, Ill. Breeders and shippers of Poland-China or Magie Hogs. Young Stock for sale.

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

M. ANDERSON, Salina, Kansas. Fekln Ducks & Partridge, Cochln fowls, and White, Guinea, & Write to me.

LEVI DUMBAULD, 4th. Lyon County, Kansas. Breeder of Thoroughbred Short-Horn Cattle and Berkshire Pigs. Young Stock for sale. Correspondence solicited.

T. FROWE, Wamego, Kansas. Breeder of Bucks for sale this year.

HALL BROS., Ann Arbor, Mich. make a specialty of breeding the choicest strains of Poland-China, Suffolk, Essex and Berkshire pigs. Present prices 1/2 less than last card rates. Satisfaction guaranteed. A few splendid pigs, jills and boars now ready.

JOHN W. JONES, Stewartville, Mo., breeder of Thoroughbred Short-Horn Cattle of approved blood and pedigree. Also, breeder of Berkshires of the best strains in the United States and Canada.

SAMUEL ACHER, Kansas City, Mo. breeds Spanish Merino Sheep as improved by Aswood and Hammond, from the Humphrey's importation in 1825. Also Cheviots, White Hogs, premium stock, and LIGHT BRAHMA ORNAMENTAL, both bred pure by me for eight years past. Send for circulars. \$200 RANS FOR SALE this year.

COOK, Whitewater, Wis. Breeder of Spanish Merino Sheep bred from some of the best stocks in Vermont. Rams and Ewes for sale. Box 104.

Nurserymen's Directory.

KANSAS HOME NURSERY A. H. & H. G. GRISSA, Proprietors, Lawrence, Kansas. We offer for sale home-grown Fruit and Ornamental Trees, Grape Vines, Orange Quinces, Small Fruits, Roses, Flowering shrubbery and Hardy Evergreens. Straight 3 year apple trees, 4 to 5 ft. at \$7.50 per 100. Price list to applicants.

WATSON & DOBBIN, Best of assorted Hedge Plants one and two years old, wholesale and retail, shipped to any R. R. station, freight guaranteed. Address, ROBT. WATSON, Lee's Summit, Jackson Co., Mo.

500,000 Apple Stocks, 1,000,000 Osage Plants, 50,000 Fruit Trees, 25,000 Small Fruit Plants. &c. Apple Root Grafts put up to order by experienced hands. Send for Price Lists. E. F. CADWALLADER, Miami County Nursery, Louisville, Kansas.

STEAM GARDENS. Two acres of Glass. Cut Flowers and Bedding Plants by the million. Bottom prices. Try us. Price list free. MILLER & HUNT, Wright's Grove, Chicago, Ill.

FLOWERS.—All lovers of Plants should send for Catalogue of Geraniums, Pelargonias, Verbenas, Roses &c., to ROBERT S. BROWN, Box 1158, Kansas City, Mo.

KAW NURSERY, WYANDOTTE Co., KANS. General Assortment of Nursery stock. Especially Apples and Cherry Trees, Grape Roots and other small fruit plants. Address, G. F. BARNES, Wyandotte, Mo. Box 972, Kansas City, Mo.

Dentists.

A. H. THOMPSON, D. D. S., Operative and Surgeon Dentist, No. 139 Kansas Avenue, Topeka Kansas

W. W. ESTILL, LEXINGTON, KY. PROPRIETOR OF Elmwood Flock of Cotswolds, From imported Stock. Young Stock for Sale.

Kaw Valley Nursery. Must Be Sold.

25,000 Apple, 3 to 5 years old. 2,000 Cherry, 1 to 3 years old. 200,000 hedge, 1 year, extra. Also Pear, Plum, Peach, Grapevine, Small fruits, Ornamental trees and Evergreens. Any thing you want call for it. Send for price list. E. E. STONE, Topeka, Kansas.

A CENTS.

Mica Lamp Reflectors, 55c. \$3.00 a Dozen. Nigger Head Match Safe 35c. \$2.00 a Dozen. Patent Pocket Stove \$1.50. Send for Circulars.

G. W. FOSTER & CO., 62 Canal St., Chicago, Illinois.

"HIGHLAND STOCK FARM." Salina, Kansas.

THO'S. H. CAVANAUGH, BREEDER OF HEREFORD CATTLE, COTSWOLD SHEEP, BERKSHIRE and DORSETSHIRE PIGS.

Premium Cattle, Sheep and Pigs for sale. Correspondence solicited.





The Kansas Farmer.

J. K. HUDSON, Editor & Proprietor, Topeka, Kan.

HOW TO PLANT A TREE.—TO BEGINNERS.

More trees are lost from careless exposure of the roots of the tree before planting, and from improper planting, than from climatic or other causes. To the new beginner, who wishes to save himself from the expense of several years' losses in planting before he learns how to plant successfully, we would say: First, when the trees you wish to plant are taken from the nursery or forest, use the greatest care to prevent the small, fibrous roots from drying out, as it is upon these that the tree depends for its life. If the roots are mangled and broken, cut them off smoothly. Commence to plant as soon as possible. The top and the bottom should be balanced when planted. If three-fourths of the roots have been cut off in taking the tree up, the slightest thought will suggest that the original top should not be left to demand support from one-fourth of the roots which originally belonged to the tree. After you have cut away the top so that the tree may have an even start, having carefully protected the roots from the sun and wind, you are ready to plant. If the trees are to be planted in an orchard where they will receive cultivation, as they most certainly should, for four or five years, the holes need only be large enough to nicely straighten out all the roots in their natural positions. If they are to go into a yard or lawn, make the holes from twelve to eighteen inches larger all round than the length of the roots. Dig up the bottom of the hole so that the tree stands on six to twelve inches of well pulverized, rich surface soil, and in filling in around the tree, see particularly that the fine soil is packed closely to the roots. Don't put in ten inches of dirt over the roots and tramp it down, but let each layer of roots be held up until the soil is filled in to reach them, and when all the roots are thus covered the soil should be firmly tramped and the tree left so well planted as not to be easily shaken by the wind. It is best to plant in fresh soil, but if it has been most convenient to have the holes prepared beforehand, it adds much to the safety of the tree or vine to puddle the roots—that is, to make a thin mud in a tight box or tub into which to put the roots before the tree is planted. Put a mulch of six or eight inches of straw, or coarse manure, around the trees in your yard or lawn. Ground set out to orchard should be cultivated and if possible given up entirely to the growing of the trees. If you want to grow a crop in the orchard, take root crops in preference to corn, and in no case put in small grain unless it is the fourth or fifth year after planting, when you wish to put it down to grass. Don't select the poorest, rocky point or hillside for your orchard in the belief that waste land is best used when growing an orchard. Take the best drained piece of ground convenient to your residence you have got, and set out and care for your orchard with a view to making it a success. It requires care and thought every year. Those who give their young forests and orchards up to weeds during the summer, browsing their cattle on them during the winter, paying no attention to the trees after they have set them out, will find tree-growing a vexatious, losing part of their farming.

FIFTH ANNUAL REPORT OF THE STATE BOARD OF AGRICULTURE.

We are indebted to the Hon. Alfred Gray, Secretary of the State Board of Agriculture, for the fifth annual report of the Board. For completeness in detail, for accuracy, and for typographical elegance, this report has never been excelled by any state in the Union. It is a volume of over six hundred pages, printed on tinted paper, and profusely illustrated with diagrams, maps and fine engravings. The first half of the volume contains the reports of the State Board of Agriculture; this is followed by the reports of the Academy of Sciences, and closes with the report of the Centennial managers, which embraces a clear and succinct account of the entire Centennial Exhibition, and the brilliant record made by Kansas at that great World's Fair. The volume from the beginning to the end, is a credit to the Board and an honor to the state. Nothing that we can say will more graphically put the subject than the following from a review of the book by Hon. W. Wilder, of the St. Joe Herald. He says:

If Kansas should be blotted out of existence tomorrow, this report alone, of her conquest at Philadelphia would give her an immortality of glory. The state went into the national arena while in her sixteenth year, and bore away the renowned and peaceful victory. There were states with two centuries and a half of history, and the Union itself was a hundred years old, but they all united in placing the crown upon imperial Kansas, the sweet sixteen of the river, the prairie and the mountain. And now the girl tells her story of her summer by the sea shore.

The report contains seventy-eight engravings, each worthy of Scribner's Monthly. It is the only history of the Centennial Exhibition yet published, and is a history of not only what Kansas did there, but what was done by every other state, by the general government and by foreign nations. There are fine illustrations of all the State exhibition buildings, and pictures, with a brief record, of the London Exhibition of 1851, the Dublin International of 1853, the Paris Exposition of 1867, and the Vienna Exposition of 1873. Many a squatter in his dugout will now read his triumphs over modern civilization, for the first time, and while he reads it on the Kansas frontier, the same volume will be lovingly perused by Don Pedro, in Brazil, by John Welsh in London, by the American people, and by

the civilized world. The Kansas book circumnavigates the globe, and years hence the traveler will speak with wonder of finding it in Pekin, at Calcutta, and on the banks of the Euphrates.

CORN SMUT.

This fungus affecting Indian corn is known to cryptogamic botanists as *Ustilago Maydis*, not *segetum*, as stated by Commissioner LeDuc in his letter to Congressman Phillips, published in the last Kansas Farmer. Duong's analysis, quoted by General LeDuc, was made some sixty years ago, and has been the only analysis heretofore on record. It is of course understood that what is popularly termed smut is simply the mass of spores of the fungus itself, and which correspond to the seed of phenogamous plants. The following analysis of smut has just been completed:

Table with 2 columns: Component and Percentage. Water: 13.316 per cent. Organic matter: Carbohydrates (starch-like): 65.985 per cent. Albuminoids (nitrogenous): 5.847 per cent. Oil: 1.680 per cent. Mineral matter: Phosphate of magnesium, Sulphate of lime, Phosphate of lime, Chloride of potassium, Phosphate of potassium, Chloride of ammonium, Silica, Oxide of iron. Total: 100.000 per cent.

For a full consideration of this subject of corn smut as a suspected poison, the reader is referred to the secretary of the state board of agriculture for the current year.—Prof. Kedzie. There it goes again! The laurels our distinguished commissioner had won on corn smut are thus ruthlessly torn from his manly brow. When the commissioner endeavored to resuscitate the south by the introduction of tea-culture, some barbarian rose to say that that was an exploded theory twenty years ago; and later when he suggested the emigration of the unemployed thousands of the east to western plains to grow dates, he was met with ridicule by unbelievers. It was ever thus—the magnitude of the ideas of true genius comes to generations after he has passed away.

PLANT EARLY.

The Kansas Farmer advises Kansas farmers not to be in a hurry about planting. Its editor says he has been watching the season since 1861, and that it has seldom happened that some of the coldest weather of winter did not occur in the month of March.—Newton Kansas.

The editor of the Times has been watching the seasons since 1857, and has observed that, as a rule it is best to plant early.—Eldorado Times.

The worst piece of advice we have ever seen published in a Kansas newspaper is that given by the Farmer. The experience of nine hundred and ninety-nine out of every thousand in Kansas will justify the assertion that the earlier crops are planted in this state, the more certain they are to mature well and produce good yields. Our farmers ought to be urged to plant early just as frequently and as earnestly as they are urged to plant trees. They are far more likely to get their planting done too late than too early—if indeed, planting can be done in Kansas too early, which we very much doubt.—Atchison Champion.

The editor of the Farmer very well knows that we have urged each year the value of early planting. During eight years' experience as a farmer, in Kansas, we practiced and proved the value of early planting. Early planting, however, may be overdone, and we have seen potatoes and corn rot in the ground by injudicious, early planting. The Farmer stated that it was safe to defer planting until about the 20th of March. Had our over-sagacious friends above had more practical experience, they would have understood that a suggestion, the first week in March, was not intended to hold good during all the spring months. From and after the 20th of March, in ordinary seasons, it well pays to push farm work with the greatest vigor.

BRITISH MARKETS.

Mail advices to March 7, with reports of the live-stock markets of the kingdom from March 4 to March 7, inclusive, show more than usual steadiness and strength in the several markets, but no special advance in prices. At London the supply was short, amounting to only 2,780 head, and the market was steady and firm. Best Scots and crosses sold at 6s. 2d. per 8 lb. slaughting the offal. Among the 630 foreign cattle shown were 28 from America which did not attract special notice. Offerings of sheep numbered 9,158, and the market was decidedly firm at higher figures or 7s. 4d. a 7s. 6d. per 8 lb for choice Southdowns and half breeds. The supply of cattle at Leeds and trade was dull at higher prices, or 8½d. a 9½d. per lb for fair to choice cattle; and fair to good sheep sold readily at 10s. 11d. per lb. Much the same story comes from Wakefield, where an early clearance was made at 8s. 6d. to 10s. 6d. per stone of 14 lb for beefs and 8½d. a 10½d. per lb for sheep. At Liverpool the offerings of cattle and sheep were fair, and full prices were maintained. Beef cattle ranged from 7d. 7½d. to 9d. per lb mutton from 8½d. to 10½d. per lb. During the week 275 tons of fresh meat were landed in Liverpool from New York, 1,242 qrs. from Philadelphia, and 439 qrs. from Portland.

THE ADVERTISEMENTS OF THE FARMER.

We point with pride, a remark for which we claim no originality, to our splendid advertising patronage. The support thus given a paper by the most sagacious business men of the country is one which can only be secured for the good reason that it pays them to give it. A paper that returns to advertisers a profit on their investment must have an undoubted general circulation among citizens able to patronize the firms taking trade through its columns.

Every body wants to read Ross & McClintock's advertisement in the supplement in this issue.

SADDLESBAG NOTES.

NO. XVII.

A large proportion of the wheat raised in Ottawa county is sown in the fall; it is looking exceedingly well, and the farmers are anticipating a better crop than ever before. Last year, the winter wheat in the county only averaged about fourteen bushels to the acre. The amount of land seeded to fall wheat is probably one-fourth more than last season. There is but a small amount of corn raised in this county.

Four miles east of Delphos, is the fruit farm of J. W. McLaren; here I found one of the handsomest peach orchards in the state. It consists of three thousand fine, thrifty, well-branched trees, twenty-five hundred being of bearing age and size. Upon this farm is about eleven acres of young forest trees set out four years ago, eight hundred of them having been transplanted from the nursery row without the loss of half a dozen trees. Mr. McLaren claims that there need be no more loss in setting black walnut trees than any other kind, if proper care is taken in the process.

Two miles south of Solomon City, is the wheat farm of Hon. A. P. Collins. The winter wheat on this farm is fully one foot high, and gives prospect of an extra good yield. Mr. Collins lost over two thousand dollars on his wheat crop last year, through grasshoppers and rust. In the past two years but partial crops of wheat have been raised in Dickinson and Saline counties, and it will take an extra good crop of wheat this year to make up the loss of the last two years.

I found Mr. Collins packing pork for his family use. The following is his recipe which he has used for many years with good success: For eighty lbs of pork, take 1 pint of salt, 1 pint of sugar, and 3 ounces of saltpetre; this to be thoroughly rubbed on the fleshy side. At the end of three days rub on 1 pint more of salt, and then pack the pork away in barrels without brine.

Five miles southeast of Salina is the "Highland Stock Farm" owned by Hon. Thos. H. Cavanaugh; I found Mr. Cavanaugh on a hurried visit from his duties as secretary of state. He is making preparations to engage largely in the breeding of pure-blooded stock. His fine herd of Hereford cattle are the delight of every one who has had the pleasure of seeing them; the pedigrees of some of them were given in the Farmer, last fall. To those who have never seen any of this stock, I can say, examine the cut in the advertisement of this stock, in this paper, and you have a pretty correct idea of the style, make and general appearance of his bull.

I was astonished to find that the hip bones and all the projecting points of these animals were thickly covered with a heavy mass of flesh and fat. One distinctive feature about this breed is the perfect uniformity of color; so far as color and marking were concerned, it is almost impossible to tell one from another. The herd, at present, consists of twelve animals. This breed has the quality of easily taking on fat, and to those who are looking for a profitable investment in a fat-producing breed of cattle, it would well repay them to go hundreds of miles to examine this stock.

But the sheep! I thought I had seen sheep, yet I must acknowledge that these pedigreed, imported Cotswold beat anything I had ever before seen in this line. I send you some wool from one of these sheep, which is over one foot long. It was not a lock saved over from last shearing, and allowed to grow two years, as is sometimes the practice among some sheep-raisers, but the whole fleece is like it. These sheep weigh over two hundred pounds apiece.

There is a very convenient barn upon this farm. It is 60 feet square and 20½ feet high, and when finished will have 40 stalls. It has a passage way through the centre both ways.

Mr. Cavanaugh's residence is the finest in this vicinity; it is 34 feet wide by 57 feet long; 2½ stories high, and is conveniently arranged.

The Smoky river is spanned by an iron bridge at Solomon City; the arches are supported by iron pillars; the "approach" to the bridge, upon the south side, was the first of the kind I had ever seen. It is made of poles and brush laid crosswise of the road, and upon this was placed sods, closely and evenly packed in alternate layers. The length of the approach is about 20 rods, and the width is 50 feet at the bottom and 17 feet at the top. The height is about 15 feet, and the whole cost was \$776, and is a very complete and neat job. The rains may pour and the floods come, and the winds beat against it, yet it will stand for many years.

Around Abilene, the home of Hon. T. C. Henry, are immense fields of wheat that could hardly be better at this time of the year. Besides conducting his large farm, Mr. Henry is extensively engaged in the real estate business and it is through his personal efforts that a large amount of railroad lands have been sold to speculators and settlers.

In September, 1876, I passed through this locality, and I cannot help but note the large increase of cultivated land, in this short time. By making a rather rough guess, I should say that there was twenty per cent. more land in Dickinson county, in 1877, than there was in 1876, and the increase in 1878 will probably be more than this. The people, however, seem to be going crazy on this wheat business. In all ages, in all climes and in all nations, diversified husbandry has been uniformly more successful than the cultivation of one special crop, and in this case I am inclined to think the raising of cattle, sheep, hogs, and fruit, and other grain besides wheat, would insure to the farmers of any of those wheat-producing countries more certainty of profit than the exclusive cultivation of their favorite cereal. W. W. CONE. Abilene, Dickinson Co., Ka.

LETTER FROM THE ARKANSAS VALLEY.

On my table I find gathered a large number of letters from persons in the east asking information in regard to Kansas. Nearly all of them want to know what part of the state is best adapted to their wants, which as a general thing are clearly specified. Wheat-growing appears to be the all-important topic with most of them. While a dozen letters relate to stock-raising. One man inquires about sheep-raising, and not a few want to know about general agriculture, while all of them are interested in knowing how much it will cost to establish a home in Kansas. To write a letter to each of these correspondents, would take too much of my time; so with the permission of the editor of the FARMER, I will try to answer these questions here, and perhaps such information as I can give will be of interest to other than my correspondents.

WHERE TO GO.

Now the first question, which is, What part of the state is best adapted to the different occupations named, I must answer from my own knowledge, trusting that I may not be charged with prejudice by residents of other portions of the state, and to do justice to all let me say that the whole state is free from any fault as regards either soil, climate, or productions; yet, all men have a choice, and my own leads me to regard the valley of the Arkansas as the place to advise my friends and correspondents to locate. Reno, Rice, Barton, Pawnee and Edwards are counties where can be found all the requirements, either for wheat-growing, stock-raising, wool-growing, general agriculture or mixed husbandry. In these counties the lands are cheap and all the various branches of industry mentioned above are in successful operation; and the wheat crop last year which in Barton county averaged twenty-five bushels per acre; Pawnee, twenty-eight; Edwards, twenty-eight; Rice, twenty-two and Reno, twenty, tells the story of what has been done under circumstances not the most favorable. This year the increase in the number of acres in wheat is so great as to be a convincing argument as to the faith farmers in these counties have in the soil, for wheat producing. Here are the figures: Reno county, increase in acres over last year, 26,486; Rice county, 24,438; Barton county, 18,801; Pawnee county, 10,000; Edwards county, 1,408. Here we see an increase over last year of 81,133 acres in the five counties named, and from the present appearance of the wheat fields, we can look for a much better yield than last year.

Now as to cost of cultivation, all that need be said is that it is only a trifle as compared with that of the same crop in the east. Breaking, if it must be hired, costs from two dollars to two and a-half per acre. All the labor of putting in and harvesting the crop being done by improved machinery from first to last, and at a mere nominal cost; it will be seen that wheat-growing in the Arkansas valley is a profitable occupation. True there are at times drawbacks, but they are no more liable to occur in this state than any other.

STOCK OR CATTLE-RAISING.

Next, let me speak of stock or cattle-raising. In the three last named counties—Barton, Pawnee, and Edwards, there exists many conditions peculiarly favorable to the raising of cattle. Extensive ranges for stock, pure water in abundance, a climate mild in winter, and an unlimited space covered with nutritious grasses; all these are what is needed in the business, and lastly, a shipping point so near at hand as to enable a stockman to take advantage of the markets. The conditions are suited to the man of large capital or the poor man with only a limited amount of money. In my mind there is less risk in this business than in any other occupation. But it must be understood that success will not come unless there is a large amount of pluck and perseverance; and no man should enter into the business of cattle-raising unless he is willing to endure hardships and give his business the benefit of his entire attention. We do see men who fail, but ask them why and they will tell you that it was purely their own fault, for this is like every other business, you must pursue it in a business-like way. Young men fail in all branches of business in the east, thousands of them every year, and no notice is taken or comment made on it. They fail there because their money is invested in business that pays only a small margin of profit. They strive hard and in spite of their best efforts they go down; under other circumstances they might have succeeded, but their profits must be small because the business is overdone. Had the same money been put in stock here, and the same diligence shown, it would have yielded a profit of not less than forty per cent. These are not fancy figures, but the experience of cattlemen in Kansas.

SHEEP AND WOOL.

Now a word about sheep and wool-growing which is attracting considerable attention in many portions of the state. Sheep

husbandry it is admitted is profitable in very many of the states but in none more so than in Kansas. Some of the most successful breeders of sheep have turned their attention to Edwards county, and here I am told the business can be pursued with great success. The small cost of maintaining a very large flock of sheep and the ready sale for wool and mutton makes it so to speak a sure business. The mild climate permits a winter range which not only reduces the price of maintenance of the flock but insures the health of the sheep and brings them out in the spring strong and in fine condition. Diseases among animals in the locality are almost entirely unknown. With proper management sheep can be made to pay largely; a profit of fifty per cent has been realized in wool-growing and sheep raising in the Arkansas valley, and breeders all over the country are of one opinion as to the advantages of sheep husbandry in this locality. The business can be pursued on a large or small scale suited to the capital of those who engage in it.

GENERAL AGRICULTURE.

Very many who desire to come to this state appear to have very little idea as to the branch of industry they will follow; they are ready to raise wheat, cattle, sheep, or to engage in general agriculture. To the man of large means I have no advice in particular to give; for, if he has means and uses his powers of observation, he can hardly make a mistake; but to the man of small means and a large family it is a matter which requires careful thought on his part, and a word in season may serve him well. First, he must see to it that he raises enough of everything to keep his family; once enough to eat the way is clear. A few acres in wheat, corn and other necessities of life are the first, then comes fruits which can be produced in a very few years.

The man who has a little money and good management will succeed, but without either, he has a hard task before him. He may live easier here than in some other places, for a little work goes a long way in producing the necessities of life, but woe unto him if he does not make up his mind to carefully manage his affairs. He may have a fine crop, but recklessly spend the proceeds, and sooner or later he must be on the down-hill road, and once on that road it is astonishing how soon a man reaches the bottom. His next step is eastward, to see his "wife's people." We have had plenty of these characters in Kansas, but there is one consolation, ours is not the only state which has known them. But what shall a man with limited capital do to succeed? To tell him just what to do would be a long story, but to tell him what not to do, is short enough, and perhaps more practical.

First of all, do not build a fine house until you have the money to spare to build it. Do not buy anything that you can do without, and don't buy anything you cannot pay the cash for. A very little debt often leads to bad results, and a debt contracted foolishly is very hard to pay. You can profitably run in debt for land, for that will, with proper management, pay for itself in a single year. But do not buy too much land, for you cannot manage it profitably unless you have large means. And lastly, if you are not willing to work to get a foothold, do not come to Kansas. A man who desires to secure a home, and surround himself with all the comforts of life, and is willing to work, can reach the end desired easier here than in any other place.

C. H. S. Hutchinson, Kansas, March, 25th, 1878.

Markets.

New York Money Market. New York, March 25, 1878. GOLD—Opened and closed at \$1.01½, with sales during the day at \$1.01½. Carrying rates, 3¼ to 5 per cent. SILVER—Bars, \$1.20½ in greenbacks; \$1.19½ in gold; coin, ½¢ per cent. discount. BONDS—Governments, steady. Railroad, firm. State, dull. STOCKS—The feature of the stock market to-day was a sharp advance in granger shares; the general list was strong near the close, however under sales to realize, there was, with the exception of St. Paul's, a fractional reaction from the highest prices. Kansas City Produce Market. KANSAS CITY, March 25, 1878. WHEAT—Steady and quiet; No. 3, \$1; No. 4, 90c. CORN—Steady; No. 3, 30½c; rejected, 29½c. OATS—Nominal. RYE—Nominal. BARLEY—Nominal. Kansas City Live-Stock Market. KANSAS CITY, March 25, 1878. CATTLE—Receipts, 511; shipments, 327; a little weak; sales of shippers at \$3.00@4.50; feeders, \$3.40 @3.70; some left over. HOGS—Receipts, 440; a shade higher; sales at \$2.95 @3.05. New York Produce Market. New York, March 25, 1878. FLOUR—Unchanged. WHEAT—Quiet; rejected spring, \$1.01½; No. 2, Milwaukee, \$1.28; No. 2, Chicago, \$1.24½@1.25. BARLEY—Quiet and steady. CORN—Moderate demand and unchanged. OATS—Mixed western and state, 33½@35c; white western, 35½@36½c. COFFEE—Quiet and unchanged. SUGAR—Raw, firm; refined, 9½@10c. MOLASSES—New Orleans, 20@25c. RICE—Steady and unchanged. EGGS—Firm; western, 10½@11c. POULTRY—Dull; firm; \$10.20@10.50. BEEF—Dull. MIDDLES—Western long clear quiet and firm; 5½c; BUTTER—Unchanged. CHEESE—Quiet and unchanged. WHISKY—Dull; \$1.00½@1.07. St. Louis Produce Market. St. Louis, March 25, 1878. HEMP—Dull and unchanged.



March 27, 1878.

Flour - Dull and prices unchanged. Wheat - Quiet, No. 3, red, 1.11; No. 2, 1.13; April, No. 4, 1.05; spring, higher; No. 2, 1.07.

SEND US A LETTER. Write us a letter about your county. Give us the price of land improved and unimproved. What land rents for per acre.

Cane Mills. Manufacturers of cane mills, address H. A. BAKER, Eagle Rapids, Smith Co., Kansas.

Booth Bulls. I have three fashionably bred, recorded Short-Horn bulls, ready for service. Will sell them for \$50 each.

A NEW BOOK FOR FARMERS. Carrots, Mangolds and Sugar Beets. What kinds to raise, how to raise, and how to feed.

EMMERT'S PATENT ADJUSTABLE Animal Power. It can be adjusted to perform more or less labor.



Sweet Potatoes. Delivered on cars here or at Kansas City following prices per bushel.



White Oil Corn. The Earliest Matured. The Largest Grain. The Smallest Cob.

Most Productive Corn in the World. Sixteen years' experience in corn-growing, feeding and improving has demonstrated this to be the best.

OUR IMPROVED PEST POISON. A Safe, Sure Destroyer of the POTATO BEETLE and the CHAP BUG!

HENDERSON'S COMBINED CATALOGUE OF EVERYTHING FOR THE GARDEN. Numbering 175 pages, with Colored Plate.

The Western Queen Bee Hive. This hive is acknowledged by competent judges to be the best, cheapest, and most convenient.

Portable Engines. Suitable for running corn burrs, shelling corn, or furnishing power for small elevators for sale cheap by the FORT SCOTT FOUNDRY, Kansas.

AMSDEN PEACH TREES. Five 6 foot trees, delivered at any R. R. Station in Kansas or Missouri, at \$15 per 100.

TAKE NOTICE. We have 19 Envelopes, Pencil, Penholder, Golden Pen, and a piece of valuable jewelry.

SWEET POTATOES. For Seed Sweet Potatoes and Plants for their season call on or address J. V. CARTER, Emporia, Kansas.

AGENTS WANTED. \$125 A MONTH AND EXPENSES TO AGENTS. Send stamp for terms.

AGENTS WANTED. \$400 A MONTH. Agents wanted. 250 or the latest novelties, send for Catalogue.

INFORMATION WANTED. I wish if possible to get information of the whereabouts of the following named family.

EGGS FOR HATCHING. From choice Light Brahmas, \$1.25 per 12. J. F. ROE Vinland, Kansas.

Farm Seed For Sale. Seed Oats, Hungarian, and Millet, Seed for sale by W. EDSON, Topeka, Kansas.

Red Cedar Seedlings! A few inches high, \$4.00 per 1000.

Great Public Sale. Short-Horn Cattle. Villisca, Montgomery Co., Iowa.

Short-Horn Cattle. Villisca, Montgomery Co., Iowa. ON WEDNESDAY MAY 15th, 1878.

Short-Horn Cattle. Villisca, Montgomery Co., Iowa. The sale will include 135 head of well bred Short-horn, and as individuals rarely excelled.

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Fowls and Eggs For Sale. I will sell eggs from eight varieties of pure bred, high class, poultry.

POTATO AND SEED CATALOGUE, FREE TO ALL. SEND FOR IT.

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Chicago Produce Market. CHICAGO, March 25, 1878.

Flour - Quiet and unchanged; spring extras, \$4.25. Wheat - Unsettled; generally higher and active.

Corn - Unsettled; generally lower and irregular. Oats - Quiet and steady; 23 1/2c cash and April.

Butter - Firm, fairly active and unchanged; common to choice native steers, \$3.75 to \$5.25.

Hogs - Opened weak and low; closed fairly active; light, \$3.25 to \$3.50; packing, \$3.20 to \$3.45.

Chicago Live Stock Market. CHICAGO, March 25, 1878.

Hogs - Receipts, 14,000; all grades dull and a shade lower; mixed rough, \$3.50 to \$3.60; light, \$3.50 to \$3.60.

Cattle - Receipts, 7,000; 15 to 20c lower; shipping steers, \$3.80 to \$5; feeders fairly active; \$2.50 to \$3.25.

Sheep - Receipts, 1,000; 20 to 25c better; everything sold at \$4.00 to \$5.75.

Lawrence Market. LAWRENCE, March 26, 1878.

Wheat - No. 3, 90c; No. 4, 80c; No. 2, 90c; No. 1, 90c; No. 2, 90c; No. 3, 90c; No. 4, 80c; No. 2, 90c; No. 1, 90c.

Corn - No. 2, 30c; No. 3, 25c; No. 4, 25c; No. 1, 30c; No. 2, 30c; No. 3, 25c; No. 4, 25c; No. 1, 30c.

Hogs - Heavy, gross \$2.00. Cattle - Butchers' cows, \$2.00 to \$3.00; steers, \$3.00 to \$4.25; shippers, \$3.75 to \$4.50.

Sheep - Live, \$2.00 to \$3.00. Hides - Per lb., green, 7c; green salted, 7 to 8c; dry, 12 to 14c; 20 to 30c cash.

Atchison Produce Market. ATCHISON, March 25, 1878.

Wheat - No. 3, fall, \$1.01; No. 4, do., 90c; No. 2, 90c; No. 1, 90c; No. 2, 90c; No. 3, 90c; No. 4, 80c; No. 2, 90c; No. 1, 90c.

Corn - No. 2, 30c; No. 3, 25c; No. 4, 25c; No. 1, 30c; No. 2, 30c; No. 3, 25c; No. 4, 25c; No. 1, 30c.

Hogs - Heavy, gross \$2.00. Cattle - Butchers' cows, \$2.00 to \$3.00; steers, \$3.00 to \$4.25; shippers, \$3.75 to \$4.50.

Sheep - Live, \$2.00 to \$3.00. Hides - Per lb., green, 7c; green salted, 7 to 8c; dry, 12 to 14c; 20 to 30c cash.

Burlington Coffee Co., March 26. - Wheat, winter, 76c; spring, 85c; Rye, 35c; Corn, 24c; Oats, 20c; Flour, best fall wheat, \$3.25 to \$3.50.

Howard, Elk Co., March 26. - Flour per 100 lbs., \$3.25 to \$3.50; Butter per lb., 10c to 12c; Sugar per lb., 40c to 50c; Potatoes per bu., \$2.00 to \$2.50; Eggs per doz., 25c; Dried peaches per bu., 60c to 7c.

La Cygne, Lin Co., March 25. - Wheat per bu., \$1.10; Corn per bu., 18c to 23c; Oats per bu., 20c; Flax seed per bu., \$1.00 to \$1.25; Potatoes per bu., 40c to 60c; Apples per bu., 20c to 30c; Beans per ton, \$12.00; Shipstuffs fresh per bu., 12c to 14c; Hams per lb., 12c to 15c; Lard per lb., 7c to 8c; Chickens dressed per lb., 4c to 5c; Live, per doz., \$1.25 to \$1.50; Turkeys dressed, per lb., 5c to 7c; Grod shippers, average 1,400 to 1,500 lbs., \$3.00 to 4.00; Shippers, second class, \$3.75 to \$5.00; Butchers' stock, \$3.50 to \$5.75.

Topeka Produce Market. Grocers retail price list, corrected weekly by J. A. Lee. Country produce quoted at buying prices.

Apples - Per bushel, 75 to 100. Beans - Per bu - White Navy, 2.25; Medium, 2.00; Common, 1.50.

Butter - Per lb - Castor, 1.25; Medium, 1.12; Cheese - Per lb - 10 to 12 1/2c.

Eggs - Per doz - Fresh, 15 to 17c. Honey - Per gal, 5.50 to 6.00. Vinegar - Per gal, 50c to 65c.

Potatoes - Per bu, 2.00 to 2.25. Poultry - Chickens, Live, per doz, 2.00 to 2.25; Chickens, Dressed, per lb, 4c to 5c; Turkeys, 6c to 7c; Geese, 10c to 12c.

Onions - Per bu, 75c. Cabbage - Per dozen, 40c to 75c. Sweet Potatoes - Per bu, 1.00 to 1.25.

Leather Market. Corrected weekly by Hartsock & Gossett, Dealers in Hides, Furs, Tallow and Leather.

Hides - Green, .05; Dry Flint, .10 to .12; Dry Salt, .08; Cali, Green, .08; Rip, Green, .08; Sheep Pelts, green, .75 to 1.00; Damaged Hides are bought at 1/2 off the price.

Tallow in Cakes, .50.

Topeka Retail Grain Market. Wholesale cash prices by dealers, corrected weekly by W. Edson.

Wheat - Per bu, spring, .80; Fall No. 2, 1.10; No. 3, 1.00; No. 4, .90.

Corn - Per bu - White Old, .20; Yellow, .20; Oats - Per bu, .32; Rye - Per bu, .20.

Barley - Per bu, .25 to .35. Flour - Per 100 lbs, 3.75; No. 2, 3.25; No. 3, 3.00; Rye, 2.70.

Corn Meal, .50; Corn Chop, .65; Rye Chop, .96; Oats & Oats, .50; Bran, .59; Short, .05.

Topeka Lumber Market. Joints and Scantling, \$22.50; Rough boards, \$22.50; No. 2, \$20.00; No. 3, \$25.00; No. 4, \$25.00; Common boards, \$25.00; Stock, \$27.50; D., \$35.00; C., \$35.00; B., \$35.00; A., \$35.00.

Finishing Lumber, \$35.00 to \$55.00. Flooring, \$25.00 to \$35.00. Shingles, \$3.00 to \$4.00. Lath, \$4.00.

Topeka Butcher's Retail Market. Beef - Striplin Steak per lb, 12c; Round, 10c; Brisket, 10c; Fore Quarter Dressed, per lb, 6c; Hind, 7c; By the carcass, 12c; MUTTON - Chops per lb, 12c; Roast, 12c.



Literary and Domestic.

EDITED BY MRS. M. W. HUDSON.

SPRING TIME.

The boyhood of the year.—Tennyson.

The pleasant Spring, the joyous Spring! His course is onward now; He comes with sunlight on his wing, And beauty on his brow!

The spring is here—the delicate-footed May, With its slight fingers full of leaves and flowers, And with it comes a thicket to be away.

When well-appareled April on the heels of limping Winter treads.—Shakespeare.

Welcome, sweet season of delight! What beauties charm the waning light In thy enchanting reign!

When every brake hath found its note, and sunshine smiles in every flower.—Edward Everett.

The love-thrilling hedge-birds are wild with delight; Like arrows loud whistling the swallows fly by; The riotous lark as he scans out of sight,

For lo, the winter is past, the rain is over and gone; the flowers appear on the earth; the time of the singing of birds is come, and the voice of the turtle is heard in the land.—Bible

In that soft season when descending showers Call forth the greens, and wake the rising flowers; When opening buds salute the welcome day, And each relenting feels the genial ray.—Pope.

RUTH THORNBY'S SECOND LIFE.

BY COR CORRELLI.

I do not suppose you will call Ruth Thornby a heroine after all; only a patient, suffering woman. From her childhood she had been motherless, a sorrow deep enough to cloud all her early life; still there were gleams of sunshine which she lovingly remembered.

Some hopeful hearts cling to the belief that "every cloud has a silver lining." Ruth Thornby felt that her life was a strange contradiction to that consoling theory. For five years the cloud had never lifted; it darkened instead, shutting her out from all hope of peace or happiness. Not so much as the sympathy of one true heart; scarcely the kind wishes of the few whom she met in her daily toll. It is not strange that at times she questioned the justice of Him whom she had been taught to trust.

But I must tell you more of her history. Ruth Thornby began existence in the little village of Ryburn,—the coziest nook in all New England. Her father was a generous-hearted Christian gentleman, and a scholar; for many years he had been principal of a preparatory school for boys, but when Ruth became motherless this good man gave his time and care, and surrounded her with an atmosphere of Christian love. So Ruth grew to womanhood, her father's all. Without companionship her life was very quiet, alas! and dreary too. Ah! there was yet something which gave it a rainbow hue. Once a year Grant Thornby came to Ryburn to see his old instructor. Sober, quaint, little Ruth looked forward to these little visits with more pleasure than she cared to own.

But one spring she waited in vain, waited until the flowers she loved and tended drooped, faded and died! "The melancholy days were come," and Ruth learned in her weary watching and waiting, her woman's heart.

For the third time the air was balmy with the sweet breath of spring, and Ruth grown sadly stern and distrustful, said "he will never, never come again!" and so believing was strangely silent and shy, when one glad, sunny morning he appeared at her door. But he did not look a welcome. The kind-hearted old man greeted his former pupil with a tender affection that touched the heart of Grant Thornby. The days flew by on golden wings and too soon the time came for his departure, alas! he could not go, a tie strong as love could make it bound him there. How could he leave the gentle Ruth, whose heart, won from its shyness and distrust, throbbled for him? Circumstances seemed to hasten their fate.

Ruth's father was dying; and under an impulse of tender respect for the dying man and his great love for Ruth, he hastened to make legal his right to protect her ere she was indeed orphaned. It was a wrong, thing to do, without consulting his only living parent, who had purposely persuaded him to this very visit for fear, in his "recklessness," as she termed it, he might disgrace them by enlisting as a common soldier.

Grant Thornby thinking of all this, said to himself many times, "my proud mother loves me too well to disown me for this, and my haughty Helen who is ice to every one else, will plead for her only brother. Besides, they

have only to see my pretty Ruth to love her as I do," and so reasoning, dismissed that part of the affairs from his mind.

Very tenderly he strove to lighten Ruth's bereavement, who, after seeing her father laid to rest, seemed utterly crushed. But Grant was a tender comforter, and long before the first frost withered the wreath of forget-me-nots on the new-made grave, he had the satisfaction of seeing her smile cheerfully.

Ryburn seemed to have forgotten their exist-ence, Ruth always reticent had no confidante, and thus those whom she had known from childhood, remained ignorant of her affairs, and Grant was quite too happy to give it a thought. Just now something more important claimed his attention. After settling Ruth's affairs he found there was little or nothing left. Should his own way be clear, he did not care for this, but—he dared not contemplate the bare possibility of the reverse. He had received several letters lately from his mother and sister, "home," the mother wrote, "is not home without my boy." Should he return, brave his mother's anger and abide her decision?

Consulting Ruth he found she would by no means accompany him. Could she, a simple village girl, face this proud mother and sister in their fashionable home? No, no! "I should only injure your cause" she said, "that I must not do." And so acting upon her entreaties he finally, and after long delays started alone on this, to him, fateful journey. But such impossible promises as he made! such a glad future he painted for poor Ruth, who yet had to drain her cup of sorrow to its very dregs! She saw him depart with a dull foreboding pain at her heart, and a face white as the new-fallen snow. A vague presentiment of coming ill troubled her, and when one, two, three, yes, twice three weeks passed wearily by without a word from her husband, Ruth Thornby feared—she knew not what.

Alas! human nature is the same, go where you will, and Gossip found listeners in dear old Ryburn. They had ever looked with suspicion on the "foppish stranger hangin' round there."

The winter was scarcely over, the depth of which found the wretched and deserted wife quite desolate, before she felt all that meddling tongues dared to say. "Worse than widowed," she heard the deacon's wife say; ever since she could remember this woman had been a second mother, now when she so much needed a loving friend, filled with righteous indignation, she stood aloof.

Day after day, week after week, and month after month did the desolate girl await the arrival of the mails, until hope fled and strength failed. I dare not think what she must have suffered had not one, a stranger, hearing her story, full of sweet Christian charity, visited her, and finding her sick and destitute, provided for her present need and future comfort.

When the sweet mid-summer came, Ruth Thornby came forth from her deep peril, broken in spirit it is true, but with a new call upon her love and care. Something to live for! So gathering her shattered energies she prepared to battle with life, its tolls and hardships. To the kind friend, who had stood by her in sore need, she confided her sad story. It was received with an incredulous shake of the head, "poor misguided girl! I fear you have a sad future, before you," she said not unkindly. But oh, this cold, doubting charity she could not receive! One morning in the early autumn Ryburn awoke to find the object of its unjust suspicion gone. Then O human nature! Ruth's character began to rebuild itself. This and that were put together, Ruth's version of the story circulated, (how they had loved her), and the verdict was "more sinned against than sinning." If she could have known this! but she was far away from the scene of her trials and humiliation. Diligent inquiry was made by the deacon's wife, who began to feel that she owed a duty to the lonely child of the good old man who slept in the churchyard near by, but no trace of her could be found.

And what of Grant Thornby? the villain they thought him? Never! After parting with Ruth he hastened with all possible speed to the city. The warm welcome he received smote his heart, but with a lofty courage, rare indeed for him, he immediately made known his hasty marriage. But if he thought that proud, haughty woman, his mother though she was, and he her only son, could forgive him for such a thwarting of her highest hopes and ambition for him, he was speedily undeceived. It was over,—the summer's mad folly. Grant Thornby left his mother's elegant home forever. Helen indeed tried to soften the decision but that was all. With a few pitiful dollars in his pocket he determined to return to little Ruth who would love him as truly as when heir to his mother's wealth. He would work for himself and her, and try to become the man God meant he should. But his destiny seemed to be controlled by an invisible power. When over half the journey he met an old college chum just enlisted. Grant was easily persuaded, and was soon enroute with his friend to join the th volunt-teers. How or when he enlisted he could scarcely realize. But he was not sorry. Indeed he secretly wondered why he had remained idle and his country demanding his aid so. At the first rendezvous he wrote to his sister Helen, telling her what he had done and giving her Ruth's address, begged her to remit something monthly until he received his pay. Helen was quite moved by this letter so full of wild patriotism, and tenderness for the gentle girl left so desolate. Had she

obeyed the first, generous impulse, Ruth Thornby's future would have been assured. But she wavered, then consulted her mother and the end of it was, the letter was destroyed and means taken to intercept any that might find its way to Ruth.

Alas! the soldier's life we all know. It is hard at best; and Grant went through with all its chances and changes. At one time he was lying sick in the hospital, he had been severely wounded and went on duty before sufficiently recovered, thus suffering a serious relapse. So near death, how he longed to see Ruth. Never a word from her all this time to gladden his perilous life. Was she still alive? Had she forgotten, that she was thus silent? In his moments of consciousness he lived over again that glad summer time with her when life seemed so worth the living. O Ruth! he moaned, and a soft hand touched his forehead, soft lips touched his. Starting up he saw not Ruth, but his mother. Very tenderly she nursed him, but with a cold, cruel determination she listened to his delirious ravings of Ruth and their quiet sunny life at Ryburn. When sufficiently able to travel, she insisted on his procuring a furlough and accompanying her home. This he would not do, for pride was strong, and he had by no means forgotten his last visit there. Then she told him of Ruth, said things that stirred his heart's deepest feelings, and made him long to throw away the life they had tried to save. "Ruth would not accept aid from them," she said, "and publicly denied her marriage; when last they heard she was very ill—dying, very likely she was dead, anyway she had proved herself unworthy his name." A sad, despairing look came into his eyes, and he gasped, "enough! do not tell me more, and this hard cruel mother satisfied with her work, caressed him fondly and promised extravagant things. But he wanted to be alone. How he suffered no one knew. Not yet could he doubt his wife's tender love, ah! he remembered their last sad parting, and bitterly did he chide himself for not returning before his enlistment. No doubt she believed herself forsaken; but had she received none of the loving messages he had sent? With a sad heart he sealed the sorrowful past and went on duty once more. Wherever there was an engagement in which his regiment shared, there was rejoicing at the danger, resolving to throw away his wretched life if possible. But he seemed to bear a charm against southern bullets and came out of it all with but a few scars and won for his daring and bravery a major's straps. But what mattered it to him? The mother who so cruelly deceived him was dead; he mourned her sincerely, for he had not learned of her treachery; she did him justice on one point, at the last she changed her mind and left him a rich man. Helen was married and removed to a distant western city, but she wrote often, and when the war ended sent a loving invitation, imploring him to come to her. But he did not go then, he had a work to do. He meant to discover how far he had been wronged. In one of the companies belonging to his regiment, was a man who lived previous to his enlistment in the vicinity of Ryburn. Learning this, Grant made inquiries and gathered a few vague bits of information which gave him a faint glimmering of the truth. But he decided to keep his own counsel, and quietly withdrawing himself from the many fetes, given in honor of the brave soldier's safe return, he set out on his mission. His first visit was to Ryburn, the scene of his happy love. No one recognized him. Tall, bearded and bronzed he looked older by ten years than the youth whom they remembered with such distrust. He wanted to find Ruth's grave, but failing, he searched out the old sexton, and from him learned more than he dared to hope. Ruth was alive! O, how they had wronged her, and their child! He would find them if he searched the world over. First, he would go to Helen; she was even now expecting him, and she might aid him when she saw how determined he was.

In the thriving city of Cory, stood the elegant mansion of Lawrence Avenel, the rich and prosperous merchant. Mrs. Avenel was in a trouble; cook had taken it into her obstinate head to fall sick, and such hosts of company expected; "brother will make his appearance soon and no end of fussing to be done!" she said, while holding a convention in the kitchen; "can you not find some one, Marie, to supply your place, while you take cook's?" addressing the chambermaid who had on several occasions assisted in cook's department. "No one ma'am unless it be the little widow round in Oldham street. It was her as made me new delatse; she seemed awful wretched-like in that little rain-soaked tenement." "Go and see," said the mistress, "something must be done." Well, the little seamstress came, looking wonderfully pale and sad; close beside her was her little boy, a beautiful child with hazel eyes, full of frightened wonder at the beautiful things around. In obedience to instructions she began putting rooms in order for the expected guests, deftly arranging the fanciful appointments to the complete satisfaction of her employer. Taking her dinner with the servants, the boy still beside her, and both eating with a famished eagerness pitiful to behold.

"Arrange the flowers in this room," was the last order given. A cold, dreary rain was falling, a real November rain.

Mrs. Avenel resolved that however cheerless without, there should be nothing wanting of cheerfulness within. Flowers, music, birds gaily caged, everything perfect in its arrangement. Poor Ruth, for it was her, could but contrast her own broken and pitiful life with the warmth and sunshine of this. The air, laden with the perfume of rare flowers, oppressed her; a weight was on her heart which she tried in vain to lift. Going to the window she opened it and leaning out let the rain plash on her forehead. Feeling revived she closed it and turning, beheld on the wall that which made her cold and colorless as the marble on which she leaned for support. Mrs. Avenel entering the room, spoke kindly to her. The poor woman could not answer, but slowly raising her hand pointed to a full-length portrait of a man in splendid uniform—Major Thornby! and uttering a piercing shriek fell senseless. Help was speedily summoned, but while she lay unconscious a great confusion was heard in the hall. Mrs. Avenel hastened out, and there sure enough was Grant Thornby in the flesh, but looking so grandly sorrowful that Helen Avenel felt guilty and ashamed. The meeting was very tender on his part, for Grant loved his sister dearly, though he knew she loved her heart in a shell of pride. A child's sobbing disturbed them, and then Helen remembered the fainting woman. Explaining to her brother, she returned to aid in restoring her to consciousness. He followed with a curious surprised feeling; slowly he came up to the group of frightened women. Marie was chafing her hands, while his sister held wine to her lips. He saw it all at a glance, and that glance was a revelation. It was his wife! was she in truth dead? For a moment he gazed speechless into his sister's face. Then taking her in his strong arms, laid her on a soft couch in a quiet room, Helen leading the way, for somehow she divined what was coming; besides she was quite crushed by that stern awful look in her brother's eyes. When they were away from the crowd of astonished servants he said, "Helen, that woman is my wife! my lost Ruth! say one word, or let her lack attention or respect, and I will expose you as you deserve." What a dilemma! Had she not been sounding his praises to all the young ladies of her set? why, she had actually promised him to a beautiful young heiress who was soon to become one of her guests. But she promised humbly enough, she could not do otherwise with those stern eyes searching her face. "Together they sought to bring life again to that death-like form, a few moments of terrible suspense, and success crowned their efforts. But it was quite impossible to realize in its fullness, the cup of happiness held out to her. She was almost afraid of that tall, bearded major. Worn with toil and suffering she felt the difference keenly. But love is magic in its influence, and love and care she had in abundance.

Helen soon had arranged the explanation she would give to her world, and a very pretty romance she wove out of it too; and in endeavoring to make the best of it, quite outdid herself in preparing suitable apparel and in kindness to her "dear sister."

The little Richie accepted the situation quietly, his large beautiful eyes looking the wonder he felt. Well, it was so like a fairy tale, who could believe it! A few days later the other guests arrived. Mrs. Avenel gave a grand dinner and presented Major Thornby and his wife. "After all," she mentally exclaimed, "she looks every inch a lady, but there's Madeline so rich and handsome! Well, my pretty air-castle has fallen; no one buried 'neath its ruins though, I think." Removed from poverty and haunting care, Ruth soon bloomed afresh, and even the haughty Madeline decided they were a handsome couple. But a gay life ill-suited the reunited husband and wife. With the early spring they paid a visit to Ryburn, and Ruth had the satisfaction of seeing a marble shaft rise from her father's grave.

On a lofty eminence, overlooking a beautiful stream, stands a pretty cottage. Around it are lovely well-kept grounds; there in this quiet, restful spot, surrounded with comfort, began Ruth Thornby's Second Life.

Advertisements section containing various notices and offers.

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\$3300 A YEAR. How to Make It.
\$45 PREMIUM WATCH AND CHAIN.
50 NICE CARDS, Plain, Repp., Silk, Block, &c.
SHEEP LABEL.
50 LARGE MIXED CARDS with name, 13c. 40
25 Fashionable Cards, no 2 alike, with name 10c.

OPIMUM.
GOLD PLATED WATCHES.
25 Extra Mixed Cards, Snowflake, Oriental, &c.

Kansas Seed House.
F. BARTELDES & CO.,
142 and 144 Mass St., Lawrence, Kansas.

NURSERY CROWN ORNAMENTAL and FOREST TREE SEEDLINGS.
The largest stock in the United States of small sizes of Scotch, Austrian and Mountain Pine.

SUFFERERS from Pulmonary Diseases, (Consumption) Dyspepsia, general Debility, Hypochondriasis, and Diseases of the Urinary System.

Apple Trees. Grape Vines, Hedge Plants, and a general line of Nursery stock for sale at wholesale and retail.

Osage Hedge Plants. 500,000 Osage Hedge Plants for sale at Wholesale and Retail.

MONEY To Loan on Mortgage from 1 to 5 years, at fair rates. Send for application blanks and terms.

THE DINGEE & CONARD CO'S BEAUTIFUL EVER-BLOOMING ROSES. We deliver Strong Pat. Roses, suitable for immediate flowering.







THE SONG OF THE MILKMAID.

Turn! turn! for my cheeks they burn; Turn by the vale, my Harry!

Now that all sounds well, but we happen to know the milkmaid didn't say it just that way.

"Cat's can't live at a greater elevation than 18,000 feet above the level of the sea."

Montana has a population of 50,000, and not one business failure has occurred during the past year.

They were sitting together, and he was ardently thinking what to say, when he burst out in this manner: "In this land of noble achievements and undying glory, why is it that women do not come more to the front, and climb the ladder of fame?"

A person who was looking at a house the other day, said he couldn't afford to pay such rent. "Well, look at the neighborhood," replied the woman, "you can borrow fat-irons next door, coffee and tea across the street, flour and sugar on the corner, and there's a big pile of wood belonging to the schoolhouse right across the alley."

The art of advertising is being brought down to a decidedly fine point; and when an agent sends you an inch advertisement to insert at your very lowest rates and accompanies it with a six inch local notice, which he wants put in for nothing, you can't help but admire his acreage of "cheek," and wish you had a gun that would shoot a hundred miles, and kill the fellow you are thinking of, without taking aim.

A traveler in western Iowa while riding along came to a large sign, which implored him to "Look out for the locomotive." He accordingly rode down the track for a better view, and while he was obligingly "looking out" for it, it came along. He saw it, but he had to sit in the ditch and wait until a freight train of thirty-seven cars passed by, before he could get back to the other piece of his horse.

The ladies of a Methodist Episcopal church in Cleveland, O., advertise a "Mush Social," at which the following bill of fare is offered: "Hot Dishes—Boiled mush with milk sauce, boiled mush with sugar, boiled mush with molasses, boiled mush with maple syrup, five cents extra. Cold ornamental dishes—Cold mush and milk, cold mush, plain; cold mush and sugar, cold mush and pepper sauce. Entrees—Fried mush, a la Rochester; fried mush, a la butter; mush patties, a la Francaise; mush in form, a la Italienne. Dessert—Mush sugared, a la Parisienne, five cents extra; mush omelet, ten cents extra; mush pudding, a la Neapolitan, ten cents extra."

NEW 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 this advertisement in the Kansas Farmer.

SIMMONS' LIVER REGULATOR advertisement with logo.

LIVER DISEASE and Indigestion prevail to a great extent than probably any other malady, and relief is always anxiously sought after.

LIVER REGULATOR advertisement with logo.

Original and only Genuine, Manufactured only by J. H. ZEILIN & Co., PHILADELPHIA, PA.

BEAUTIFUL EVER-BLOOMING ROSES advertisement.

SEEDS GIVEN AWAY.

SEVEN CHOICE VARIETIES of Flower Seeds including Aster, Balsama, Phlox, Pansy and Viola.



BUTTERWORKER

The most effective simple and convenient yet invented. Works 30 lbs in less than 15 minutes.

KNOX FRUIT FARM AND NURSERIES

The GREATEST OFFERS of SEEDS, PLANTS and FLOWERS ever made. Catalogue and list of great offers free. Send for it.

CHAMPION HOG RINGER advertisement with logo.

BROWN'S HOG AND PIG RINGER AND RINGS advertisement with logo.

Kelly Steel Barb Wire advertisement with illustration.

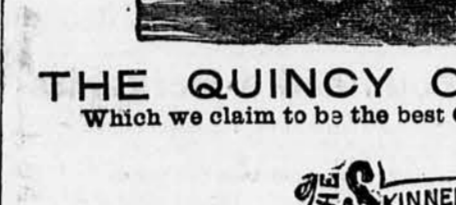
K. C. Agricultural Implement Co., Kansas City, Mo. Dealers in Farm Machinery

Mill Machinery and Engines

The only 2 Lever Plow madewhere both levers are operated on one side



THE DAVENPORT SULKY PLOW, IT GIVES ENTIRE SATISFACTION.



THE QUINCY CORN PLANTER, Which we claim to be the best CORN PLANTER in the market.

Light Durable and All Iron advertisement with logo.

THE SKINNER SULKY PLOW Winner of the Field Trial at Kansas City, Exposition, September 18, 1877.

FARMER! Ask your merchants for these Implements and do not buy until you see them.

LOOK 60 Fancy Mixed Visiting Cards, with your name in Gilt Letters, for 25 cents.

MUST BESOLD. For want of room I will sell very low four trills, each of Dark Brahmas, and Buff Cochins.

GRAPE VINES. 1,000,000 of Concord, 1 yr. \$15 to \$20 per 1,000; 2 year \$20 to \$30. All other varieties cheap.

FREE ILLUSTRATED CATALOGUE OF SEEDS BLOODED LIVE STOCK BENSON BURREE & CO.

FARMERS, Keep an Eye on these Columns

WE WILL TRY TO MAKE THEM THE MOST PROFITABLE SPACE IN THE PAPER.

OUR SEED DEPARTMENT

WE OFFER THE PUREST AND BEST FIELD AND GARDEN SEEDS TO BE HAD OF ANY HOUSE IN THE COUNTRY.

Prices are so fluctuating this season that we can only give quotations from day to day. We will meet the prices of any first-class house in the country, on the same quality of seeds.

Our Agricultural Implement and Machine Department.



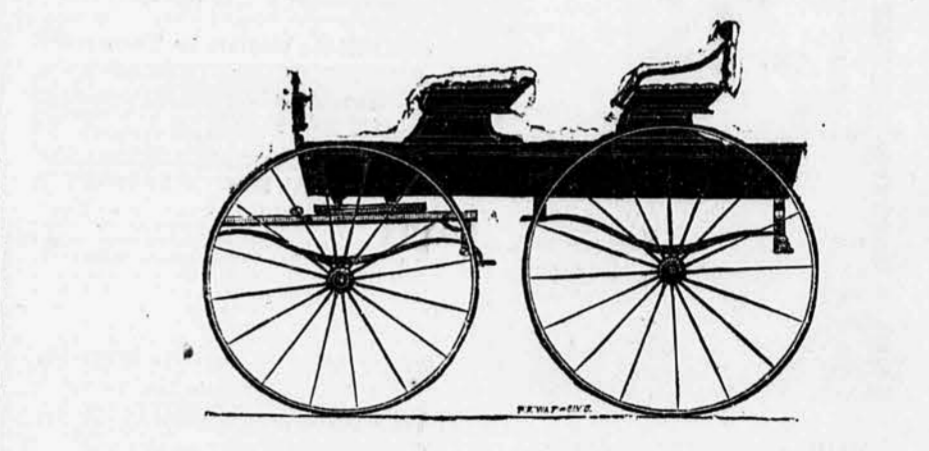
Browne---Sulky Plow.

We sell the Canton Clipper and Rock Island Plows. New Departure (Tongueless) Cultivator, Ills. Combined Cultivator Challenge Corn Plante, and Corn Drill, Champion Reaper and Mower.

The St. John Sewing Machine,

&c., &c. Send for Descriptive Catalogue. If you want the best Implements in the Market do not fail to call for our line of goods.

Our Carriage and Wagon Department.



WATERTOWN---PLATFORM WAGON.

Is complete with all styles of Carriages, Buggies, Phaetons, Platform and three spring Wagons, of the highest Grade and Finish.

Trumbull, Reynolds & Allen, WHOLESALE AGRICULTURAL HOUSE, Kansas City, Mo.



The Kansas Farmer.

J. K. HUDSON, Editor & Proprietor, Topeka, Kan.

TERMS: CASH IN ADVANCE.

One Copy, Weekly, for one year, 2.00
One Copy, Weekly, for six months, 1.50
One Copy, Weekly, for three months, 1.00
Three Copies, Weekly, for one year, 5.00
Five Copies, Weekly, for one year, 8.00
Ten Copies, Weekly, for one year, 15.00

RATES OF ADVERTISING.

One insertion, per line, (nonpar) 30 cents.
One month, " " " 1.00 per insertion
Three months, " " " 2.50 " " "
One Year, " " " 10.00 " " "

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

TO SUBSCRIBERS.

A notification will be sent you one week in advance of the time your subscription expires, stating the fact and requesting you to continue the same by forwarding your renewal subscription. No subscription is continued longer than it is paid for. This rule is general and applied to all our subscribers. The cash in advance principle is the only business basis upon which a paper can sustain itself. Our readers will please to understand when their paper is discontinued that it is in obedience to a general business rule, which is strictly adhered to and in no wise personal. A journal, to be outspoken and useful to its readers, must be particularly independent, and the above rules are such as experience among the best publishers have found essential to permanent success.

SUGAR VS. WHISKY.

In the KANSAS FARMER of February 13th, W. P. E. takes occasion to utter the remarkable language: "And in my judgment the sugar bowl and molasses jug are more deleterious, hygienically, than the tobacco-box and whisky-bottle." W. P. E. must be a long way ahead of this age, or he is blindly ignorant of the effects of whisky, and dogmatically exaggerates the evils of sugar. We respectfully submit that God, who is perfect, unchangeable and all powerful, could not by any possibility have made any mistake in his creations, or the laws of life and health which were created for our benefit. It has been ascertained, by chemical analysis, that your mother and mine furnished us with milk, the food especially prepared for us and adapted to our condition and use. This old fashioned and useful fluid contains 6.50 of milk sugar; butter, 3.55; casein, .152; saline matter, .55; and water, 87.93. You perceive the sugar predominates over all the other solids, and hence we cannot escape the conclusion that it plays a conspicuous part in the health and well-being of the infant. Cow's milk is not practically, near so well adapted to infant life for the reason that there is considerably less sugar and more cheese. The doctors, in case of necessity, use cow's milk, but they dilute it with water and add sugar from that wicked "sugar-bowl" to make it more nearly resemble the mother's milk. The mother's milk for young infants is all-sufficient to supply the child's every need in the way of food, and the child will grow faster and be more healthy than if fed other food. The child thus treated to sugar milk prepared by the unerring hand of nature, will not send out a wail of suffering at midnight, and kick its father out of bed to get that curse of infant life—"soothing syrup." The system of a healthy child or animal must have starch or sugar to supply the carbon given off in respiration. The mother's milk exactly supplies the sugar required, and if the infant is not fed articles of food which its comparatively feeble digestion can manage, it will retain its health and grow as rapidly as is consistent with healthy digestion. Withhold the sugar and attempt the use of substitutes, and ten chances to one you derange digestion and consequently induce all the effects which follow functional derangement of the mucous membrane, respiration, etc. Says Johnson, the chemist, "There appears to be a beautiful adaptation to the wants and convenience of animals in the large proportion of starch, gum and sugar which the more abundant varieties of vegetable food contains."

The simple fact that sugar enters so largely into the food of man and animals, affords a philosophical reason why it is healthful rather than injurious. The fattening of the negroes, young and old, when making sugar and molasses is sufficient proof that even in large quantities sugar is healthy instead of injurious.

Friend E. says: "We all know dozens of men women and children whose stomachs are unnaturally excited by sugar, molasses and cake." Don't we know full as many "whose stomachs are unnaturally excited" by bread and butter, meats, cheese, etc.? All this, were it essentially true, would be an argument of great strength in the hands of the drunkard to uphold whisky-drinking. Alcohol cannot be assimilated as food for the building up of any part of the physical frame, or for any useful purpose in the physical economy that other medicines will not answer as well. Indeed almost pure alcohol has been found in the ventricles of the human brain, showing that it is entirely indigestible, and therefore must be injurious. Sugar does better—it furnishes one of the important needs of involuntary life, and in infancy no substitute can fill its place. Whisky fills our poorhouses, jails and state-prisons with paupers and criminals; sugar does not. Whisky starves and freezes children and wives, while sugar furnishes an important need to the system. Whisky fills seventy thousand graves annually with the loathsome bodies of drunkards; sugar not one. Broken-hearted wives and wailing orphans raise a prayer to heaven to suppress drunkenness, but not a single prayer to cut off the supply of sugar.

That sugar, like any other article of food, may be wrongly used or abused, we do not

deny. Sugar may be made into candy containing poisonous coloring matter; it may be used to sweeten a whisky-sling or egg-nogg. I never yet have known of any person being injured by the use of unadulterated sugar, though used in quite large quantities. Little Jimmie, a neighbor's boy, about four years old, would find the sugar-box every few days, and often would gorge himself, and without any injurious results, and he has now grown to be a large, healthy and robust man. From a child we were fond of sweet-cream and milk, and we have no doubt we have eaten enough to make a breast-work a mile in length and four feet high and we are still healthy. Now if W. P. E. will examine the subject a little, he will find he is awfully mistaken, and that his sweeping assertion needs a special revision for truth's sake and the sake of the children. R. K. SLOSSON, Verona, Grundy Co., Ill.

MAKING ASPARAGUS BEDS.

The quickest way to obtain asparagus is to purchase plants, because by doing so the beds are fit for cutting one or two years earlier than would be the case were they started from seeds. To commence with the beginning, however, obtain seed as early as possible in the spring, and sow in wide drills, say five inches in width, and fifteen inches apart, about as peas are sown. Keep the soil mellow and the weeds destroyed, and in the autumn, if the soil is good, you will have one-year-old plants to transplant. One-year-old plants are pretty small, and many prefer to keep them in the seedbed until two years of age. An ounce of seed is sufficient for a drill about twenty-five feet in length. In making a bed for the plants select a good, mellow soil, if possible, and make it deep and rich. An asparagus bed once made will keep in good condition for half a century, so the work should be well done. The beds must be narrow, so as to admit of cutting to the centre without stepping upon them. Set the plants not less than twelve inches apart; in the clear, spreading the roots out naturally, and not crowding them into a hole, and so deep that the crown or top of the plant will be about three inches below the surface. In removing the weeds, have care not to injure the young shoots, and it is best to do this by hand as much as possible. Salt is a good manure for asparagus, and may be used with such freedom as to keep the weeds pretty well subdued without much further trouble. If strong two-year-old plants are set, a little may be out the second year. The part used is the young shoots which commence to appear early in the spring, and they should be cut when five or six inches in height, and when the head is close and firm. Take them from a little below the surface, with a sloping cut. It is not best to continue cutting late in the season, unless the shoots are very strong. After the season is over, allow the tops to grow and bear flowers and seeds. When ripe cut them close to the ground; cover the beds with a few inches of manure, and upon this throw the old tops. Early in the spring, remove the coarsest of the manure with a coarse rake or fork, and the asparagus bed is ready for its spring work. Often, when planted, the young shoots will have made a little growth, but this is no injury.—Vick's Illustrated Magazine.

A Strong Endorsement—I think your AMERICAN YOUNG FOLKS is as good as any young folks paper in the United States, and it is too cheap for that paper. HENRY PATU, Manhattan, Kan. Fifty cents per year is a small sum to pay for a good, 16page paper.

ADVERTISEMENTS.

\$200,000 WORTH OF— GOLD PLATED JEWELRY. For ONE DOLLAR we will send as below, all Warranted Gold Plated; 1 Pair Gold Stone Sleeve Buttons; 1 Pair Engraved Silver Buttons; 1 set Pointed Studs; 1 set Amethyst Stud; 1 Wedding Ring; 1 Engraved Band Flaxer Ring; 1 Amethyst Stone Ring; 1 Elegant Ring, marked "Friendship"; 1 Handsome Scarf Pin; 1 splendid Silver Hat Pin; 1 set Ladies' Jet and Gold Pin and Drops; 1 Misses' set, Jet and Gold; 1 Ladies' Jet Set, Ornamented; 1 set Handsome Rosebud Ear Drops; 1 Gent's Ring, Lake George Diamond Stud; 1 Cardinal Red Bead Necklace; 1 Pair Ladies' Pearl Ear Drops; 1 Ladies' Ornamented Jet Brooch; 1 Fancy Scarf Ring and Elegant Watch Chain. Take your choice, the entire lot of 20 pieces sent post-paid for \$1, or any 8 pieces you choose for 10 cents. Club Premium—Any one sending us a club of twelve at one dollar we will send a Coin Silver Watch Free. F. STOCKMAN, 27 Bond St., New York.

PIMPLES.

I will mail (Free) the recipe for a simple Vegetable Balm that will remove Pimples, Blisters, Boils, Blotches, leaving the skin soft, clear and beautiful; also instructions for producing a luxuriant growth of hair on a bald head or smooth face. Address, including 3c. stamp, BEN VANDEL & CO., 20 Ann St., N. Y.

TO CONSUMPTIVES.

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SHAWNEE COUNTY, KANSAS.

The general surface of the county is undulating, but some portions adjoining the Kansas river are bluff. The average width of the bottoms of the Kansas river is three miles; of Mission creek, one mile; of the Wakarusa, one mile; and of the smaller streams, various distances. Of the land, 31 per cent. is bottom, 69 per cent. upland, 8 per cent. forest, and 92 per cent. prairie. The timber is confined to the water-courses, and the varieties are elm, cottonwood, boxelder, hickory and ash. The Kansas river flows southeasterly; tributaries from the north, Boubien, Cross, Soldier and Indian creeks; tributaries of the Soldier, Little Soldier, Moccasin and Half-Day creeks; tributaries of the Kansas from the south, Vesser, Mission, Shunganunga, Deer, Stinson and Tecumseh creeks; tributaries of Mission creek, Haskell and Blacksmith creeks. The Wakarusa flows southeast; tributaries from the north, Six-Mile and Linn creeks; from the south, Two-Head and Berry creeks. The springs are not numerous, but there are some excellent ones; good well water is obtained at a depth of from 18 to 40 feet. There is no estimate of the area covered by coal. Thickness of veins discovered, from 14 to 20 inches; depth below surface, 15 to 20 feet; crops out in the ravines in some localities; quality, fair; used to quite a large extent for local, domestic and manufacturing purposes. Good limestone is found in abundance in all parts of the county; fire-clay is found above the coal, but has not been tested. There are numerous good water-powers, but they have not been utilized, except to a very limited extent. The number of acres in the county is 357,120, of which 344,170 are taxable, and 89,418.21 are under cultivation. The percentage of cultivated to taxable acres is 25.98. Shawnee county was organized in 1855, and received its name from the Shawnee tribe of Indians, whose original reservation in Kansas embraced a considerable portion of the county. Square miles, 558. Population in 1860, 3,513; in 1870, 13,121; increase in ten years, 9,608. Population in 1875, 15,417; increase in five years, 2,296; increase in fifteen years, 11,904. Population in 1876, 17,363; increase in one year, 1,946.



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