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THE KANSAS FARMER.

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

Communications.

Reply to Mr. Johnson.

I have been very much interested in Mr. Johnson's weather notes. They are full of good information. There are a great many views in regard to climatic influence, and we may, any of us, be mistaken in some of our views of the cause of its effects, etc., on the climate in regard to its influence on rain. I have not the language to express my views as plainly as Mr. Johnson, but I will reply to some of his questions.

1st. Is it the water upon the plains in any particular summer that determines the number of rains of that summer, or is it the number of rains and the number of inches falling that determines the amount of water upon the plains in any particular summer?

I may ask Mr. Johnson if the pendulum depends on the works of a clock or does the works depend on the pendulum? The works may run awhile but will soon run down, and also the soil may run awhile before it runs down without moisture from the air, and the air also needs moisture from the ground. Has Mr. Johnson noticed the moisture of the ground in the morning which is almost equal to a rain. I have noticed in breaking prairie the great difference in the moisture of the ground in the fore part of the day more than in the evening, and I presume he has also noticed the damp earth around the stalk of corn that is caused by the cool atmosphere and the warm earth. We don't expect or wish to retain all the water that falls.

Mr. Johnson says if we retain all the water it will double itself every year until the third year there will be a fall of 8 feet where he lives. How can we expect to eat our cake and keep it? If we get 33 inches the first year, has it not to be divided among the vegetation and animal kingdom, and the air supplied with sufficient moisture. We cannot retain that air in any given space, and therefore cannot retain the water. We do not expect to make a Paradise of Kansas in one year, but I think there can be a great improvement made to retain the moisture that falls.

1st. We should check the annual prairie fires that bare the earth of vegetation and give the hot sun a chance to draw all the moisture from it and heat the ground.

2d. We should break the prairie and when the rain comes there is a chance for it to settle into the ground instead of running off into the creeks and down the Mississippi river.

3d. We should study the adaptability of the forest trees which do the best and plant them liberally on our farms.

Mr. Johnson asks, Are forests the product of climate or is climate the result of forests?

As a general thing forests are the product of climate. But I think forests can and do change the climate. I have seen the result of that in many of the eastern states. Parts of Indiana for example, where heavy forests covered the earth and the surface of the ground was level it was too wet for cultivation; a horse would mire down in the mud, but as soon as the land was cleared of timber, the cause of successfully growing trees on these barren plains. I have seen trees grow as fast here as any place in the states, and I think many readers of the FARMER could verify my statement.

Mr. Johnson says the air loses its humidity as we travel inland towards the heart of a continent. Will he please explain why there should ever occur such a thing as a drought on the very coast of an ocean as it is this season on the Atlantic.

Do we receive our supply of rainfall from the gulf or from the mountains? We have an inland supply that you did not mention. The Rocky Mountains are as a large reservoir which holds the supply of water, and when the warm inland currents pass over the mountains the snow is melted and descends to the valleys, the air being warmer in the valleys evaporates the water and it is then distributed over the earth where the most vegetation abounds, that being a law of nature which equalizes the great needs of vegetation. Where there is no vegetation there is no necessity for water, as animals will not frequent such places. But if vegetation can be propagated by following the laws of nature and extending the humid boundary gradually

into the arid plains, it will cause more humidity as the vegetation increases.

Is the great distance from water the cause of all the barren deserts, and is there no remedy for it? I think there is.

Mr. Johnson says the Almighty intended these plains for raising cattle to supply beef, butter and cheese. If art did not assist or repair the damages of nature, I think many countries would not be in existence now. What would the English people do if they depended upon the land without assisting it with manure that art has supplied?

He thinks because Kansas at the first touch of the plow did not flow with milk and honey that we should drop the plow at once and go to raising cattle.

I think there is a change in favor of agriculture that shows itself every year in central Kansas, and as the vegetation increases the rain fall will increase, except in years of drought which will occur in all countries.

To promote humidity we should first check the annual prairie fires that bare the earth and leave it naked to the sun thereby baking it hard and drawing all moisture from it. When a heavy rain comes on a prairie so bare by fire it runs off into the creeks and from there to the Mississippi river.

2d. We should break up the prairie and sow it with such crops as will be best adapted to the locality, and the ground will then be shaded from the sun and at the same time be in a condition to absorb the rain.

3d. We should plant such timber as we find native to the state. I prefer cottonwood to all other native trees, as they are a quick grower, and as to growing timber for the profits of the wood, I think it will hardly pay unless we wish it for future generations.

T. W. HEY.

Irrigation in Kansas.—No. 2.

In a former article I gave some reasons for believing that irrigation will never become a general or popular method of supplying the deficiency of rainfall in common field culture. It may be employed in irrigating small gardens, but I learn that even in this, in some cases where it has been employed, it has not proved satisfactory. After a short time the plants do not seem to thrive well when supplied with water from a well. It seems that water taken from a well is lacking in some of the elements that are of importance to the vigor and health of plants. Water from melted snow or that which has been exposed to the air by flowing in a stream, is known to contain elements not found in that which comes directly from wells or springs.

The conclusion to which we are irresistibly driven is that Kansas cultivators will, in the future as in the past, be dependent on the waters from the clouds to meet the requirements of growing crops. Having reached this conclusion many are ready to stop and say: If this be a legitimate conclusion it places the whole matter outside of the field of human action. But I do not think we should come to any such despairing conclusion. I am satisfied the hygro-metric conditions of our climate may be modified by certain influences brought to bear by man himself.

In order to understand the reasons upon which these opinions are based, it is necessary to go back somewhat and inquire in regard to the source from which our rains are principally derived. Every one who has resided for any length of time in the state has doubtless noticed that nearly all our rains are preceded by one to three days of strong south wind, but that the rains themselves come from the northwest. The meaning of this, as I understand it, is, the south winds bring a greater or less quantity of vapor from the Gulf of Mexico. These warm winds, already filled with vapor almost to saturation, come in contact with cold northwest currents, by which their temperature is reduced, and at this lower degree they are incapable of holding all the moisture they contain so a part of it is condensed and falls as rain. Now the question is, how may these vapor-laden winds be induced to give up their moisture when no cold current comes down to meet them? This is the question that I propose to try to answer.

I have noticed that when these warm south winds blow and no rain follows, it is when the heat from the earth is very great, so that these winds instead of being reduced in temperature so as to condense a part of the moisture they contain, are, by the radiation of heat from the dry surface of the earth, increased in their temperature, and consequently in their absorbing capacity, removing them still further from the point of saturation and condensation. Now

what we need to produce rain at such times is something that will either increase the percent of vapor in the air till it reaches supersaturation, or decreases the temperature until the same result is reached, or both.

Some have proposed to reach the former of these ends by building dams across ravines and sloughs, thus forming a great number of small lakes, that would, by the evaporation from their surfaces, increase the amount of humidity in the atmosphere. That the presence of bodies of water does have an influence on the formation of clouds and the precipitation of moisture, does not, I think, admit of a doubt. I think the water in the Arkansas river, when its broad channel is covered, has a decided influence on the rainfall in the adjacent valley. During last fall, winter and spring, while this channel was dry and dusty, we had no rain. All signs of rain would appear, even to deceiving the barometer, but no rain would come; but within a week from the time the waters from the melting snows reached us we had copious rains. But while I believe these little lakelets would have some influence on the rainfall, I still think the plan objectionable. The cost of building and keeping in repair the number of dams that would be requisite to produce any marked effect on the humidity of the air, would be too great for the benefit that would result. This surface water would also be objectionable on account of the amount of good farming land that it would occupy. It would also be likely to produce miasma and thus have a deteriorating effect on the salubrity of our climate. I conclude, therefore, that this is not the best method for securing the most equable rainfall in our state.

But I have exhausted my space and have just reached my subject, which must be reserved for the next.

L. J. TEMPLIN.

Hogs.

The last quarterly report of the State Board of Agriculture is largely devoted to the subject of Swine, and contains a mass of valuable experience received from 165 persons whose average experience is stated to be over thirteen years.

I have read this report with interest and find it full of valuable information for those who desire to go into this branch of stock-raising; and that it is to be one of the great and leading branches of farming in this state, I have no doubt. It has this great advantage over any other branch of stock-raising, that it can be started on a small scale, with little capital, and can be expanded to any desirable extent with the profits that accrue. I have taken some pains to analyze the report for my own benefit, and as your paper goes into the hands of hundreds who will never see the report, I send you the result of my labors.

Of the 165 persons heard from, 60 give the preference to the Poland Chinas, 49 to the Berkshires, 3 to the Chester Whites, 3 to the Essex, and 1 to the Suffolk, among pure breeds; and 49 prefer crosses to any pure breeds. So much for the kind of hogs preferred.

WEIGHT AT ONE YEAR OLD.

Twenty-four persons say their hogs at one year old will weigh 200 to 300 pounds; ten say they ought to weigh it. Forty-four say that they will weigh 300 to 400 pounds; sixty-eight say that they ought to weigh that much. Fourteen say they ought to weigh 400 to 500 pounds; and five, more modest than the others, say they ought to weigh 500 to 600 pounds at that age. Now here are 131 old, experienced hog-raisers that tell us that hogs at one year old ought to weigh from 300 to 600 pounds. We would have preferred that they should have given us the actual weights of their hogs sold at that age; and I venture to say that it would have reduced that statement one-half; that is, that the actual average of one-year-old hogs is from 150 to 300 pounds, instead of 300 to 600 pounds.

The writer of this has been a successful hog-raiser for forty years, and his experience is that it takes nice care and first-rate feeding to make a pen of hogs average 300 pounds at one year old, and if a man can do it he is doing well and better than most of his neighbors will do.

COST OF PORK PER POUND.

One man says he can make pork at 4 mills per pound; (this and the following statements are based upon corn at 20 cents per bushel); 3 at 1c; 3 at 1½c; 4 at 1½c; 3 at 1½c; 49 at 2c; 11 at 2½c; 39 at 2½c; 13 at 3c; 1 at 3½c; 3 at 4c. Here is a wide difference of opinion as to the cost of making a pound of pork—from 4 mills to 4 cents per pound. The 4-mill man can get rich; the 4-cent man must quit raising hogs or break. But 99 men say it can be made from 2c to 2½c per pound, and this is probably

about the cost. Under good management it can be made for less, as I know from repeated trials.

GRINDING AND COOKING FEED.

Eighty-one persons do not think it pays to grind feed; 59 do think it pays, and 25 express no opinion upon this point. A few think it pays both to grind and cook, but they are a small minority. The scarcity of fuel and extra labor will not pay the expense in the opinion of a large majority, and a number express the opinion that the teeth of a hog were made to use, and that soft food is unnatural and injures when exclusively fed.

Mr. C. Nelson, of Ottawa county, who says he can make one pound of pork for four mills, says: "I believe in feeding corn soaked twenty-four hours. In cold weather ground feed is best—made into mush and salted well. Keep sand in lot. If corn is worth only 10 cents per bushel it will pay to grind and cook feed. Fourteen months is the most profitable age to fatten. Seven bushels of corn, properly fed, will make 350 pounds of pork, live weight." This is the most successful hog-raiser that we have ever met.

The last few years has taught us that we can not depend upon wheat as our staple crop; that stock of some, or all kinds, is our only safe resource, and if this paper shall aid any one who wishes to raise corn and hogs, I shall feel that the time I have bestowed upon it has not been lost.

WM. PETTES.

Salina Co., Kansas.

The True Story of the Frontier.

ED. FARMER: We notice that there is a tendency among the correspondents of your valuable paper to sneer at the settlers of our western counties. They are spoken of as being deficient in prudence because they came here with so little money that they were not prepared for the entire failure of their crops. And then as wanting in pride that they have, some of them, been obliged to accept the kindly proffered aid of the state, or as your correspondent states it, "are relying on the generosity of the people of the eastern counties for sustenance."

As to the first charge, we presume it is true that some came here with less money than prudence would seem to dictate. Many of these relied upon the advertisements sent out freely by railroad and real estate agents, and also the opinions expressed by the contributors of the various Kansas papers.

The readers of the FARMER need not be told how brilliantly illuminated those pen pictures are. We know of no one who was so credulous as to believe that wealth would pour in upon him the first year. But after allowing a large margin for exaggeration, it was generally believed that by industry one could raise enough for the necessities of life the first year; and if he provided for that year, he was safe, at least that his bread was secure.

Many came with small capital, bought a team, a cow, and sometimes a pig or two, built a little house and rude out-buildings, then broke and harrowed and put in their seed. Some of the seed failed to germinate, the drought stunted what did come, and the worms and a slight sprinkling of grasshoppers about finished the rest.

Winter came on, and illly provided with food for stock, fuel scarce and dear, an uncomfortable house, little money and consequently coarse food, the pioneer family go into winter quarters rather discouraged. But as the winter advances they look forward and brightly and hopefully say, "Well, we will get along until spring, and we will be sure to raise something next year."

The spring days come and the wheat commences to grow. The farmer's heart is glad. He works early and late. But the weeks advance and no rain. He still hopes it will come in time, but alas! vain hope. He sees his wheat turn yellow or head out at six or eight inches high. With a sad heart he gives up hope of that and makes extra exertions to get in larger quantities of spring crops, stopping now and then to do a few days' work for others, for the wife and babies cannot starve. Still the rain does not come, and as a consequence there is no work to be had. His all is expended on his farm. With no money and nothing for the dear ones at home to eat, does any one wonder that he swallows his pride and with downcast head and trembling hand goes to the place of distribution and accepts the aid of the state? And does any one suppose that these counties are settled with people so deficient in pride that this is not a humiliating thing for them to do?

Just here let us express our admiration for our noble governor who, hearing of the destitute condition of the people, came out here and visited the dug-outs as well as more pretentious

houses, that he might the more successfully plead the cause of the sufferers.

Let those who do not know by experience, set down and count the probable cost of coming to a new country, buying only the necessary stock and implements for work, building the rudest buildings and buying seeds for sowing, incurring the expense of doctor bills incident to a change of climate and living, and then finding it all outlay and no income. How much does he suppose a man of ordinary means would have left at the end of two or three years?

As to the imprudence of coming so far west on account of the insufficient rainfall, it is well known that supposedly reliable statistics of the annual rainfall of these counties are sent out as baits to the east. But the fact is carefully suppressed that the probabilities are in favor of a continued dry season long enough to ruin the crops, and then a flood that comes too late to save.

Experience has taught us that nearly all of the inches fall at one, two, or at most three rains.

Much has been said about the work on the railroads. It is true that the Kansas Pacific railroad offered work to a limited number of men, and many went to get work, glad of a chance to earn their own bread, but when they found that they were offered only \$1.10 per day, and from that must return \$4.50 per week for board, and then furnish their own bed, it did not seem a tempting offer. Any one can calculate how far the remainder would go towards supplying the entire wants of a family. The company, however, secured the services of as many as they wished.

A company left Hayes, some six weeks ago, to work on the Rio Grande road. A young man of the company, who has recently returned, told me his story last night. He was attacked with rheumatism and sore throat ere he reached his destination. He said these were common among the men. When they got there the company had nothing for them to eat. Tired out and sick they were obliged to fast three days and nights. There were only two cooks for nearly five hundred men, so that when food was furnished it was nearly in a raw state, and in such meagre quantities that he who was strongest and most selfish fared best. This young man worked two days, but feverish and sick he started to walk home, became exhausted and laid down to die, but was seen by a passing train and taken on board. After much suffering he reached home, sick and penniless. He tells me he has been informed that a great many of the men were turned off, to get home as best they could, as soon as they had worked out their passage. The news has also reached us that of twenty-eight men who were in the woods teaming, but two escaped the scolding knife of the red man. We learn that the same agent is drumming up another company to fill the vacancies left by the dead, dying and discharged men. Such is the history of all the railroad work we know anything about.

We presume there are many here who will be obliged to take the benefit of the law allowing settlers to leave their claims until October, 1881.

In conclusion we do not wish it understood that we blame the country, neither does the blame rest on the people. We like our new home, and have no desire to abandon it. We think, as the country grows older, that the unpleasant features will pass away. We have not said one-quarter that might be said on the subject, but do not wish to weary the patience of the editor or reader. We hope, however, that this will lead some to think a little more charitably of the people of the frontier counties.

U. W. A.

Happy Hollow, Graham Co., Kan.

FRANKFORT, Ind., June 10.—EDITOR FARMER: I see in a late issue of your paper that you are opposed to forming a farmers' party, so am I, but I am in favor of an alliance that will effectively bind all the industrial elements together in one great party. We can accomplish something for ourselves whenever we decide that we will not give our adherence to a party that is opposed to our interests. If we can ever succeed in getting the working men of America to see that the lower class are eating up the substance of our country they will act together, and we be unto the man that is in the way.

I like the FARMER as it is laboring for the right as it understands the issues.

B. S. C.

In attending to the phenomena of vegetation it has long been demonstrated that the presence of light is absolutely necessary to the health and proper growth of vegetation. The same fact applies to human beings.

Farm Stock.

What Are the Most Profitable Sheep.

With wool at 50 to 60 cents for fine and combing, sheep are in the ascendant; "those want them now who never did before, and those who always had them want the more." The question is asked, "Which is the most profitable sheep to keep?" Those who ask this question are acting very judiciously, because, not knowing much about sheep, they are very apt to go astray at the start and lose their time and their money, unless they start aright. It is a popular opinion that there is most profit in the largest and most attractive looking breeds and in growing long wool, which is greatly in demand and of which a heavy fleece is produced. Unfortunately this opinion leads many into trouble, for they procure sheep at a high price and which need costly keeping, that are unsuitable and run down very fast, and finally fail entirely.

At the outset it may be stated concisely that there is no one sheep that is the best under all circumstances; that sheep must be chosen with regard to the circumstances under which they are to be kept, and that, as a rule, there is the most profit in the kind which costs least. I will show this by figures. Let a person begin with a flock of 50 ewes and one ram. The cost and income of the flock will be about as follows:

	Good natives.	Pure-bred sheep.
Paid for 50 ewes	\$200	\$1,250
One pure-bred ram	25	100
Feeding and care for one year	150	300
	\$375	\$1,650
Value of lambs at \$3.....	\$150	\$210
200 pounds of wool at 40c.....	80	230
40 pounds at 75c.....	30	230
50 ewes sold fat.....	250	250
Value of sheep on hand (45 of cost).....	1,060	
	\$180	\$1,510

The natives will have paid back their cost with \$100 profit and \$100 more in manure, while the pure bred sheep will have lost about 10 per cent. of their cost under the most favorable circumstances. For no one who keeps a flock of costly pure bred sheep can expect to sell the lambs for more than their actual market value, and the profit from the extra price paid for the flock must come from the wool, in greatest part. The experience of nine out of ten persons who have been misled into keeping thoroughbred long wool or even fine wool sheep has been even worse than the example here given.

Let us follow the fate of the native flock. The owner who picks out a lot of good, sound grade merino ewes and selects a pure bred cotswold ram, one or two years old, of compact build, broad loined, with deep brisket, short legs, fine head, broad forehead and a close fleece of long, silky wool, and crosses him on his ewes, will soon have his flock which in every respect will be as good as the pure bred flock which would have cost six times as much, and in five years it will probably greatly surpass the pure bred flock in quality and appearance, under equally good management. The difference in profit is very readily seen.

Pure bred sheep are for the breeders. Farmers must have pure bred rams to use with their common sheep to improve the produce; but the keeping up of a flock of high bred sheep is a work that requires special skill in management, and knack as well as knowledge in breeding; and there is no profit in it to one who is not already an adept in the management of a flock. Perhaps the best sheep under any circumstances for a farmer to raise, is the cross of the native grade merinos with pure cotswold rams. The second cross have all the hardiness of the dams and some of the excellencies of the sires. The wool is in demand and will be. The lambs are the best market lambs, will reach a weight of 60 or 70 pounds at six months, and when two years old will make the best of mutton and a carcass weighing 100 pounds, dressed. The fleece will weigh double that of the dams, and the third or fourth cross cannot be distinguished from pure breeds.

These facts have been proved by experience. The cross of cotswold-merino is a favorite one in Germany, Austria and Hungary, and fine specimens of this cross were shown at the last Paris exhibition. In our own country Mr. Harris, of Rochester, N. Y., and the Gerrish Bros., of Webster, New Hampshire, have been breeding in this way for several years.

As a matter of course, the cross bred sheep so nearly approaching the character of the pure bred race, require better feeding than the original smaller ewes. One cannot have a fleece and a carcass doubled in weight without providing the requisite feed. But we have the hardiness and the vigor of constitution of the cross bred races, which confer a greater adaptability to the ordinary circumstances of the farm and our exacting climate, and these are the attributes of a sheep which is really the farmers' sheep—the one for profit under the widest range of circumstances.—Henry Stewart, in Rural New Yorker.

Feeding Pigs.

Pigs dropped this spring that are to be marketed this year should be pushed hard from the beginning, in order to insure the largest percentage of profit. They cannot be permitted to go back, or even to stand still, in the accumulation of flesh for a day, without loss. The utmost skill of the feeder is often taxed with the little fellows when they are about a month old; for at that period the milk of the dam ceases to be sufficient to meet the wants of the growing pigs; and if they have not been permitted to learn to eat before that time, and if abundance of highly nutritious food, in liquid or semi-liquid form, is not furnished from this time on, it

will be impossible to keep up the rapid growth that has been attained by simply feeding the sows properly up to that period. Ground oats and corn mixed, or ground corn with wheat middlings will make a good slop for the pigs; soaked corn will also be highly relished, and will be found well adapted to keeping the pigs in high flesh; but as soon as the new corn is fairly in milk, that will be found the best of all fattening foods. "Make hay while the sun shines," is the embodiment of sound doctrine in that department of husbandry; but the injunction, "Make pork before cold weather comes," is equally as sound a maxim for the government of swine raisers.

But if the pigs are to be kept over the winter, and fed off for the next spring or autumn markets, we would recommend less of the forcing process; less of the stimulating, fattening grain diet; and would urge the importance of clover and grass as a means of keeping the pigs in a good growing condition, and at the same time keeping them healthy. Pigs cannot long stand up under the forcing system—the high pressure plan of feeding that produces the enormous weights sometimes attained at six to nine months—and while this is perhaps, after all, the most profitable method to the breeder and feeder, we very much doubt whether it is the course that produces the best quality of bacon and hams. In these extra heavy pigs the weight is largely made up of fat—there is no corresponding growth of bone and muscle, and the pork is soft and oily. On the contrary, when pigs are given the run of the clover field during their first summer, with only a small allowance of grain, the bone and muscle is developed by the food and exercise; and when they come to be fattened off for market, there will be found a much greater proportion of "lean meat" than in the earlier matured pigs.

We regard the latter method—this reliance largely upon pasture during the first summer—as an essential in raising healthy breeding stock, whether males or females, and we would never buy one of those forced, exceptionally heavy, and fat show pigs for breeding purposes, no matter what might be his recommendations otherwise. Our breeders have done too much of this thing in the past. It has shown itself all over the country in a loss of constitution and a lack of vitality which has made our stock an easy prey to disease, and we are glad that there are indications of a reform in this particular.—Nat. Live-Stock Journal.

Cross-Bred Sheep.

Mr. J. L. Thompson, of Arcana, Ind., having been assigned the duty of preparing an essay giving his experience with different breeds of sheep, to be read before a wool growers' association, concluded his paper with the following high tribute to cross-breeds:

"I come now, in conclusion, to sheep of what in my opinion is the coming sheep of this state, the cross-bred. Just what shall constitute this sheep is yet largely to be determined and may be left to some extent to each breeder's fancy. My experience in cross-breeding commenced some eight years since, by coupling a sized Cotswold ram, that would shear from eight to twelve pounds, with about fifty common grade Merino ewes, weighing eighty to ninety pounds in good store condition, and shearing five to six pounds in the dirt. The result of this cross was very hardy, compact sheep, weighing 110 to 125 pounds for the ewes, and shearing about seven pounds on the average. I bred in this manner for three years, and then coupled these Cotswold-Merino ewes with Shropshire rams, weighing from 20 to 250 pounds, and shearing from nine to twelve pounds. The improvement from this cross has been very marked, giving a more compact, round-bodied, short-legged, hardy sheep, one that readily responds to good keeping and matures early enough to be profitable as a mutton sheep as well as a wool grower, and weighing at two years old 140 to 200 pounds, and shearing from eight to thirteen pounds of first-class medium wool."

Sunflower Cake as Food for Cattle.

The favorable opinions on the value of sunflower cake as cattle food which have been expressed from time to time by Swedish breeders and dairy farmers, have recently received strong support from similar quarters in Denmark. In the agricultural journals of that country, letters are constantly appearing, advocating the adoption of the new cake, both for feeding stock and milch cows. Its good effects are said to be beyond all dispute, and it possesses the great advantage of being relatively very cheap. A few instances in point may here be reproduced from a continental contemporary:

1. The substitution of $\frac{1}{2}$ pound of the cake for 1 pound of oatmeal per head, was found to increase both the quantity and the richness of the milk.

2. A daily ration of 1 pound per head proved an efficient substitute for the hay usually given, the cows yielding on it the same quantity of milk as before, but of so much richer quality that $\frac{1}{2}$ pound less than usual sufficed for the production of 1 pound of butter. When the cake feeding was discontinued the quality of milk given at once fell, and also its amount of fat contents. A few of the cows, which were getting $\frac{1}{2}$ pound of cake in addition to their ordinary hay, gave $\frac{1}{2}$ pound of milk a day more per head than before.

3. Experiments in fattening for the butcher gave most satisfactory results, the amount of cake used being from 1 to $\frac{1}{2}$ pound per day, in conjunction with green food or bran.

4. Comparative experiments were made with milch cows, some being fed with rape cake and others with sunflower cake. In the latter case an increase of $\frac{1}{2}$ pound of milk a day was

noted, while on rape the yield actually fell off by about $\frac{1}{2}$ pound. The butter was of equal quality in both.

5. Sunflower cake forms an extraordinary valuable food, worthy the careful cultivation of farmers. It raises the proportion of cream in milk by about 2 per cent. All the writers agree in stating that cows eat the cake with greater relish, and that their milk is richer on this food than on palm cake. The Danish analyses of its composition tally closely with those made by Swedish chemists, as already published, the average composition being 12.80 per cent. fat, 36.56 protein, and 5.85 per cent. nitrogen. It should be noted that hitherto German authorities have been slow to admit the value of this feeding stuff, but the endorsement of the Swedish verdict by so many practical Danish farmers will probably induce them to investigate the question further.—Exchange.

Testing Dairy Cows.

Dairymen need often reminding of the things they should but generally do not do. We have often illustrated what occurs in so many herds—unprofitable dairying, for the want of individual tests of the cows in the herd. It almost passes belief that an intelligent dairyman could keep cows year after year without knowing whether they made or lost him money. But such is the fact; and a number of instances have occurred where dairymen, on a careful test of each individual cow, found that one-third of them did not pay for their keep; one-third paid a small profit over cost of keep; and the other third paid a handsome profit over all expenses.

Now, is it not easy to see that such a dairyman would make more from his one-third good cows than from his whole herd—say a herd of 15 cows, five paying a good profit, five not even paying for their keep, and five paying a little more than their keep, but no profit; the bad cows just about balance the good ones, making the whole herd unprofitable. But the five good cows would require only one-third of the labor, and would pay at least double the clear profit.

There is a less reasonable excuse for keeping an unprofitable cow than most other things. For instance, raising a poor crop year after year upon the same land has but a poor apology; but it may be said that the land can't well be sold, and that it may be improved, while the cow runs him deeper in debt, with no hope of amendment.

You may easily test the yield of milk from each cow, in weight, by hanging a spring scale at a convenient place in the stable, where the milk of each cow can be weighed and recorded one day in each week. A few weeks will serve to show the character of each cow, with regard to quantity, and this will represent her value at the cheese factory, where the standard is weight. But if you keep a dairy for butter, nothing short of setting each cow's milk by itself for a short period and churning the cream will give the value of the cow for butter. The bulk or weight of cream does not test the better it contains, as the cream is often so unequal in quality that the butter must be actually separated to test it. By preparing a small book with the name or number of each cow entered, and having a pencil attached to it, the weighing of each cow's milk will not occupy more than one minute, and certainly any dairyman can afford this minute once a week in consideration of learning the character of the cow.

When the dairyman has determined that a cow is unprofitable, he should get rid of her at the earliest opportunity. There will be different reasons for desiring to be rid of a cow. If butter is the product desired, a cow that gives a liberal quantity of milk may be quite undesirable, because the milk is very poor in cream; and in this case the cow should be sold to the patron of a cheese factory, to whom she will be valuable; but if the cow gives too small a quantity, of too poor a quality, to be profitable, one of the best ways to get rid of her is to fatten her, by feeding with grain for that purpose. Feed her very generously, and milk her to pay the cost of fattening. This is often a profitable way to test a cow's capacity for improvement. If she is capable of improvement as a milker, such feeding will test it, and may occasionally show so marked an improvement as to warrant her being kept for further trial; but if she does not improve materially in milk, she will take on flesh and soon be ready for the butcher, while her milk will pay at least a large proportion of the cost of fattening. In this way a poor cow may be disposed of as beef without any real loss. Dairymen sometimes give cows a bad character when that character is the result of insufficient feeding. In a broad sense, the dairyman is wholly responsible for the character of his cows. In the first place, it is his duty to give all the food required to manufacture a large yield of milk, and to use his best endeavors to develop and enlarge the milk yield of his cows. By doing this for the young cows, for two seasons, and noting the yield of each for one day in the week, he may determine which ones are profitable and which ones are unprofitable; and the unprofitable ones he can turn into beef at a good price, and need not keep a cow that does not yield a profit.

When dairymen shall give close attention to everything that relates to the management and welfare of their dairy herds—testing everything, both cows and food—we shall hear much less about losses in dairying.—National Live-Stock Journal.

Six Rules for Marketing.

A. J. Streeter, of New Windsor, Ill., says: The future market price of farm products is beyond human calculation, and the market often disappoints the greatest numbers. Still the

writer has met with considerable success by observing the following rules:

When stock is fully ripe and ready for the market, and the market fair, it is better to sell than to hold for a rise.

When the market is high, and the stock is not ready, sell for future delivery to a responsible buyer; three times out of four it will beat the buyer.

When the market is low, make no contracts, and be slow to sell, because a rise in price often comes when least expected; in fact, high prices most always come unexpectedly.

When people in general say cattle, or hogs, or corn, or wheat, will be high next winter or next year, they are almost sure to be disappointed, because they go to work with one accord to make it cheaper by increasing the production.

When the price for any farm product has run high for some time, and the farmers begin to drop other things and go for the product that has the money in it now, then is the time for the successful farmer to let that product alone.

When a leading article, say hogs, runs low for a long time, and farmers begin to stop raising them because it won't pay, then is the time to raise pigs.

The writer remembers one year when corn was scarce and high, and hogs were low, and the farmers wanted to sell their shoats at any price they could get. He bought up a lot of them for about one dollar a head; fed them a little corn, and summered them mostly on pasture, and in nine months from the time they were bought, sold them for twenty dollars a head—nineteen hundred per cent. in nine months.

The Holstein or Dutch cattle have a weight nearly equal to the short-horn, and have the first great merit of having the milk sections well developed and permanently fixed in the race. They feed into large compact carcasses of beef, but are not as fine boned and smooth as the short-horn, and many suppose them to have been improved by short-horn blood. They are a fixed race, and transmit with certainty their characteristics to their progeny, and may, therefore, be used to improve the common stock for milk and beef. They are very large milk yielders, and will be of much advantage in building up the western beef and dairy interest.

For hoven give a teaspoonful of pulverized charcoal every fifteen minutes, in about one half pint of milk or water sweetened with a little molasses, until relieved.

Poultry.

Dry Feed for Young Chicks.

It is absolutely indispensable that the cooked mash given to any young chickens should be mixed dry. By this we mean to convey the suggestion that the meal mixture should be of a crumbly consistency, rather than that of the swamy, soggy kind of muck that nine out of ten careless or inexperienced persons give to the young broods in their infancy.

The complaints we continually receive about the loss of early spring chicks has induced us to write privately to numerous correspondents directly, who have appealed to us to tell them why it is that their little birds drop off at ten to twenty days old so frequently, when they "feed them with plenty of soft meal, properly scalded," and give them "all they can eat four or five times a day."

The cause of a large share of the mortality among the young broods is attributed to this very kind of feeding. Wet, sloppy dough or meal sours in their crops before beginning to digest, and they are destroyed by this means. We again insist that their early food must be dry—for the first three or four weeks especially. Whenever they need drink, if shallow pans of milk or fresh water be left within their reach they will avail themselves of the opportunity to take all they need. But for their meal feed, there is no good in the too common practice of drowning digestion by offering young birds three-quarters water to one-fourth of grain! Give the natural solvents, the gastric juices, a chance, and don't dilute them till they are "too thin" to act on the food.—Poultry World.

Food for Young Turkeys.

In some cases even the best of care fails to secure a good number of young turkeys. Before they have fully feathered up they are the tenderest of birds, but when they have put on a full dress of feathers, nothing in the way of poultry is more hardy or less liable to disease or disorder. As young turkeys, like young guineas, make such very rapid growth of feathers when young, they require constant care, and food in fair quantities and often, to enable them to withstand the great strain on their systems; and not supplying them fully at that stage of growth is what causes so many to drop off suddenly, from no apparent cause. Boiled egg, chopped fine, no doubt makes a good food for turkeys to commence with, but it is not at all necessary. One of the most successful breeders of turkeys we know of, never fed a crumb of boiled egg, but commences with stale bread crumbs, slightly mixed with new, fresh milk, giving them five or more feeds daily, but only in such quantities as they would eat up clean at every feed. Onion tops or lettuce, chopped up fine and mixed with their food, was given, while an occasional seasoning of red (cayenne) pepper was supplied. They were treated to sweet milk for drinking purposes, and when they got some little age cottage cheese was liberally supplied—and they are very fond of it.

There is as much in the care as in the feed-

ing, and they must have the best of both to induce them to stay with us. Dampness and dew is fatal to young turkeys; the remedy suggests itself in a preventive.—Poultry Yard.

As a general rule, any one who wants pigeons about his home, and is not particular about the breed, can obtain them without the least trouble by putting up a good cote on his premises and painting it white. The pigeons are sure to be attracted by the glittering object, and will take possession of it of their own accord. Cotes that are left long uncleaned, or that are made too small, are frequently deserted.

Eggs hatch much better if the nests are made by placing a cut turf and a shovel of mould, sand, or ashes in the box or basket, and on this a little straw, than if straw only is used. In this way a convenient hollow is obtained that prevents the eggs rolling out from under the sitting hen. In cool weather the eggs are thus kept at a much more equable temperature than in nests made simply of loose straw.

In some localities young chickens are fed the first two or three weeks after they are hatched upon rice. An inferior quality, known to the trade as broken rice, is used. It takes so little for a feed that the expense is no greater in the northern states than corn meal, while in the south it is the cheapest food known.

If you have convenient trees by all means let your young chickens roost in them during the summer and early fall. Their condition when cold weather comes will repay your trouble.

Apiary.

Seasonable Hints.

The present season is well nigh the busiest time of the year for the apiarist. The white clover, which in the majority of localities, is the main honey plant, is now in full bloom; the queens are breeding rapidly, and swarming is the order of the day. This is the season that is especially trying to beginners in the business. When one has no experience to assist him, he is apt to be undecided as to what is the proper thing to do and how to do it, and consequently there will be an embarrassing lack of system in the work.

The first and great care of the apiarist should be to see that each colony is provided with a laying, prolific queen. An old queen, or one that, for any reason, has become less vital and has deteriorated in her laying propensity, should never be tolerated. In the honey season, when the workers live but a few weeks before they wear out, it is of importance that the colonies should be reinforced with a constant and copious supply of young bees. Where such reinforcement is lacking there will be a corresponding deficiency in the store of surplus honey, as well as in swarms.

It is well to keep a few queens on hand in nuclei, so that if any accident should happen to a laying queen, a new one can be substituted without delay. Should a queen be killed by accident and a new one not be introduced, the workers will go to work and rear a queen from a worker egg, or young larva; but this process takes sixteen days, and five or six days more elapse before the young queen is fertilized and begins laying; hence, three weeks in all are lost. A prolific queen is estimated to lay over two thousand eggs a day when at her best. The total loss of bees to the colony would, therefore, be nearly 50,000 by a three weeks' absence of a queen. Those who take no warning from these figures do not deserve to succeed in apiculture.

Having prolific queens in the colonies is next becomes important to see that there is room for them to lay. When honey is plenty the bees will store rapidly; use the extractor freely, therefore, and let no more honey be stored in the brood nest than necessary. This extracted honey can be stored in barrels, if the quantity is large, and shipped to commission men; but it is much preferable to endeavor to develop a home market for the article, and there sell it at retail. To this end, put it up in as attractive a form as possible. Glass jars, properly labeled with the name of the producer and the kind of honey, and containing from two to five pounds each, are perhaps the best sort of packages.

Keep, also, a watchful eye on the sections for storing surplus honey. The queen should never be allowed to lay eggs in these; but if there is sufficient room for her in the brood nest, there is but little danger that she will enter the upper story for the purpose of laying. The size of the sections in which to store surplus honey will, of course, vary somewhat with the form of hive. We have found sections measuring $5\frac{1}{2}$ by $5\frac{1}{2}$ inches very desirable. These will hold, when filled, nearly two pounds of honey each.

The increase of colonies is also a subject of first importance. All successful apiarists do not agree as to the way to increase; some still prefer to have their colonies swarm naturally, while others—and these are in the majority—are in favor of artificial swarming. The method of forming nuclei and gradually increasing these to full-sized colonies, by adding bees and frames from other hives, is undoubtedly the best. The nucleus should, for this purpose, be started in an ordinary hive, with about a quart of bees, two or three frames of brood and honey, and a queen cell; or, if no queen cell can be had, there should be eggs or young larvae less than three days old, from which to rear a queen. The bees will usually accept the situation quite cheerfully, and straightway begin to rear a ruler. Towards the fall should there be several nuclei too weak for wintering, these can be united into one or more strong colonies.

Patrons of Husbandry.

For or Against? That Is the Question.

Now that for two years the farmers of this country have, mainly through efforts of the grange, asked of their representatives in congress such legislation as would free the masses of the people from the oppressions of the few, as combined in railroad monopolies, and as these expressed wishes and demands have not been heeded, it has caused thinking people to realize more than ever before that, perhaps through our own neglect, our government is representative only in name, and to look about for means to "bring us back to the purity and integrity of our forefathers." If our representatives have not represented us, we, their constituents should ask of them an account of their stewardship, and if "weighed in the balance and found wanting," let them step down and out, and in the future let every patron farmer, irrespective of party, "do all he can in his own party, to see that none but competent, faithful and honest men, who will unflinchingly stand by our industrial interests, are nominated for all positions of trust."

The time to do this is now, before or at the caucuses and conventions. Ask the candidates the question squarely how they stand on the great questions now pressing so heavily upon farmers in particular, and let them know they will be expected to live up to their record.

We have before us a letter from a member of the present congress, from Ohio, in answer to questions put to him as to how he stood on the Reagan bill, inter-state commerce, etc. It is right to the point, and members of all parties should demand just such explanations in all cases in the future. We have numbers, justice and right upon our side; let us be men enough to do the work. We extract from the letter as follows:

"On the question of inter-state commerce of which you inquire, the best answer I can give on that subject is my record while in congress. On the Reagan bill pending in the 45th congress, to regulate fares and freight of railroads, I voted for and advocated the bill. You will find on every vote that was taken my vote recorded in favor of it. I also refer you to the debates in the late Ohio Constitutional Convention, where I constantly advocated a constitutional provision prohibiting railroads from discriminating between through and local rates, insisting that railroads ought to be compelled to carry freight and passengers at as low rates for local as for through. I have always been in favor of protecting the producer by giving him all the advantages that any others have, and if railroads make low rates from St. Louis to New York, I would compel them to carry at the same proportionate rates between all way points. This was the object of the Reagan bill, and I advocated it strongly and recorded my vote every time in its favor. This has been my position always as my public record will show."

Now let us demand that all aspirants to congress in all parties thus squarely define their "position," and remember that by far the greatest number get there by farmers votes. Let us learn to cast intelligent ballots, and we shall have taken a long step forward.—*Grange Bulletin.*

Objects of the Grange.

"We propose meeting together, talking together, working together, buying together, selling together, and in general acting together for our mutual protection and advancement, as association may require."

The above quotation from our "Declaration of Principles" contains the sum and substance of the whole matter. What we aim to do is to get farmers acquainted, teach them to work together and to rely upon themselves, to use their brains as well as their muscles, to think for themselves, and to respect and honor their calling. We have no selfish end in view; ours is a desire to benefit the whole community, the whole country. We believe in the principle of "live and let live," notwithstanding we are said to be aiming solely to advance our own interests. We believe whatever will benefit farmers' prospects will benefit all other classes. It is an undoubted fact that our own indiscretion has gained for us the epithet "selfish." In our zeal to correct wrongs or avert evils, it would not be strange if the bounds of propriety, of discretion, were overstepped in the infancy of the order, but now when our members have become familiar with the true principles of the order, this is wearing off, and we begin to realize what we have to do and how we should do it, and it is acknowledged by all that to accomplish our aims we must study our business, practice the principles we profess; aim to add dignity to our calling, and to benefit ourselves by social and intellectual culture.—*Canadian Farmer.*

Lightning Rods.

The Farmer's Review says, we have recently met a gentleman connected with the insurance business, whose opportunities in this direction have been very extensive, who declares himself also opposed to lightning rods. He regards them as no protection, and justly observes that if they are no protection they must be a detriment. It is unfortunate that so few statistics exist in regard to the proportion of buildings with and without lightning rods that are struck by lightning. The subject is one of infinite importance, and we trust some valuable facts may be elicited on this question by the forthcoming census. Again, it would be well if a law should pass attaching a severe penalty to the erection on any building of a lightning rod

not erected in conformity with the requirements which are held to be essential to the efficiency of the lightning rod as a protector. What these requirements are can be easily ascertained; then if buildings thus protected are found to enjoy no immunity from lightning, the question of their affording protection or not can be definitely ascertained. There seems to be little doubt that at present buildings with rods are as liable to be struck as any other.

A Grange Fair.

A correspondent of the *American Cultivator* thus speaks of a grange fair or patrons' agricultural society, in Vermont. What is good in one place it is probable would answer for others:

"The Patrons' Agricultural Society of Windsor and Windham counties, Vermont, will hold their fourth annual fair at Perkinsville, Sept. 16th. Horse-racing and alcoholic drinks, as also all species of gambling, will be excluded from the grounds. At our previous fairs the receipts have so far exceeded expenditures that quite a sum of money has accrued to the treasury. About \$300 in premiums will be distributed at the coming exhibition. The exercises will consist of music, songs, speeches, martial music by competing bands, and other rational amusements. In many respects the management of this society differs from that of our county and other fair associations, having thus far met with the hearty approval of our people. The enterprise is well worthy the earnest support of the farming community."

Under the leadership of T. B. Harwell, master of the state grange of Tennessee, and a member of the state senate, a bill was introduced by him providing "that the superintendent of public instruction and the commissioner of agriculture shall be constituted a commission to procure the preparation of, or the designation of a work on the elementary principles of agriculture, which shall be taught in the public schools of the state, as are the other studies prescribed in the 21st section of the public school laws." This bill became a law and was approved March 27, 1879. The work has been prepared by Prof. N. T. Lupton, professor of chemistry at Vanderbilt University, and so the ABC of Agriculture has now become one of the regular studies of the farmer boys and girls of Tennessee. The book gives in plain and simple language the origin, composition and classification of soils; the composition of plants, composition and properties of the atmosphere; the sources of plant food and how obtained; the improvement of soils; the use of manures or fertilizers; mineral fertilizers; rotation of crops; the selection and care of live stock. Also suggestions for teaching by exhibiting specimens of soils, plants, fertilizers, etc., performing a number of simple experiments that cannot fail to attract the attention and interest, besides teaching habits of observation.

I don't mean to say, when I speak of the grange as a school, that we are going to take our books and dinner pails, but a school to elevate the farmers' minds and get them waked up, so that they can do something for themselves, and not depend too much upon the other classes of people. As it is, they are nothing but strings for other people to play on. It is an organization where women are admitted on equal terms with the men, and a place where young people can meet and have a social time, and get information that they would not receive from any other source. Although I have been a member of the grange but a short time, I can say I have received a great amount of information; and I don't think it will hurt any of us to spend one night out of a week for us to meet and hold a grange meeting, and I think we will all be amply rewarded in the future for our search after knowledge.—*Miss Ida Peake, in Michigan Grange Visitor.*

The idea which the opponents of the grange sought to impress upon the farmers at the outset of the movement was, that it was ephemeral, could not last, it would soon die out. They hammered at this for years, and we will not deny that this policy has had its effect. Thousands upon thousands of farmers were induced to believe that the grange would soon die out, and so they held back instead of uniting with their brethren and striking boldly and earnestly for their rights. But the true men who fearlessly stepped to the front and have remained faithful to the cause were made of sterner stuff; they could neither be frightened nor cajoled by the enemy, and they will have their reward. The grange is a fixed institution in this country; it will never succumb to opposition from without nor treachery from within; and its enemies may as well prepare to meet and fight it openly and fairly, if fight it they must.—*Patron of Husbandry.*

Miscellaneous.

Screens and Pear Blight.

Some observations on the influence of evergreen screens in protecting pear trees from the effect of the blight, may afford additional hints in drawing general conclusions relative to the causes which bear on this disease. An orchard of standard pear trees, fifteen years old, and containing about three hundred trees, mostly Lawrence, was protected on the west side by a line of evergreens. From this side the prevailing winds blew, after sweeping over some miles of the water of Cayuga lake. The screen was formed of Norway spruce, planted fifteen years, the trees planted fifteen feet apart, the branches beginning to meet and the trees averaging 25 feet high. They stood on each side of a farm road, constituting thus a double screen.

The orchard extended away from them to a distance of fifteen rods. The blight which prevailed to such a fatal degree some years since, was more destructive to these Lawrence trees than to any other part of the several additional acres of adjoining pear orchard. But the protecting influence of the evergreens was quite striking. The half of the first mentioned orchard, farthest from the screen, was nearly all destroyed, not one tree in ten remaining; while most of those within a few rods of the evergreens remained, and are now in a vigorous condition. As the screen extended for thirty rods along the side of the orchard, the result was plainly not accidental; for the sheltered trees escaped along the whole line. They bore abundantly last autumn, and those within four or five rods of the screen had finer and larger pears than such as grew on the remaining scattered trees away from protection.

The question may be asked, What influence did the evergreens have in preventing the blight? Simply this—that the sheltered trees, not being exposed so much to the cold winter winds, made a stronger, more vigorous and more healthy growth, and the wood, maturing more perfectly, was better able to resist the attacks of the disease.

Horticulturists have often had occasion to observe the retarding effect of the intense cold of winter in checking the subsequent season's growth, and sometimes trees which have been intensely frosted are several weeks later in opening their buds. Sharp and cutting winds, in the instance already referred to, doubtless somewhat enfeebled the trees and made them more liable to blight. This fact indicates the value of the practice which some planters have adopted in situations much exposed to the sweep of winds, of planting evergreen trees distributed at regular distances through the whole orchard for the purpose of affording shelter for their range.

Forestry in Kansas.

While attending the semi-annual meeting of the State Horticultural Society, at Hutchinson, the 1st, 2d and 3d of this month, we were met on all sides with accounts of the devastation occasioned in all parts of the state by high winds drifting the soil during the present season. The damage was greatest where the soil was largely composed of sand, and on such lands real estate has been constantly changing hands without any deed of conveyance. One man from the southwest stated that his soil had been blown off twice this season, down to the bottom of the breaking, completely destroying the crop each time.

The necessity of timber belts or screens to break the force of the sweeping winds, has been made so apparent this season that all present at that meeting regarded it as a matter of necessity that the farmers of Kansas should at once begin to meet this want. In this connection the question of "What to plant?" becomes one of great importance, and the trees growing on the experimental grounds near that place, planted by Prof. Kelsey six or seven years ago, may furnish some interesting facts.

In examining the various kinds of trees planted here, I was surprised to find that the black walnut had an average of the best growth in six years of any of the hard-wood trees planted. Next to this, in my estimation, stood the green ash. This is very tall (as is its habit) and more than made up in height what it might lack in width. The alianthus and catalpa both appear as inferior trees, one winter-killing so bad as to be worthless, and the other showing a very poor growth when compared with other valuable trees. Some members claimed, however, that the variety of catalpa growing here is not the one spoken of by Mr. Barney, of Dayton, and so highly recommended by many as a valuable forest tree for Kansas. From what appears in these grounds, I would plant sparingly of it until more is known of it.

On these grounds the honey locust has done itself great credit and shown a capacity for fast growing altogether unlooked for. Some of the members of the society ranked it next to the walnut, and a few gave it the first rank on account of the superior value of the wood. Its growth was remarkably fine, but I have placed the green ash before it, on account of the durability of the wood while young. The walnut rots almost as quick as a soft wood if cut while a pole, although very durable when older, and as a small pole the honey locust is not durable, while the green ash, even as a bean pole, will last for years. It sprouts from the stump profusely and the second growth is very rapid. We found quite a crop of young nuts on walnut trees here only six years old.

The coffee bean showed a slow growth, and would hardly be considered desirable for those who cannot afford to wait fifteen or twenty years for a crop.

The osage orange has little to recommend it in this grove, and the thorns are a serious objection. I think its best place is in a hedge, and this brings me back to the subject of wind-breaks.

From all that could be learned on these grounds, for tall screens, the cottonwood appears to be the best, but for lower belts the timber or gray willow and box elder are preferred, and for a hedge and screen combined, the osage orange must take the first rank. But it is very evident that we must have the timber screens at once, or as soon as they can be grown, and I would say to the farmers of Kansas that present prospects point to next spring as one of the most suitable seasons we have had for this work for some years. We have had two dry springs and it is not likely that we will get a third in succession. The walnut crop is more abundant at present than for years past.

and good, fresh walnuts can be had at very low figures. Green ash and box elder promise an abundant crop in this vicinity at least. Then let me urge you to begin now for extensive planting this fall of such seeds and nuts as require winter frost, and prepare for planting such cuttings as grey willow and cottonwood early next spring, as early planting is the great secret of success.

J. W. BYRAM.
Cedar Point, Chase Co., Kansas.

Give Us a Rest.

MR. EDITOR: I see by your issue of May 26, that it appears to be necessary for Berkshire men, and those who are interested or made so to get up another boom. If the Berk is the favorite hog, why does your correspondent and others who are interested give us so much game about them, extra; they must be afraid that folks will forget it. They have been at this for more years than the Poland is old, and still the farmers' hog is coming along quietly, and keeping pace with their well advertised, and more extensively known hog. Our friend whose name was written at the bottom of the boom article, gives Bro. Popenoe a good send off, and makes note of his modesty and modest advertisement, but he did that in connection with the purchase of three or four pigs.

He goes on and settles the question beyond a doubt in his judgment as to the merit of the two breeds of hogs, and then, as if not satisfied he makes statements in regard to the judgment of other men, from the quarterly agricultural report which are not correct, being contrary to the facts as published there.

I will take the trouble to look that matter up closely in regard to the choice of individuals, between the two hogs and I think the showing will differ materially from his. Without wishing to raise the question of merit or demerit of the two hogs, we do not propose to stand still and see the Poland hog abused without lifting a pen in his behalf.

I think we can satisfy the readers of your valuable paper that while the Berkshire is booming around the Poland is fattening, while it takes a rest.

GEO. HALE.

Around the World.

A fame that is world wide and acquired in the short space of a few years, must have true merit for its support. Dr. Pierce's Family Medicines have gained such fame and the foreign orders for his golden medical discovery—the greatest blood purifier of the age, for his pleasant purgative pellets (little sugar coated pills), his favorite prescription—woman's best friend—and other remedies became so great, that a branch of the world's dispensary has been established in London, England, for their manufacture. From this depot they are shipped to every part of Europe, and to the East Indies, China, Japan and other countries. Their sale in both North and South America is perfectly enormous and increases yearly. World's Dispensary Medical Association, Proprietors, Buffalo, N. Y., and Great Russell Street Buildings, London, Eng.

Royal Centre, Cass Co., Ind., Feb. 28th, 1879.
Dr. R. V. Pierce, Dear Sir, I take pleasure in writing my testimony with others in regard to your valuable medicine. For a long time I have suffered from disease of the lungs and until I used your discovery found nothing that did me any good. Thanks to it, I am relieved and recommend it to all. Yours truly,
MARY KENNEL.

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FIFTEEN
different machines with which Builders, Cabinet Makers, Wagon Makers, and Jobbers in Miscellaneous work can compete as to QUALITY and PRICE with steam power machinery. Also an assortment of saw blades, designs for Wall Brackets and Builders' scroll work.

Machines Sent on Trial.

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Kidney and Liver Medicine,

CURES all Diseases of the Kidneys, Liver, Bladder, and Urinary Organs; Dropsy, Gravel, Diabetes, Bright's Disease, Pains in the Back, Loins, or Side; Retention or Nonretention of Urine; Nervous Diseases, Female Weaknesses, Headache, Stomach, Dyspepsia, Constipation & Piles.

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CURES WHEN ALL OTHER MEDICINES FAIL, as it acts directly and at once on the Kidneys, Liver, and Bowels, restoring them to a healthy action. HUNT'S REMEDY is a safe, sure and speedy cure, and hundreds have been cured by it when physicians and friends had given them up to die. Do not delay, try at once HUNT'S REMEDY.

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Prices, 75 cents and \$1.25. Large size the cheapest. Ask your druggist for HUNT'S REMEDY. Take no other.

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We authorize our agents to guarantee that our medicine, if taken according to directions, will relieve constipation and the diseases incident to a torpid liver provided they take the genuine Simmons' Liver Regulator, by the directions. Be sure to note it is perfectly safe and reliable free from any of the objections and dangers connected with the ordinary remedies. It is an active cathartic, mild and alternative, not unpleasant to the taste and leaves no lassitude or ill effects after it has operated, and in no event can it injure the most delicate constitution. Children take it without hesitancy for three or four years, and it gives entire satisfaction. Don't know of a single case when it failed to cure.
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BLUE VALLEY HERD.—Walter M. Morgan, Hereford Cattle and Cotswold Sheep, Irving, Marshall county, Kansas. Choice Young Bulls For Sale.

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

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

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Nurserymen's Directory.

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THOROUGHbred POLAND-CHINAS and BERKSHIRE Pigs and Hogs for sale. The very best of each breed. Early maturity, large growth, and fine style are marked features of our hogs. Terms reasonable. Correspondence solicited.
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Established in 1868.

I have in my herd the sow that took first money and sweepstakes, and the sow and boar under six months old took first premium at Kansas City Exposition in 1878, and the sow, boar and litter that took first premium and sweepstakes over all at the meeting of the Lyon County Agricultural Society in 1878. These pigs are all of my own breeding, and are complete for record. I send out nothing but first-class pigs. All stock warranted, and shipped as ordered on receipt of money.
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Thoroughbred Short-Horn cattle and shire Pigs, bred and for sale. Only first-class animals allowed to leave the farm. Address
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Breeder & Shipper.
EGGS FOR HATCHING
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An English Veterinary Surgeon and Chemist, now traveling in this country, says that most of the Horse and Cattle Powders sold here are worthless trash. He says that Sheridan's Condition Powders are absolutely pure and immensely valuable. Nothing on earth will make hens lay like Sheridan's Condition Powders. Dose: one teaspoonful to one pint food. Sold everywhere, or sent by mail for eight letter stamps.
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We send you on 30 Days Trial our **ELECTRO-VOLTAIC BELT**, for Rheumatism, Sprains, Trauma, and other aches and pains, suffering from Nervous Debility, Weakness, or Loss of Vitality from any cause; or to those afflicted with Rheumatism, Paralysis, Dyspepsia, Liver or Kidney troubles, etc., etc., or Eruptions. Speedy cures guaranteed. Our Illustrated Pamphlet Free. Address **VOLTAIC BELT CO., Marshall, Mich.**

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HOUSE PLANTS A SPECIALTY.
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A Treatise on Sorgho and Imphee Cane, and the Minnesota Early Amber Sugar Cane. The **EDITION FOR 1880** is now ready, and will be sent free on application. We can furnish PURE CANE SEED of the best variety.
BLUMBER HANCOCK FARMING CO.,
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Sugar Cane Machinery, Steam Engines, Circular Saw Mills, Portable Grain Mills, Church and School Bells, &c.

WANTED.

To contract for 600 Ewes, two years old, seven eighths Merino, to be delivered at Kinsley, Edwards county, Kansas, between September 15th and October 1st, 1880.
JAMES HOLLINGSWORTH,
210, LaSalle street, Chicago, Ill.

THE KANSAS FARMER.

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

TERMS: CASH IN ADVANCE.

One Copy, Weekly, for one year, 1.50
One Copy, Weekly, for six months, 1.00
One Copy, Weekly, for three months, .50

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

TO SUBSCRIBERS.

Subscribers should very carefully notice the label stamped upon the margin of their papers. All those marked "EXPIRE" with the next issue. The paper is at 25c per copy, and is discontinued at the expiration of the time paid for, and to avoid missing a number renewals should be made at once.

Post Office Addresses.

When parties write to the FARMER on any subject whatever, they should give the county and post office both. Some of the new post offices are not put down in the post office directory, and when the county is not mentioned, the post office clerks do not know where to send papers or letters.

Politics Have the Floor.

The time of the nominating conventions is drawing very near, when candidates for state and county offices will be named. Are farmers ready for the duty which rests upon them? Have they consulted together and fixed upon men of their own calling for the legislature and other important offices, or are they, as usual, asking their legal friends and the present incumbents, who are to be nominated? We fear too much of this time-dishonored practice is still pursued. Now is the time for farmers to consult together and pick out their strongest and wisest men for the nominees. Put them into the legislature and return them the next session if they promise to make useful members with a reasonable amount of training.

For the legislature in either branch, as a member from Shawnee county, we would name Maj. Sims. It is more than probable that the Major would decline; that class of men generally do, a most excellent reason for nominating them. They have no favors to ask, no axes specially to grind. Men of strong convictions, decided in their course, and steady to a purpose. The Major is Master of the State Grange, and pretty well known throughout the state, hence we name him.

There are hundreds of just such men among the farmers. They will never be found frequenting hotels and other public places button-holing and soliciting nominations, but are more likely to decline than ask for such favors. This is just the class of men you want, and when you have once secured them keep them by supporting them. Don't require them to run around and electioneer, and waste their time and money in order to be elected for the thankless duty of serving your best interests, but put them through if necessary.

And when elected do not allow your members to accept passes from railroad companies, nor yet to pay their necessary transportation between the capital and their homes, but instruct them at your conventions as legislators to make sufficient appropriation to purchase a reasonable and liberal amount of transportation for every member during the session. It is claimed that railroads are anxious to supply members with free passes as bribes for their votes and friendship. We do not think so. The companies are not anxious to furnish this class of transportation, but it is an old custom which is looked upon as a piece of etiquette which they do not care to take the initiative in abolishing. Let the state take the lead and abolish it, and stop whatever pernicious effect it may exert upon members by appropriating for transportation in place of "mileage."

Our clear-headed grandfathers had correct business ideas about this matter, and considered that a member's expenses should be paid while traveling to and from the state capital, and they made a statute allowing him a certain number of cents per mile for the distance he had to travel. The mode of traveling has changed and the statute should be changed to conform to modern customs, and in place of "mileage," a specific sum appropriated for railroad transportation of members, and the company paid by a draft from the treasurer of the state.

But the first business in order is to select and elect the proper men. The railroad fare can be attended to afterwards. To this end farmers should consult together irrespective of party, in their alliances, their clubs, granges, and wherever they meet; select the best men of their own class in every county, and for the ticket of each party choose the same class and stamp of men, so that it would matter not which party won, they would be sure of a man devoted to the interest of agriculture. This is the way the manufacturing, the mercantile, the railroad and other corporations and interests manage their politics. Whichever party they find their man in they do not hesitate to support him; but farmers are strong enough to place their men in all of the parties and then their political conscience will not suffer by violent wrenching between duty to their party and duty to the best interests of their class.

Live-Stock Farming.

Everywhere, east and west, that farmers have adopted live-stock as a leading interest in their farm economy, restricting the number of acres devoted annually to the plow, they are invariably most prosperous and fore-handed. Too

much plow, plow has been the bane of farmers. Live-stock farming for the prairies particularly recommends itself, before the fertility of the soil is exhausted by a persistent system of plowing and grain-raising. This system has been pursued in the old states of the east until grain-raising has long since ceased to be remunerative, and will, on the majority of farms scarce afford a living for the family. From this cause the most enterprising eastern farmers are working into live-stock and grass, plowing no more land for grain than they can manure well. That this is the true course for general farm purposes is evident. Constant breaking up the soil and cropping it with grain, taking off and returning little or nothing to keep up the fertility is most ruinous; not even permitting the land to enjoy the recuperating influences of grass.

These virgin prairies should not be exhausted as the older states have been by ruthless plowing, the evil effects of which improvident practice has now to be counteracted by giving the land to grass and stock-raising. Less small grain should be raised, the corn and grass fed to stock and the manure hauled and spread on the land as fast as it accumulates in the stockyards. Land kept in good heart keeps the farmer in good heart and his purse from being empty. With live-stock, where proper care and judgment is exercised not to overstock the farm, drought and insects may, in a great measure, be defied, and the heavy expense for freight very largely curtailed. With live-stock as the farmer's principal business, a large expense for hired help is saved, together with harvesting and threshing bills; and not the least of the perplexities, inconvenience and hard labor of the household is avoided. The wife of every farmer should be an ardent advocate of live-stock. The money invested in costly machinery on many a farm would purchase the nucleus of a fine herd, the increase of which in a few years would make its owner independent, while plow-farming keeps his nose to the grindstone and his head under the harrow—to use those quaint old maxims—all his life.

Every stock-farmer will enjoy most favorable opportunities for raising heavy crops of grain on a small breadth of land, but this crop will be secondary and kept in easy control. The winter feed for his stock will always necessitate cultivation of a portion of the land, but the chief part of those tillage crops will be returned to the soil by being fed to the stock, which will give every bushel a much greater value than the raw material will command in the market.

In live-stock farming one of the most important points to insure the largest profit is apt to be overlooked, which is the breeding from improved animals and none others. The best common stock that can be procured may be used with profit for dams, but the males should in no case be other than thoroughbred. A neglect of this important fact means a reduction of fifty per cent., perhaps, in the value of the offspring. The difference in this respect is as great as that between grain on a poor field and grain on a rich, well tilled one. Neither should the best be sold but kept to breed from. The better the parents the more valuable the products. Every farmer should chalk up in large letters on his barn door, so as to be constantly reminded of the fact, the three following maxims:

Live-stock for the leading business of the farm.

Always use pure-bred males.

Never sell the best and keep the scrubs to breed from.

Grasses, and When to Sow.

A young farmer inquires of us what kind of grass is best for him to sow, how much seed to sow, and when to sow. We fear it is too late to seed his ground this year. As an answer to his questions we make a few extracts from a paper giving Prof. Shelton's experiments with the tame grasses on the Agricultural College farm, which was published in the FARMER last March:

For pasture, I have no hesitation in recommending the following sorts, placing them in the order of their importance: Orchard grass, alfalfa, red clover, perennial rye grass (English blue grass), Kentucky blue grass. For mowing purposes, our experience has shown, very steadily, that alfalfa, red clover, perennial rye grass and timothy are the best. So far as the matter of withstanding the effects of the drought is concerned, these sorts will rank with us in about the following order: Alfalfa, orchard grass, Kentucky blue grass, red clover, and timothy. With perennial rye grass our experience has not been sufficient to warrant me in making any statement under this head.

THE TIME TO SOW

Grass seed is, I believe, without exception of any kind, in the spring; and of most of the grasses it may be said, the earlier they are sown after the frost leaves the ground the better. In a few instances, and where the winter following has proved warm and open, we have had good success with timothy and clover sowed in the fall; but the result of sowing orchard grass, alfalfa, and blue grass, in the fall, has been almost invariably disastrous. With all kinds of grasses, we have obtained the best results when the seeding has been done in the spring. In looking over a field seeded last fall to a mixture of orchard grass, clover and blue grass, we find that the native grasshoppers have consumed and utterly destroyed a strip a rod in width, running entirely around the field; and the freezing and thawing of the winter have wrought sad havoc with the remainder. On the other hand, when the seeding is done late in the spring, the young and tender plants are consumed by the sun as fast as they appear

above the ground. Seed sown during the last week of March and any time during April, will rarely fail to germinate and make a vigorous growth. We have sown both alfalfa and orchard grass during the early part of May, with excellent results.

ORCHARD GRASS

has proved one of the very best and safest of all the pasture grasses that we have tried. It is but an indifferent hay plant, yielding a light crop of woody, fibrous fodder. Upon very rich land, large crops of hay are claimed to have been secured; but this result we have never obtained, and the hay has proved with us scarcely equal to that cut from the prairie. But, in grazing, its valuable qualities soon become apparent to the farmer. I feel confident that it will yield fully twice the feed that can be obtained from the same area of blue grass or timothy; and, in nutritive qualities, it is certainly greatly superior to blue grass. It is consumed with great relish by stock of all kinds, especially if the grass has cropped short. It seems to do equally well upon heavy clay and sandy soils; and any rich and well drained soil seems suited to it. It germinates about as easily as oats; and, with good seed, no difficulty is experienced in getting a "stand" that will endure moderate cropping the first fall after seeding. As might be inferred from its common name, it does best when moderately shaded; and yet there are few grasses that will so well endure the prolonged sunshine of our dry seasons.

For these reasons we feel safer in recommending this grass to the farmers of central Kansas, for the purposes of the pasture, than any other sort. It should, however, be remembered that orchard grass will not make a sod, as blue grass does. It always shows bunchy; and, to counteract this tendency, seed should be sown with a liberal hand. Not less than 1½ bushels of seed should be sown per acre; and two bushels would perhaps be better. We have usually sown a liberal sprinkling of Kentucky blue grass seed with orchard grass; but, almost invariably, it has been completely smothered by the orchard grass. We have found that red clover does excellently with this grass, and aids in furnishing that variety of food so agreeable to the taste of animals.

Orchard grass will endure late seeding better perhaps than any other sort; but this operation ought not to be delayed much beyond the middle of April.

RED CLOVER

needs no particular mention here. In 1874 and 1875, two exceptionally dry seasons, it failed almost entirely here, giving neither pasture nor hay, but during the favorable seasons which have since prevailed, it has flourished abundantly, and has yielded more—both of hay and pasture—than is generally obtained in the east. Last year we cut two excellent crops of hay and a crop of seed from the same ground.

Red clover in this state has one interesting peculiarity that is worth mentioning. When land is once seeded, it never "runs out," as is the case in the eastern states, but thickens and spreads continually, by self-seeding. Red clover is worth a trial anywhere in the state; but, in very dry seasons, it lacks the "staying" qualities so remarkable in alfalfa.

Six quarts of clover seed to the acre is about the right quantity to sow, but it should be invariably sown in the spring when danger from severe frost is over.

More Money than He Knows What to Do With.

There are over five hundred tons of silver coin in the vaults of the assistant treasurer at New York. He notified Secretary Sherman that unless this pouring in is stopped, he knows not where the overflow can be put.

A little common sense law would provide a way out of the difficulty, and virtually place the whole amount now in the sub-treasury in circulation. For every dollar of this idle silver, if the government could issue a greenback dollar, which would approximate fifteen millions, the treasury could make use of every cent in a short time. Congressmen would take their pay readily in the paper-silver dollars, or the treasurer might buy bonds with it and cancel a part of the public debt. The silver could lie in the vault at New York, and when any holder of the paper-silver dollar wanted specie to make spoons or other useful utensils, he would have only to present his notes and receive the pure metal. A great deal of expense might be avoided by the government, by casting the silver into 500 or 1,000 pound bars in place of making small dollar pieces, and then it would not be liable to be stolen and could be kept in a cheap, strong, iron building made for the purpose. One or two per cent. a year would thus be saved which is lost by abrasion when in use. It is sheer folly for the public to be losing the use of so much idle money while the government is paying heavy sums out for interest on its debts.

People object to using the silver because it is heavy to carry. Ten dollars of it are more inconvenient to take care of and carry around than ten thousand dollars in paper. Put the silver in the vault and issue a greenback dollar for every 412½ grains of it, payable on demand, and every ounce of the precious metal will at once commence to perform yeoman service throughout the country. But if the 500 tons now in the sub-treasury vault, with 500 more added to it in a short time, have to be packed round by the people as the only alternative, to receiving the benefit from its use, then it will never be used. The universal Yankee nation goes in light marching order, and has no time to pack ore as he moves on his flying trips. This kind of thing may answer for the slow nations of Europe who are still making use of the

old stocking as a money holder, but the electric American has grown away from such old customs. Let the government take his silver and give him a bill payable on demand in the metal; and when the demand is made and the bill returned to the treasury let it be burned, and there will occur no paper money panics, no inflation. Every bill that is out will be known the world over to represent the amount named on its face in silver, payable on demand.

Colorado might pour the contents of her mines into the big government silver house, and receive payable on demand notes for the same; and we venture to say that the silver would stay in the government vault until the cracking of doom before it would be demanded to be used as money. That would be a circulating medium with a metal basis, pure and simple, a foundation, we might say, firm as the granite hills, which no monetary convulsions would ever shake.

A Chapter on Hogs.

Mr. W. Pettes furnishes the FARMER a chapter on hogs, in which he reviews the report on swine as given in the first quarterly report for 1880, of the Kansas State Board of Agriculture. Mr. Pettes' review suggests the question of hog-breeding as the source of exclusive stock farming, and the probable profits arising from it as a specialty. Hog-raising has either been followed as a business by professional breeders of pure-bred animals to supply farmers to breed from, and hence the market prices for pork has not been a direct factor in their business. The demand for thoroughbred stock to breed from was the gauge alone which governed those breeders. Those who follow hog-raising most extensively are generally cattle feeders, and use the hogs to follow the cattle and economize their droppings.

But the hog alone, as a species of farm stock, might be raised with profit if grass contributed a large part of his feed. Where clover can be raised, a good breed of fast-growing, easy fattening hogs will thrive on clover alone and make rapid progress, or with a daily addition of very little grain or slop made of ground or crushed grain. Pork made in this way is far preferable in the amount of lean to fat meat, sweetness, flavor, and wholesomeness, to that which is produced by following cattle, or on distillery slops, while the animals have greater exemption from disease, reducing the hazard of loss to the owners to the minimum.

Where corn is cheap and good, red clover pasture can be depended upon for summer feed, the hog, it would seem, ought to make a profitable animal as a branch of live-stock farming. A year or less suffices to take him from pig-hood to the butcher's block, and if grass can be introduced to supply as large or nearly as large a percentage of his food as that of horned cattle, the profit on hog-raising should be equal to that of any other live-stock.

To insure profit, grass will have to enter largely into his food. To convert grass into flesh is the problem which should engage the farmer's most serious consideration. If he can master this art, the sunshine and the rain will put dollars into his pocket without the intervention of serious and costly manual labor.

Our Correspondents.

We know that farmers find little time to write, and have less inclination, if possible, after being hard at work from 5 o'clock in the morning until 8 o'clock in the evening, in the sun. They feel tired and sleepy, and the light of a lamp is very severe on the eyes after a warm day's work in the open air; nevertheless, we hope they will be able to snatch a few minutes' time occasionally to indite a short letter for the Old Reliable KANSAS FARMER.

All of our readers, both of this state and of other states, would like to hear how the wheat crop is turning out in every county. The KANSAS FARMER wants the "hard-pan" facts, and looking to that end we solicit a careful account from our correspondents in every county of the state. Short letters will suffice for the warm weather. To any of our readers who feel disposed to send the FARMER an occasional letter or crop note, we will send blanks prepared for the purpose if they will drop us a card to that effect.

We take this opportunity to express our thanks to the numerous friends who have contributed crop notes and farm letters through the past winter and spring, which has given so much interest and value to the pages of the FARMER.

Extends the Time.

Prof. Wilkinson has concluded to extend the time to the 15th of July, when farmers and dairymen in the state of Kansas can avail themselves of his system of arranging cellars by sub-earth ventilation for the better preservation of dairy products, at the nominal sum of \$10 for the right and plans and specifications. Circulars giving description and approximated cost of converting cellars into perfect dairy rooms, on the sub-earth ventilation plan of Prof. Wilkinson, can be obtained by addressing this office, or Prof. Wilkinson, at No. 4 Union Place, Clason Av., Brooklyn, N. Y.

The Journal of Agriculture pays the following handsome and deserved tribute to the advertising firm of Lord Brewster & Co., which the KANSAS FARMER heartily endorses:

"Messrs. Lord Brewster & Co., the enterprising and reliable advertising agents of Chicago, advise us in a neat circular, that owing to a very large increase in their business, they have removed to more commodious quarters—Dearborn & Randolph streets, where they will be pleased to see their friends. We commend

these gentlemen as being among the best in the advertising business in the United States, and we are glad to see them prospering."

The Army Worm.

Insect pests, in one shape or other, seem to afflict farmers in the eastern states fully as much if not more than grasshoppers do in the west. Immense swarms of army worms have visited Long Island, New Jersey, and other districts this summer and inflicted great injury on the growing crops. The army worm is a new visitor, and has taxed the ingenuity of the farmers to stop its ravages. Digging shallow ditches round the fields of grain has proved the most effectual.

The Eye.

If you find your eyes failing, or feel the need of glasses to assist your sight, from any cause, do not risk their permanent injury by procuring glasses at any of the ordinary shops, but go to Dr. D. C. Bryant's, 205 Kansas Avenue, over Douglas' jewelry store, and have your eyes scientifically examined and glasses ground to exactly suit them. See his card in the FARMER.

The Champion Ricker.

Farmers who expect to handle much hay should examine the machine under this name advertised by S. A. Gilliland, Salisbury, Mo., in the KANSAS FARMER, and send for one before haying expenses.

We take pleasure in calling the attention of our farmers in the vicinity of Topeka, to the card of the enterprising firm of Edson & Beck, 115 East Sixth street. They have recently added to their grain and flour business a steam mill for grinding meal, feed, etc.

Intelligent Peach Tree Cultivation.

The secretary of the Washtenaw County (Mich.) Pomological Society, in a paper on the cultivation of fruit trees, gives the following in relation to the peach:

The fruit requires two different systems of culture. That is, the bearing trees must be differently treated from those that are too young for bearing. It is the nature of the young peach tree to keep on growing late into the fall. This must not be permitted. It can be prevented by stopping to stir the soil at mid-summer. The rest of the season is required to harden up the young wood for winter. To properly control the growth skill and experience are required.

The month of August cultivating for the young peach tree should stop. Should the ground be very rich and the trees show a determination to keep on growing the leading branches may be pinched in. After pinching a new growth will often start, but then we must pinch again. Ripen up thoroughly the new growth of the young trees should be the aim of the peach grower. Where the soil is poor less care is required in ripening the new wood.

The bearing peach tree cannot be cultivated too often. The soil must at all times be kept loose. Cultivation can be kept until the fruit is ripe. The new growth of wood in a bearing tree ceases to grow early in the season, and there is no danger of stimulating a late growth, for the fruit consumes all the extra sap caused by cultivation. Stirring the soil should be thoroughly kept up, so that at any time between the setting of the fruit and its being picked you can run your hand right into the soil and fill it with loose earth.

But in order to grow large peaches, and all of a large, uniform size, the tree must have either its bearing branches shortened in or the fruit must be thinned out. Shortening in is probably the least expensive operation of the two.

As long as you ship more than one-tenth or second or medium-sized peaches you are not master of your occupation. I have grown the Early Crawford so as to run from two to three and a half inches in diameter, and after all were picked there were no more than one-twentieth below the size.

MOTHS AND CARPET BEETLES.—These insects have a great reputation to tallow and may be kept from woolens and furs for an indefinite period by its use. The wife of one of our American ministers who resided abroad for many years, told us that she preserved her fine carpets left in this country entirely from the ravages of moths by wrapping up with them tallow candles. When the carpet beetle has commenced his work the carpet should be taken up, sprinkled thoroughly with benzine and the floor painted over with melted tallow, taking care to fill up all the crevices in the floor, as in these the larvae secrete themselves. The carpet lining will prevent and tallow getting upon the carpet.

Almost Young Again.

"My mother was afflicted a long time with neuralgia and a dull, heavy inactive condition of the whole system; headache, nervous prostration, and was almost helpless. No physicians or medicines did her any good. Three months ago she began to use hop bitters, with such good effect that she seems and feels young again, although over 70 years old. We think there is no other medicine fit to use in the family."—A lady, in Providence, R. I.

Does Its Work.

The "Sunday Tribune," Rochester, N. Y., says: "No medicine now known purifies the blood so effectually as does that named as Warner's safe bitters."

A New Method in Medicine.

By this new method every sick person can get a package of the dry vegetable compound, Kidney wort, and prepare for themselves six quarts of medicine. It is a specific cure for kidney diseases, liver complaint, constipation and piles, and a grand tonic for females.

Chicago Live Stock Market.

Chicago Live Stock Market.
HOGS—Receipts, 23,000; shipments, 5,500; market active and 10c higher; mixed packing \$4 10 to 4 35; light, \$4 20 to 4 35; choice heavy, \$4 40 to 3 55.
CATTLE—Receipts, 8,100; shipments, 2,100; market moderately active, shipping \$4 20 to 4 70; butchers, dull at \$2 40 to 3 00, grass Texans, \$2 60 3 00; western, \$3 00 to 3 40.
SHEEP—Receipts, 400; shipments, none; steady and unchanged; medium to medium, \$3 40 to 3 80; good to choice, \$3 00 to 4 25.

♦♦♦

Liverpool Market.

BREADSTUFFS—Market unchanged.
FLOUR—10s to 12s.
WHEAT—Winter, 9s 9d to 10s spring 9s 9d to 10s 9d
OATS—6s 2d.
PORK—60s.
BACON—Long clear middles, 35s 6d; short clear middles, 36s 6d
LARD—Cwt, 37s 3d.

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 the advertisement in the Kansas Farmer.

W. W. MANSPEAKER.
WHOLESALE AND RETAIL GROCER.
227 Kansas Avenue, Topeka,
The largest Grocery House in the State.

Goods Shipped to any Point.
We buy for Cash; buy in large quantities; own the block we occupy, and have no rents to pay, which enable us to sell goods

VERY CHEAP.
Farmers and Merchants in country and towns west
of Topeka are invited to send for circulars
and price list.

Steers for Sale.

85 head of yearling Steers for sale by T. L. MIX, two miles south west of Neosho Falls, Woodson County, Kansas.

**SIXTH AVE.
STEAM FEED MILL.**

In connection with our Grain, Flour, Feed and Hay business we have now in operation a Steam Mill and are prepared to do custom work, or to exchange corn chop, meal, etc. for corn. A portion of your patronage is solicited. Satisfaction guaranteed.

EDSON & BECK,
No. 115, 6th Ave., East.

Are sold by all Hardware and Harness Dealers. There is no one owning a horse or mule but what will find in the use of girths, something of great value, and especially adapted to their wants. COVERT MFG CO., West Troy, N. Y., Sole Manufacturers.

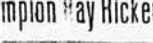
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NEW YORK WEEKLY, 31 ROSE ST., NEW YORK.

Strayed

On Sunday night June 6th from the pasture lot of the owner on the Auburn road 7 miles from Topeka, a BLACK HORSE, about 16 bands high, white star in forehead, and white stripe on nose, one fore foot white with some small white harriers spots on one side, 8 years old, stands back on western joints. A liberal reward will be paid for the return of the horse to the premises of subscriber.

JAMES FRANKLIN,
Or to O. J. Houck, Topeka, cor. 7th and Clay sts.

Champion Hay Ricker, Loader and Gatherer.



Patented Dec. 16 1879. *Patented May 7th, 1878.*

The rake takes the hay perfectly clean from the swath and delivers it on the rack. It is then elevated and deposited in the centre of the rack, in the shape for the stacker. It can be moved from one rick to another without taking it down. With this Ricker and two rakes one man and five boys and five horses can rake and rick (or load) 25 to 30 acres of hay in 12 hours. Parties who wish to buy machines must give their orders by the first day of July 1880, to be sure of getting it filled. Great inducements offered to parties wishing to have agents in new territories.

Address S. B. HILL, ND, Salisbury, Mo.
Agent for Kansas and Nebraska.

HORNS.

Series of Sales:

Black Place, near Winchester, Ky.,
 attractive draft of seventy (70) head from their very
 safe in calf, or cows with young calves, a few choice
at Winchester, Ky.,
 (head) of carefully and finely bred Short Horns, con-
 sisting topped with high bred Rose of Sharon and
 of Sharon bulls.

overland, near Lexington, Ky.,
 d) of Short Horns, consisting of Frantics, Finesses,
 laps, Kirklevingtons, and Young Marys. Twenty
 s, by Bates Sires. Some are prize winners, and
 d, at Lexington, Ky.,
 Lexington) will sell sixty (60) head of well bred
 ealthful and lively

3d, at Lexington, Ky.,
TAN, of Bryantsville, will sell seventy (70) head of
Mason Victoria, Young Marv's, Phyllisses and
of rare individual merit, and will be in fine flesh

HUTCHCRAFT, of Paris, will sell their entire
of Sharons, Young Marys Jessamines, Galatias,
t 5th, at Paris, Ky.,
POGUE, of Helena, will sell sixty (60) Short
Rose of Sharon topped Cambrias, and Harriets,
ling the grand breeding sire Valeria Duke **\$200.**

the owners of the respective sale herds. Visiting
very prominent herd in Kentucky, both of Cattle

Literary and Domestic

Old Kitchen Reveries.

Far back in my musings my thoughts have been cast To the cot where the hours of my childhood were passed;

I loved all its rooms to the pantry and hall; But that blessed old kitchen was dearer than all. Its chairs and its tables none brighter could be. For all its surroundings were sacred to me—To the nail in the ceiling, the latch on the door. And I love every crack on the old kitchen floor.

I remember the fire place with its mouth high and wide, The old fashioned oven that stood by its side, Out of which, each Thanksgiving, came puddings and pies, That fairly bewildered and dazzled my eyes. And then, too, St. Nicholas, slyly and still, Came down every Christmas our stockings to fill: But the dearest memories I've laid up in store. Is the mother that trod on the old kitchen floor.

Day in and day out, from morning till night, Her footsteps were busy, her heart always light, For it seemed to me then, that she knew not a care. The smile was so gentle her face used to wear; I remember with pleasure what joy filled her eyes, When she told us the story of that children's prize: They were new every night, though we'd heard them before.

From her lips, at the wheel, on the old kitchen floor, I remember the window where mornings I'd run As soon as the daybreak, to watch for the sun; And I thought, when my head scarcely reached to the sill, That it slept through the night in the trees on the hill.

And the small tract of ground that my eyes there could view, Was all of the world that my infancy knew; Indeed, I cared not to know of it more, For a world of itself was that old kitchen floor.

To-night those old visions come back at their will. But the wheel and its music forever are still; The band is moth-eaten, the wheel laid away, And the fingers that turned it the mold-ring in clay: The heartbeats, so sacred is just as it was then, And the voices of children ring out there again; The sun through the window looks in as of yore, But it sees strange feet on the old kitchen floor.

I ask not for honor, but this I would crave, That when the lips speaking are closed in the grave, My children would gather their round by her side And tell them of the mother who long ago died: 'T would be more enduring, far dearer to me, Than inscription on granite or marble could be. To have them tell often, as I did of yore, Of the mother who trod on the old kitchen floor.

Economy of Strength.

Economy of strength is quite as important as economy of time. There are many housekeepers who, if they work moderately, can keep upon their feet nearly all the day, while if they were to hurry, they would be completely tired out in an hour. Those who are fortunate enough to possess the strength and health with which our grandmothers were blessed, can do their housework as they please—if they choose to loiter all day, they can readily do two days' work the next—while their weaker sisters must keep their work from getting behind-hand. A little mental work will aid wonderfully, if rightly applied. Suppose that instead of going "down cellar" six separate times while preparing dinner, one should use a little forethought and while getting the meat do all things possible. The butter can be placed on the plate and the cream turned into the pitcher; little hands and feet can be taught to do safely and carefully many errands that would greatly relieve weary mothers. If there are no little ones to aid, a large platter or even the dish-pan can be used to good advantage in carrying different things from the cellar. It is even very tiresome to be obliged to do much work after tea. So let the meat be cut and the potatoes be brought in and perhaps pared during the intervals of preparing the meal. Let the basins and saucers that are soiled be immediately washed, and one will be relieved from an immense pan of dishes after supper. The same may be said of going up stairs, for passing back and forth, even over the easiest steps, is very tiresome, and one will be well repaid for economy.

Sometimes in the midst of housework one will be seized with a sudden fit of trembling, a headache, or an unaccountable weariness of the limbs. One knows that sitting or lying down for half an hour will relieve, but because the sweeping is not done, or possibly the dishes, thinks it must not be. I deem it purely folly to spend ten or twelve hours in pain and weariness, when one-twentieth of that time spent in rest would prevent it: I do not call it indolence if one spends two forenoons in ironing, taking frequent rests, in which most or all the mending can be done. Neither do I think it wrong if the washing is not always done on Monday. I do not wish to advocate laziness, but I should like to tell every wife that it is due her husband and family that she make the best possible use of her strength—that it is not advisable to use it carelessly, for real comfort need not be sacrificed, though system and order may be slightly dethroned.—Country Gentleman.

The Japanese Wax Tree.

The most important article for illuminating purposes in Japan is the candle made from the fruit of a *Rhus*, a tree about the size and appearance of the common sumac of this country. It is grown more or less extensively almost everywhere in Japan, and especially in the western provinces from the south, northwest to the 35th degree. Specimens of this tree have been imported for introduction. The tree has a quick growth, and attains the diameter of a foot and a half, and a height of 25 feet. They begin to yield berries the third year, but in California may bear the next year after planting. The berry here is the size of a small pea, of white color, hanging in clusters, and contains the wax, as a thick white coating of the seed. It is a hardy plant, growing on different soil,

on embankments, and out-of-the way places. The wax is obtained by the berries being crushed, steamed, and then placed in hemp bags and pressed in a wedge press. It is also obtained by boiling the bruised seeds and skimming the wax from the top. The wax is a palmitate or glyceride; when first extracted it is of a yellowish white color, and somewhat softer than beeswax. It melts at 127 degrees, and when formed into candles it gives a fine, clear light. The tree is highly ornamental, as well as useful for its production. The wax is in great demand, and commands a good price. It is valuable for candles, making the gloss for linen, for waxing thread, and other purposes for which the ordinary wax is used. Since it may be grown so readily, its cultivation could undoubtedly be made a source of profit, and especially since the present process of extracting honey from wax will tend to lessen the supply of the ordinary article, and also leave ample room for this new industry.—California Horticulturist.

Brains Worth Once and Now.

Milton received \$25 for Paradise Lost. Pope received \$40,000 for his translation of Homer, by the popular mode of subscription. Tennyson was paid \$65,000 down and \$15,000 a year to write exclusively for Strahan. If I am not mistaken, the English publisher was obliged to back out of the latter part of the agreement. Some years ago, Mr. Bonner, of the *Ledger*, paid Tennyson \$5,000 for a single poem. Edgar Allan Poe received \$10 for The Raven, his most famous poem. Dr. Holland has been paid \$12,000 for his Bittersweet, about \$8,000 for Katrina, and \$5,000 for The Mistress of the Manse. Dean Swift was paid \$1,500 for Gulliver's Travels. The Vicar of Wakefield brought Goldsmith \$300. Miss Davenport paid \$3,000 for the right to play Wills' dramatization of this work in America. Dr. Johnson was paid \$500 for Rasselas. Fielding received \$5,000 for Amelia, which is said to have been "the only work published in England for which a second edition was called for on the evening of the day on which it was first issued."

George Elliot is said to have received \$50,000 for Daniel Deronda. Mrs. Radcliffe was paid \$2,500 for The Mysteries of Udolpho, and Miriam Coles Harris made \$8,000 out of Rutledge, Augusta Evans Wilson, the author of Beulah, has made \$100,000 in eight years out of her novels. Fielding received \$3,000 for Tom Jones, and Mrs. Mary Agnes Fleming \$8,000 for A Wonderful Woman. Hawkesworth was paid \$30,000 for his account of The South Sea Expedition, and Stanley has already received \$50,000 for his Through the Dark Continent. Murray paid Byron \$45,000 for his poetical works. Sir Walter Scott made \$250,000 by his novels. Dickens received \$15,000 for the copyright on Barnaby Rudge for six months. Goldsmith was paid \$500 for his Deserted Village. Bret Harte received \$10,000 for Gabriel Conroy.

Charles Lamb contracted to write for two years for the *London Magazine* for \$850—not that much a year, but that much for the two. Bret Harte contracted to write for James R. Osgood & Co., for \$18,000 for one year, if I am not mistaken. Let us look at the remuneration of playwrights: Shakespeare got \$25 for Hamlet. Boucicault received \$150,000 for The Shaughraun. Ben Johnson received \$55 for The Page of Plymouth. Bret Harte received \$6,000 for Two Men of Sandy Bar. Gray received \$7,500 out of The Beggar's Opera, which was one of the most successful pieces ever produced, while Rich, the manager, made \$20,000. Dryden was happy if a play brought him \$500. Mark Twain isn't happy when a play brings him \$75,000. Thomas Heywood received \$15 for A Woman Killed With Kindness. H. J. Byron received \$5,000 for the American right to Our Boys. And so it goes. Literary remuneration is better now-a-days than when Johnson lived in his garret in Grub street.

Preparing Lunches.

Part of the early morning work in some houses is the preparation of lunches for the children to carry to school, or the older ones to the office or shop. Now, a home-made luncheon ought to be a very appetizing and delicate thing, but, unfortunately, it is often the reverse. The bread is cut unevenly, and buttered sparingly or in lumps. The meat is hacked and tough, instead of being sliced thinly and trimmed daintily, and the whole is stuffed together in a way sure to offend a fastidious palate.

A great deal of care should be taken that the luncheon when opened may be inviting. A sharp knife and a steady hand in dividing the bread and meat, a clean napkin to fold around it; if cake or fruit be added, a separate napkin or fold of white paper to keep it from being crumbled or soiled, and a little attention to such trifles as salt if you send hard boiled eggs, mustard upon corned beef, etc., all count in the end. The improved health of children who have a hearty luncheon at school, and eat it, and the easier digestion of boys and men who are not disgusted with food when they need to be tempted to partake of it, are matters worth the mother's thought.

A Bit of Romance.

The determination of General Sherman's son to become a priest, revives the romantic story of the life and love of one of General Scott's daughters. As the story goes, this daughter fell deeply in love with a member of one of the foreign legations. The attachment was reciprocated, but the match was so bitterly opposed

by the old hero of Lundy's Lane, that it was broken off. She cared nothing for the world after that, and very soon was received as a cloistered nun in the Georgetown convent. Her lover returned to his native country, duly prepared himself, and was soon enrolled in the priesthood of the Catholic church. In subsequent years he was ordered to Georgetown College, and took his turn in hearing the confessions of the nuns at the convent. On one of these occasions Miss Scott knelt in the confessional to her former lover, and under such circumstances a recognition took place. She fainted, went into a rapid decline, and soon after died, and he left the country again never to return.

Words of Advice From Women.

A wife should be able to entertain not only her own company, the friends of her girlhood, but her husband's company also, even if he be a professor in one of our universities. If she shows to disadvantage there, the criticism will not be favorable. She should fill her station well whether it be in a humble cottage or a princely castle. She should be master of the situation, and not be content merely to listen, or to descend to the level of common talk, which fills the mouth of Mother Grundy.

Mothers make mistakes when they do not instruct their daughters in domestic economy, and no girl should be permitted to marry until she does understand it. If she thinks of marrying she should understand what it means to be a housekeeper, wife and mother. If she intends to be simply a toy, her doom is sealed when she enters her husband's door. A so-called fashionable circle is not the material to form good wives. When poverty comes, what good is your education, and where are your friends? Let your friends be such as are attracted by your absolute worth.

Every woman born into this world should have some legitimate way of using her time. The woman who dares to earn her living with hand or brain is the only independent woman. So many women say, "I'm married! my husband must take care of me now!" Oh! you poor body! Show me the woman who dares to earn her own living, that's the woman every true man will try to have for his wife.

Saving is everything! A man can live cheaper married than single, if he has the right kind of a wife. Extravagance is the cause of so many failures. Do not have it said that you are lazy and unworthy the protection of an honest man.

The girl cannot begin too early to build the superstructure of her home.

An Anecdote of Lincoln.

The death of Mr. Denton, of Delaware county, Iowa, recalls a story which he used to tell: In the early days of the Illinois Central railway, the line was not fenced, and one day two cows belonging to a Methodist clergyman were killed. Being sued for damages, the company resolved to make a test case of it. The president of the road directed Mr. Denton to take \$500 in gold and go to Springfield and retain Abraham Lincoln, whom he knew well, for the company. Mr. Lincoln replied to his request, "I am sorry you didn't come yesterday, Nick, for I have been retained by the preacher and his friends." Denton explained fully the importance of the case to the company, and then, pulling two buckskin bags filled with gold out of his pockets, he put them down on the table before the lawyer with a startling clink, saying, "Mr. Lincoln, the president of the company authorizes me to hand you this retainer of \$500 to take our case." Mr. Lincoln jumped to his feet, flushed with anger. "Nick Denton," he said, "I have given my promise to that preacher and his friends, and the Illinois Central hasn't money enough to buy me away from his side. I don't know as I shall ever get a dollar from him—but I'll do my best to make your company pay for those cows." Denton said he never felt so mean and small in his life as he did at that moment. And in 1860, though a democrat, he used to say, during the presidential campaign, that Lincoln was the noblest man in America.

Sponge Underclothing.

A New York contemporary states that a Berlin inventor has patented a new kind of cloth, which consists principally or entirely of sponge. The sponges are first thoroughly beaten with a heavy hammer, in order to crush all the mineral and vegetable impurities so that they can be easily washed out. They are then dried and pared, like a potato, with a sharp knife, the parings being sewed together. The fabric thus obtained is free from all the danger which sometimes arises from the absorption of poisonous dyes into the system; it absorbs without checking the perspiration, so as to diminish the danger of taking cold; it is a bad conductor and therefore helps to maintain a uniform surface temperature; it can be more readily cleansed than the ordinary woolen garments; its flexibility diminishes the liability of chafing; the ease with which it can be employed in shoes, stockings, underwear, hat linings, and other articles of clothing, seem likely to make it especially useful as a protection against rheumatic and pulmonary attacks.—Hatters' Gazette.

Remedies for Earache.

A recipe for earache has been called for. Here is one that has been highly recommended. Put a pinch of black pepper upon a bit of cotton batting, tie it up, dip in sweet oil, and insert into the ear. Put a flannel bandage over the head to keep it warm.

Another is, to roast an onion, and while hot

remove the outside layers until the heart is small enough to fit tightly in the ear. Insert this into the ear as warm as it can be borne, and put a flannel bandage over it. A single drop of cold water dropped into the ear will sometimes afford immediate relief.

Wit and Humor.

Ornithologists say there are five thousand different species of birds, but give some men their little swallow and they don't care what becomes of the other 4,999 kinds.

There would be less willingness to go to war if the shot of the enemy were distributed like prize money—the larger part to the higher ranks.

Market reports frequently report cotton as weak. Whisky is always strong.

A young man's sweetheart having soured on him, he now calls her his sweet tart.

As my wife at the window one beautiful day, stood watching a man with a monkey, a cart came along with a brood of a boy, who was driving a stout little donkey. To my wife then I spoke, by way of a joke, "There's a relation of your's in that carriage." To which she replied, when the donkey she spied "Ah, yes! a relation by marriage."

A Candid Opinion.

A Detroit lawyer, famous for his wise and candid opinion, was the other day visited by a young attorney, who explained:

"I was admitted to the bar two years ago, and I think I know something about law, yet the minute I rise to address a jury I forget all my points, and can say nothing. Now I want to ask you if this doesn't show lack of confidence in myself, and how can I overcome it?"

The wise attorney shut his eyes and studied the case for a moment before answering:

"My young friend, if it is lack of confidence in yourself it will some day vanish, but if it is a lack of brains you had better sell out your office effects and buy a pick-axe and a long handled shovel."

"But how am I to determine?" anxiously asked the young man.

"I'd buy the pick-axe anyhow, and run my chances!" whispered the aged adviser, as he moved over to the peg for his overcoat.

His First Love.

I remember
Meeting you
In September.
Sixty-two.
We were eating,
Both of us;
And the meeting
Happened thus:
Accidental.
On the road,
(Sentimental
Episode.)
I was gushing,
You were shy;
You were blushing—
So was I;
I was smitten,
So were you;
(All that's written
Here is true.)
Any money?
Not a bit.
Rather funny.
Wasn't it?
Vows we plighted—
Happy pair!
How delighted
People were!
But your father—
To be sure—
Thought it rather
Premature;
And your mother—
Strange to say—
Was another
In the way.
What a heaven
Vanished then—
(You were seven.
I was ten)
That was many
Years ago—
Don't let any
Body know.
—Baltimore Every Saturday.

Recipes.

EXCELLENT ROLLS.—Two quarts of flour, one-half cup of sugar, a piece of butter or beef dripping the size of an egg. Scald one pint of sweet milk and let it cool, then make a hole in the middle of the flour and pour in the milk and half cup of yeast, a teaspoonful of salt, and set to rise in a warm place over night until very light. Then knead it and let it rise again. When well risen cut the rolls half an inch thick, shape round, spread over each round a little melted butter, and double over so the roll is a half circle, then let it rise very light and bake. Place the rolls in contact in a baking-pan so they may keep in shape.

BUTTERMILK BREAD.—Two quarts of buttermilk, come to a boil, poured over two quarts of flour, stirring it rapidly, or it will be lumpy; then add cold water until it is thin enough; if it should be as thin as it could be stirred; if it is not cool enough for the yeast by this time, set the pail which it is in in the water pail, stirring it all the while, which soon cools it. Then stir in the yeast which is already soiled, and empty it all in the bread pan, where the flour is already warmed, with a hole in the middle. Then cover it tight, and set it where it will keep warm all night.

HOW TO COOK EGGS.—Put the eggs into a vessel of water at a temperature of 170 degrees, and keep the water at that temperature from ten to fifteen minutes, when the eggs may be taken out, and the white will be a fine jelly, and the yolk will be cooked soft. The temperature should be tested by a thermometer, not guessed at. The quantity of water should be so

large, that the introduction of the eggs will not materially reduce the temperature.

TO PREPARE AN INVIGORATING BATH.—A teaspoonful or more of powdered borax thrown into the bath tub while bathing will communicate a velvety softness to the water and at the same time invigorate and rest the bather. Persons troubled with nervousness or wakeful nights will find this kind of a bath a great benefit.

TO CLEAN GOLD CHAINS.—Use a soft brush with soap and water containing a little spirits of ammonia, and dry by shaking gently in a small box, partially filled with saw-dust.

CURRENT JAM.—Take one-third white, and two-thirds red currants, or either kind alone, Wash them, allow a pound of sugar to each pound of fruit, and boil twenty minutes.

HARVEST BEER.—Mix two ounces of cream tartar, three pounds of brown sugar, and three quarts of yeast. This makes ten gallons and should be drank as soon as worked.

FLOUR PUDDING.—A small pint of flour, one cup of milk, one teaspoonful of cream of tartar, one half a teaspoonful of soda, one egg, two tablespoonfuls of sugar and one of butter. Boil one hour.

Preserve jars or bottles should be carefully washed as soon as emptied, taking care that the stoppers and covers have their share of attention. To make assurance doubly sure, it is well to put soda or ammonia into the jars or bottles, fill up with water and let them stand an hour, putting the stoppers or covers into a bowl to soak in the same way. Then pour out and scald nicely, wipe dry, set in the sun or wind to air, and then set away carefully.

The recipes for making coffee are innumerable. In preparing the beverage great care should be taken to preserve the aroma. The difficulty of clearing coffee has led to a long list of patented articles designed to do away with the use of various substances to clear the infusion. The following old fashioned recipe gives as satisfactory results as any of the new methods: Grind moderately fine a large cup or small bowl of coffee; break into it one egg with shell; mix well, adding enough cold water to thoroughly wet the grounds; upon this pour one pint of boiling water; let it boil slowly for fifteen minutes, and then stand three minutes to settle; pour through a fine wire sieve into coffee pot; this will make enough for four persons. At table first put the sugar into the cup, then fill half full of boiling milk, add your coffee, and fill of coffee. If you have cream so much the better, and in that case boiling water can be added either in the pot or cup to make up for the space occupied by the milk as above; or condensed milk will be found a good substitute for cream.

An outbreak of typhoid fever which recently occurred in Bristol, Eng., has been found to have resulted from the use of milk contaminated with fever germs. Dr. Davies, the medical officer of health for the city, traced the source of the epidemic to the supply of milk from one particular farm. He found that the farmer washed his cans in a stream which passed by his farm, and used no other water. No immediate cause of pollution was discoverable, but two miles above the farm the doctor found sewage running into the brook, and close by, also in the water; the putrid carcasses of several animals that had died of the disease that has recently been prevalent amongst stock in Somerset.

An experienced physician says when you wake in the morning rise and dress at once. Never lie and "drowse." There is no refreshment to be derived therefrom. There is a vigorous tonic in the morning air.

Advertisements.

In answering an advertisement found in these columns, our readers will confer on us a favor by stating that they saw the advertisement in the Kansas Farmer.

62 Golden Chromo, Crystal, Rose, Damask, Navy, etc. Name in gold and jet. Winslow & Co., Meriden, Ct.

\$777 A YEAR and expenses to agents. Outfit Free. P. O. VICKERY, Augusta, Maine.

\$77 A Month and expenses guaranteed to Agent. Outfit Free. Shaw & Co., Augusta, Maine.

50 Pin-a-4, Chromo, Lily, Lace, Marble, etc., Cards, in case, 10c. GLOBE CARD CO., Northford, Ct.

50 Perfumed cards, best assortment ever offered, 10c. Agents Outfit, 10c. CONN CARD CO., Northford, Ct.

50 Chromo, Glass, Scroll, Wreath and Lace cards 10c. Try us. CHROMO CARD CO. Northford, Ct.

18 Elite, Gold Bow, Bevel Edge cards 25c. or 20 Chinese Chromos, 10c. J. B. HUSTED, Nassau, N.Y.

20 Gold and Silver Chromo Cards with name, 10c. post paid. G. I. REED & Co., Nassau, N.Y.

ELUANT AUTOGRAPH ALBUM, gift covers, 48 pages, 14 illustrated with birds, scrolls, etc., in colors, and 47 select quotations, 15c. Agent's outfit for cards, (over 60 samples), 10c. Davids & Co., Northford, Ct.

50 Chromo, Tortoise Shell, Cupid, Motto, Floral cards, 10c. outfit 10c. Hall Bros., Northford, Ct.

50 Gold, Chromo, Tortoise Shell, Marble and Bow CARDS, 10c. SEAVY BROS., Northford, Ct.

AGENTS WANTED.—Everywhere, to sell the best Family Knitting Machine ever invented. Will knit a pair of stockings with HEEL and TOE complete, in 20 minutes. It will also knit a great variety of fancy work for which there is always a ready market. Send for circular and terms to the Twombly Knitting Machine Co., 49 Washington St. Boston, Mass.

GRANT AROUND THE WORLD

It describes Royal Palaces, Rare Curiosities, Wealth and wonders of the Indies, China, Japan, etc. A million people want it. This is the best chance of our life to make money. Beware of "catch penny" imitations. Send for circular and extra 10c. has to agents. Address NAT. G. & L. PUBLISHING CO., St. Louis, Mo.

THE STRAY LIST.

Strays for the week ending June 23.

Brown county—John E. Moon, clerk.
MARE—Taken up May 31, 1890, by James Dyche, Mission P. O., Whiting, Jackson county, one bay mare, 10 or 12 years old, black mane, tail and legs, no marks or brands.

Linn county—J. H. Martin, clerk.
STEER—Taken up by G. T. Kenson, Sheridan tp, one two year old steer, red and white, letter Q branded on left hip.

Montgomery county—Ernest Way, clerk.
MARE—Taken up by G. Herring, Cuna tp, one brown mare 9 years old, 14½ hands high, small star in forehead, right hind foot white, both shoulders scarred by collar, old, valued at \$30.

Neosho county—A. Gibson, clerk.
FILLE—Taken up by J. C. Hill, Chanute, May 13, 1890, one dark chestnut sorrel filly, white nose and right hind foot white.

FILLE—Also, by the same, one sorrel filly, 2 years old, left fore foot white about half way to knee, both hind feet white and white face.

COLT—Also by the same one sorrel horse, colt, 1 year old, star in forehead, left hind foot white.

Philips county—W. Lowe, clerk.
MARE—Taken up by Theo Steele, P. O. April 14, 1890, one black brown mare about 3 years old, spot in head, right hip down, had on leather halter.

COLT—Also by the same one bay stallion colt, one year old, spot in forehead, left hind foot white, had on leather halter.

MARE—Taken up by Wm Kaley, Long Island P. O., May 8, 1890, one buckskin colored mare about 3 years old, no marks or brands, weight about 750 pounds, valued at \$30.

MARE—Also by the same one iron grey mare about 2 years old, no marks or brands, weight about 750 pounds, valued at \$30.

Reno county—W. R. Marshall, clerk.
COW—Taken up by H. H. Brown, Abilene tp, one brindle Cherokee cow, branded IK on left hip, point of left horn broken off, valued at \$15.

STEER—Taken up by Morgan Nail, May 29, 1890, Clay tp, one red steer, dim brand on left thigh, 4 years old, valued at \$15.

Sumner county—S. B. Douglass, clerk.
PONY—Taken up by J. H. Haddock, Walton tp, one grey pony horse, 14 hands high, saddle marks on back, no other marks or brands, 4 years old, valued at \$15.

HORSE—Taken up by May 16, 1890, Walton tp, one light grey horse, about 16 hands high, no marks or brands, 5 years old, supposed to be part Norman.

Washington county—J. O. Young, clerk.
MARE—Taken up by J. A. Willard, Little Blue tp, April 21, 1890, one chestnut mare about 15 hands high, small spot in forehead, dark mane and tail, about 15 hands high, valued at \$27.

HORSE—Also by the same one dark bay horse 2 years old, 16 hands high, black mane and tail, thin in flesh, valued at \$27.

Strays for the week ending June 16.

Bourbon county—L. B. Welch, clerk.
HORSE—Taken up by T. J. Charles, Franklin tp, one dark bay horse pony, about 14 hands high, supposed to be 9 years old, harness and saddle marks on back, scar on left hand about three inches long, w. a shod in front when taken up, valued at \$20.

COLT—Taken up by Levi W. Brown, Marmaton tp, one bay stallion 2 years old, 14 hands high, a little white on each hind foot on back part, black mane and tail, no marks or brands, valued at \$20.

Chase county—S. A. Breese, clerk.
HORSE—Taken up by Barney Houser, Bazaar tp, (Matfield Green P. O.) May 21, 1890, one brown horse, right hind foot white, white ring on left fore foot, white spot in forehead, work and collar mark, 17 hands high, about 16 years old, valued at \$25.

Doniphan county—D. W. Morse, clerk.
PONY—Taken up by W. D. Hancock, Wolf River tp, May 21, 1890, one bay horse about 15 hands high, 6 years old, star in forehead, shod on front feet, no marks or brands, valued at \$20.

COLT—Also by the same one bay stud colt, 2 years old, common size, hind feet white, no marks on brands, valued at \$20.

HORSE—Taken up by C. J. Ellis, Centre tp, May 31, 1890, one dark bay or brown horse, small star in forehead, front feet shod, leather head stall, 15 hands high, no marks or brands, 4 years old, valued at \$20.

HORSE—Also by the same one grey pony horse, saddle marks, 10 years old, 13 hands high, no marks or brands, valued at \$20.

HORSE—Taken up by Frederick Dubach, Washington tp, May 5, 1890, one brown horse, 15½ hands high, 8 years old, marked with a sore under left hind foot and scar supposed to be a rope, branded on left shoulder with letter O, valued at \$20.

Douglas county—N. O. Stevens, clerk.
COW—Taken up May 11, 1890, by S. E. Boyd, Clinton tp, 1 red cow, star in forehead, branded B on right hip half way between knee and hip joint, valued at \$20.

SEYER—Also by the same one red heifer, branded B on right hip, 3 years old, valued at \$10.

MARE—Taken up by James Halbert, Clinton tp, May 23, 1890, one chestnut sorrel, one, 10½ hands high, white face, hind feet white to pastern, 11 years old, collar marks, no brands, valued at \$35.

HORSE—Also by the same one black horse, 16 hands high, star in forehead, 7 years old, collar marks, valued at \$30.

Franklin county—A. H. Sellers, clerk.
MARE—Taken up by S. V. Parkinson, June 15, 1890, one sorrel mare, black mane and tail, white face, white spot on collar mark, medium sized orange pony, 10 years old.

Kingman county—Charles Eickman, clerk.
HORSE—Taken up by A. J. Mogie, Evans tp, May 24, 1890, one black horse, 8 years old, 14 hands high, good pacer, valued at \$15.

MARE—Also by the same one brown mare 8 years old, white nose, 15 hands high, no other marks or brands visible, valued at \$20.

Miami County—B. J. Sheridan, clerk.
HORSE—Taken up by D. W. Lee, Wea tp, one bright bay horse about 10 years old, 14½ hands high, small star in forehead, little white on left hind foot and scar supposed to be from distula, branded A on left shoulder, valued at \$40.

HORSE—Also by the same one bright bay horse about 10 years old, 14½ hands high, branded H on left shoulder, valued at \$40.

MARE—Taken up by J. L. Wright, Valley tp, Paola P. O., one bright bay mare with collar and saddle marks and three hind feet, supposed to be 10 years old, valued at \$35.

COLT—Also by the same one horse colt about 2 years old, white stripe in face, valued at \$25.

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This dip kills Ticks, Lice and all parasites that infect sheep, prevents scratching and greatly improves the quality of the wool. One gallon of the dip properly diluted with water will be sufficient to dip one hundred sheep, so that the cost of dipping a mere trifle, and sheep owners will find that they are amply repaid by the improved health of their flocks. Circulars sent postpaid, upon application, giving full directions for its use; also certificates of prominent sheep growers who have used large quantities of the dip, and pronounce it the most effective and reliable exterminator of scab and other kindred diseases in sheep. Manufactured by

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

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Thrashing Machinery and Portable and Traction Engines.

THE STANDARD of excellence throughout the Grain-Raising World.

MATCHLESS for Grain-Saving, Time-Saving, Perfect Cleaning, Speed and Thorough Work.

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Which has been planted in great quantities the demand for machinery will be immense, and it stands those in hand who wish to make a success at molasses and sugar making to procure their MACHINERY before the rush comes on. BUY ONLY THE BEST that can be procured. All successful sorgo

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Farmers Invited to Address

A. D. FISHER,

Manager,
Topeka, Kas.

Farm Letters.

ALFAMONT, June 14.—The great cry of drouth comes from all over the west, but I have no such report to make. Old Dame Nature has done her duty and the farmers of Labette have done theirs; the consequence is good crops of all kinds. Wheat nearly all in the shock. Chintz bugs came too late to do it much injury; however, they are damaging corn to some extent. Oats are well headed and will be good. Ripe peaches of the Alexander variety are on the market now.

"Cowley" makes inquiry as to a good point to start a newspaper, and we recommend Altamont, Labette county, Kansas; a new town just springing into existence in the exact centre of the county, on the St. Louis and San Francisco railroad, and ten miles from any city.

EUGENE WRIGHT.

BELLEVILLE, Republic Co., June 14.—We were again favored with a heavy rain on Saturday evening, and again in the night, the heaviest of the season, inspiring the farmers with new life and spirits. The wind accompanying the storm was quite severe in some localities in this county. At Republic City there was three railroad cars blown from the track, and the windows of many of the houses were demolished by hail.

The citizens of this town are making arrangements for a grand celebration on the 3d of July, and are proposing to procure many eminent speakers for the occasion.

The FARMER is looked for with as much anxiety as any paper that comes to my office.

The Chicago convention is over and the people of Republic county are much pleased with the result.

J. P. St. John is spoken of very favorably for the next governor, and J. A. Anderson for congress from this district.

The citizens of the City of Belleville are in buoyant spirits over the prospects of the extension of the B. & M. R. R. through this city the coming fall as they have every assurance of its construction.

A. VAN TRUMP.

Roy, Sumner Co., June 7.—Since my last letter to your paper, wherein dry weather was reported, there has been a change in the weather. For several weeks we have had all the rain that was needed. Breaking plows are running all the time. Headers and harvesters are in the fields wherever there is any wheat left that survived the drouth and chinch bugs. Even after wheat is in the stack it must be tied down, lariatied out, and a half mile of rail fence piled onto the rick before it is half safe from the mild sea breezes of the Gulf, that we read of as blowing in southern Kansas. The biscuits of 1881 may be seen going west on the wings of the wind, and if the chinch bugs would only bear them company; the prospects for corn would be most flattering. Everything is growing finely. Prairie grass is tall enough to cut. Very few immigrants showing themselves now, but some croakers are leaving. We can very well spare a few more of the latter.

More wheat than ever will be sown this fall in Sumner county. This grain is the leading crop at present. Though two successive failures have made it discouraging, those who intend to stay in Kansas are not giving up wheat, but in addition are turning their attention to cattle. This is a move in the right direction, for in this you have something that chinch bugs cannot eat nor grasshoppers destroy, something that the winds cannot blow away beyond recovery.

The demand here for calves and cows is ten times greater than the supply, and the question is where can we buy heifer calves one and two years old at a reasonable price? Cannot some of the readers of the FARMER, who live within 100 or 120 miles of Sumner county, answer through the columns of your paper, giving price, best time of year to purchase, and locality of any such sale.

We have a herd law here, but plenty of range for herds, and as the dry weather croakers leave the country it makes still more room for stock. Cattle are herded at twenty cents per month. For those who intend to remain in this county no better investment of a small portion of their time, labor, and a trifling amount of money can be made than by putting under fence a portion or the whole of the farm. It has been proven by experience that the osage orange makes the best, the cheapest, and the prettiest fence for a prairie country like this, and now while the land is new and not yet seeded to any troublesome weeds, it will require less labor to grow a fence of this kind than if you wait a few years. In five years' time you can have pastures all ready to turn in your stock. In a fence of this kind you have a wind-break, an ornament, a necessity. In case the herd law should be done away with in this county, you are ready and independent. To those who intend to stay only a season or two, it would pay them to fence with something of

this kind, thus making a place worth five or ten dollars more per acre.

Much rice corn was planted this season, but for some reason unknown it did not come up. Wheat is down in price to 60¢@65¢; corn, 32¢; eggs, 10¢; butter, 12¢; potatoes, \$1; meats, of all kinds, from 8¢ upwards.

F. E. MOSS.

DOUGLASS, Butler Co., June 2.—Wheat harvest has commenced in this portion of the state. Some few fields were cut on the 2d of this month. We have a very fine quality of wheat. The yield will not be large—say from ten to twenty bushels to the acre in this neighborhood. Chinch bugs have made inroads in some pieces. We have had plenty of rain in this part, but it came a little late, consequently wheat straw is a little short. Self-binders and headers will do the most of the harvesting.

Corn that was planted early is looking fine, and some fields on the best ground is from hip to shoulder high. The latest planting is somewhat uneven, in consequence of the ground being too dry, and did not come up until the rain came.

Some few are trying the tame grasses, and as far as I have any knowledge, they are doing well. Mr. Copeland, of Douglass township, sowed one hundred bushels this spring. I have four kinds of the tame grasses and they are all doing very well. The orchard grass, or what is known as the English blue grass, makes a monstrous growth.

Some young apple orchards are reported to be quite full of apples. A part of my peach orchard facing the west and adjoining a bluff on the east, standing on fine black soil impregnated with magnetic rock, is loaded down with fine peaches. I have set a young apple orchard on the above location and I expect to raise some fruit every year if the frosts are no worse than this last spring.

HENRY BUTLER.

OMIO, Jewell Co., June 13.—The people are rejoicing in the prospect of a bountiful corn crop. We had a glorious rain yesterday and to-day. Everything is growing in Kansas style. Most farmers in this part of the county have plowed up their winter wheat, which was destroyed by the hail storm of May 30th, and planted to corn. We saw one man planting yesterday. It seems pretty late for corn planting, but with late rains it will mature before frost. The acreage in corn is larger than in any previous year, and with an average crop we will have a surplus to hold for future need.

We have some very fine grade cattle in this county, but I do not know of any thoroughbreds. Would like to see some of our men of means take an interest in this direction and improve the grade of our cattle.

Mr. James Foyle, of this neighborhood, shipped 37 head of fat steers to St. Louis, last week, that would compare favorably with eastern cattle. One four-year-old in the lot weighed 2,850 pounds; one two-year-old weighed 2,025 pounds; another weighed over 1,800 pounds. The average of the remaining 34 was 1,650 pounds. This was perhaps the finest lot of cattle ever shipped from this county.

W. S. THOMPSON.

A teaspoonful of worm seed mixed in a quart of corn meal, wet up with water to the consistency of dough, and fed to chickens two or three times a day, it is said, will effect a cure of gapes.

KIDNEY WORT

THE ONLY MEDICINE

That Acts at the Same Time on
THE LIVER,
THE BOWELS,
and the KIDNEYS.

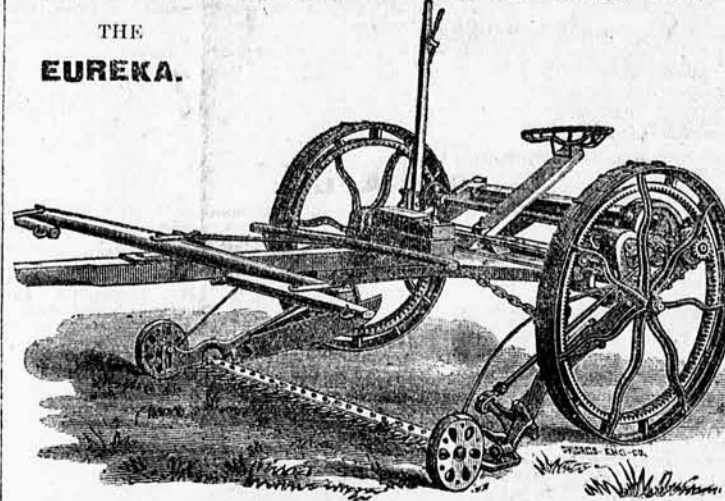
These great organs are the natural cleansers of the system. If they work well, health will be perfect; if they become clogged, dreadful diseases are sure to follow with

TERRIBLE SUFFERING.
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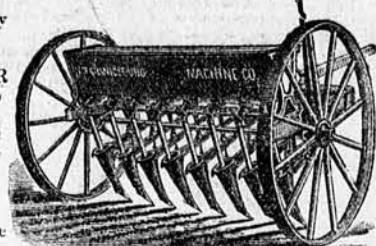
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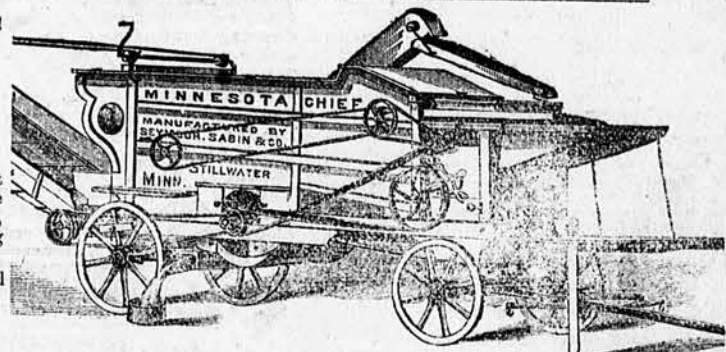
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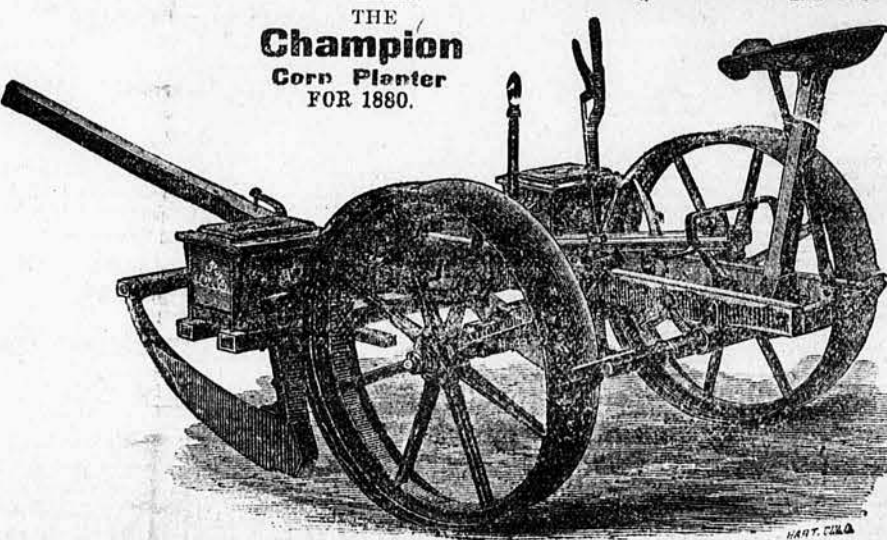
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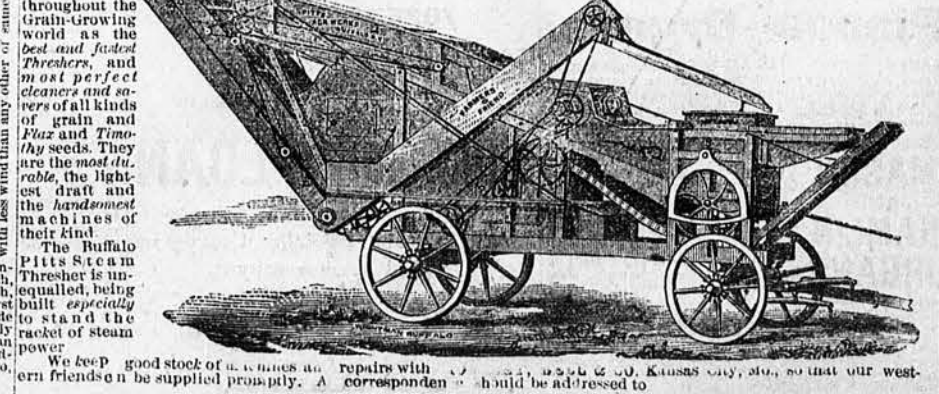


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