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## THE KANSAS FARMER.

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### Plagues and Pestilences. II.

In the last number I called attention to some new observations on spreading diseases among animals and humanity; in this I wish to call attention to some other germ diseases and disorders not exactly of the epidemic and epizootic character as these words are commonly used.

All the itches, scabs, manges, scurfs, etc., to which animal flesh is subject, are caused by minute living organisms, which burrow in the skin or which (if plants) send roots into it in many directions. Barber's itch, prairie digs, ring-worm, tetter, scald-head, shingles, scratches, mange, scab, dandruff, etc., are all caused by living organisms, which prey upon the organisms they affect. We have all seen house flies dead against a pane of glass, with mould growing out of the body. It was once supposed the mould attacked the fly after death only. But it has been found that by feeding the spores of the mould to the fly they make him sick and kill him, perforating him as we see it done in the fall. Many insects and their larvae are subject to these attacks of minute fungi. A cut or open wound upon the animal organism will heal by "first intention" as the doctors say, if all germs of bacteria, viruses, rotifers, moulds, blights, moulds, rusts, smuts and mildews, etc., are kept from it. By a "first intention" is meant that the wound heals in a day or two, without making a running, festering sore. By keeping away the organic dust in the air—which I remark in passing, makes up the great body of the dust we see when a beam of light traverses a dark room—the decomposition or rotting of serum and flesh is prevented. By keeping away this organic dust from exposed flesh serum and mucous of the living organism, surgical operations may be performed that old surgeons never dreamed of. Surgeon Tremaine, U. S. A. gave a most interesting account of these operations at the meeting of the Medical Society, and half seriously remarked that an operator who failed to exclude organic dust from the wounds, he made with the knife would be, or ought to be, prosecuted for malpractice. A large number of chronic troubles owe their perpetuity to this organic dust. Opened cracked lips, sores in the mouth, nasal catarrh, leucorrhoea, etc., one probably started by some disordered condition which sets up excessive effusion; they are kept up by the irritation of the erosive action of these ferments upon the membrane affected.

In addition to the spreading diseases I have named in the first paper, and by which is meant all diseases which one afflicted individual may communicate to another individual not affected before, we have some very troublesome diseases produced by the absorption of the common ferments into the blood, or upon organs where their presence is especially dangerous. Puerperal fever, septic fever, gangrene, membranous croup, etc., are of this type. In cancer and ugly ulcers the action of these ferments produce the fever and augment the erosion probably one hundred fold. In "salivation" the drug produces excessive flow of saliva and an engorged state of the glands, but the common ferments of the air make the prurulence attending it.

Dyspepsia is aggravated by these ferments. There is a failure to secrete gastric juice, or the stomach fails to "churn" the food. The ferments—(bacteria, vibrios, yeast plants, moulds, blights, mildews, rusts, smuts, etc., of which over two thousand species are known and beautifully named in Latin)—are swallowed with the food, and they commence to decompose the plastic mass, after attacking also the mucous membrane, producing irritation, inflammation, nausea and headache.

Other species pass into the intestines, decomposing chyme and chyle and also the mucous of the bowels, causing it to slough away, or by the irritation induced causing a most profuse outpouring of the serum of the blood.

That scourge of babyhood—summer complaint, and all the fluxes and diarrhoea of man and his useful beasts, have thus a common origin. They may differ, owing to the site of the attack; thus a decomposition of the upper intestine producing different phenomena from an attack on the lower. They may differ from the fact that the species differ that are at work, just as red rust differs from black rust in wheat.

It must not be understood that they are always to be ranked as the cause of these disturbances. In perfectly sound, robust animals—*genus homo* or what not—a healthy digestion and proper diet and drink is generally a sufficient protection

against these ferments, and unless swallowed in enormous quantities they are digested, and contribute to nutrition.

Nor do these little organisms limit their mischief to the destruction of animal matter. They prey on all vegetable tissues, whether living or dead, unless protected by some natural or artificial means. Their influence in common decay I especially dwell upon a year ago, and the necessity of a better understanding of the ferments and the anti-ferments if we would preserve vegetable matters from decomposition. Wood-preserving is an art as valuable to Kansas farmers as wood-growing, yet it receives no attention, though I assert that our cottonwood poles can be made to resist decay for an indefinite time, and a cottonwood post be made to outlast a cedar post, the former being "cured," the latter being planted as it is found.

But it is the attacks of these minute organisms on living plant stuff that is especially interesting to farmers, though it is certainly true that they lose twice as much by their attacks on dead plant stuff, year in and year out. The blight of the farmer's pears, peaches and apples and of the trees that bear them; the mildews and rots of his grapes, also the blights and rusts of his grapes; the rusts and smuts of his grains and garden plants; the yellow and curled leaf of his peach trees, and the rot of his potatoes, are all caused by minute organisms which destroy plant plasma, and they are often identified with those which produce disease and decay of animal stuff.

The general laws may be stated thus: Organic stuff is built up out of the mineral world by one order of beings—(green-leaved plants) in the presence of light; it is destroyed by all other organisms, and reduced back directly or by successive steps to the mineral matters of nature. The reducing hordes or plasma consumers do not especially require light, and they never have joined together carbonic acid and water with the evolution of oxygen, to form a molecule. These two hemispheres of life are pretty well equipped—the plasma-builders and plasma-destroyers.

The grand discovery of modern times, as I have often said before to your readers, was that of Pasteur—that no molecule of this built-up plasma is ever spontaneously tumbled down. No molecule of sugar, albumen, wood, fibrine starch, legumen, fat, or oil, or any product of animal or vegetable function, ever spontaneously goes to pieces no more than they are spontaneously formed by the forces of nature. If we are teleologists, then, we may say that God built up these things out of the dust of the earth, and the waters and gases of the air to the end that they should turn the wheels of another order of life—an order which cannot generate potential forces nor yet lock up the force of the sun, but which can live only by furnishing an escapement for the forces locked up in the plant to run down.

This is a beautiful view of the philosophy of adapting things to a final end. But there is another view that is not so pleasant to the teleologist. These little plasma consumers do not appear to make any difference between attacking dead plasma and living if the temperature suits. What difference to a minute mould or fungus

whether the blood it consumes is in a bowl or a blood vessel, or whether the latter is part of a living or a dead animal? This adaptation, then, of means to final ends has brought death largely into the world. The plagues and pestilences which cause so much weeping and sorrow, are as much caused by living beings as the death of a man at the claws of a tiger.

If we suffer the decomposition of waste plasma (filth) to be abundant about us, we may be sure we are propagating or harboring therein germs of disease. It would appear, teleologically, that it was to reduce this waste plasma back to mineral matters, that all these little organisms were created, and their dust-seed scattered in the air. It was also probably intended that by partaking of the tree of knowledge, man should discover some means of preventing these ferments from reducing him, his crops, his horses, his cows, his sheep, his hogs, his fowls, and all the fruits he would lay up in store, and all the flesh he gathers for his table, back to the level of the mineral sea.

Mr. Darwin would say that there is not only a struggle between species as to which shall reduce a particular piece of plasma to assimilative possession, but also as to who shall consume it when there—the somatic structure or a multitude of vagrant cells! If we are the somatic structure and the bit of plasma in dispute is appropriate, we digest it, assimilate it, consume it, and cast out the products of reduction, and we are healthy and happy. If, however, the vagrants get it in the cellar it is spoiled; if in the stomach, dyspepsia; if in the bowels, diarrhoea; if in the blood, a fever; if in the flesh, a sore. After death and an appropriate funeral, they take the whole structure and rapidly make it into air, water and earth!

Surely we make a poor use of the fruit Eve plucked for us, if we stand idle in the fight and offer no opposition to our foes but prayers, exorcisms, incantations and the aspergillations of the people with holy water!

When burning sulphur takes the place of burning incense, and carbolic solution supplants holy water—when a good-sized sprinkling-pot takes the place of the elegant aspergillus, and an officer charged with maintaining the public health as we now have them maintain the peace, shall enter the sick room in lieu of the priest, not to save the sick but the well, then shall we feel that that tree of knowledge has yielded something of an equivalent for our first mother's great foolishness, and that the sons of that excellent lady are bruising the serpents' heads to some purpose. C. W. JOHNSON.

### Why People Are Lazy in Florida.

Duley W. Adams, in the *Husbandman*, explains why people are lazy in Florida:

"Nature has never used forcible means to make the Floridian industrious. Neither has she set an example of hurrying her work. She does her work deliberately in the full conviction that there is plenty of time. In January, you may notice some elms putting on fresh green foliage. A peach tree will here and there open a bright blossom or two. A persimmon tree will put out, perhaps, a single little bunch of leaves. Sometimes a few of the ey-

press will show signs of coming spring. As the season advances, the peach will show more numerous blossoms. One hickory will commence to grow while another may not show any signs of life for a month or two. Our persimmon tree has now another bunch of leaves on another branch. In February and March, the orange, (queen of fruits and the belle of fruit trees) grows and blooms for weeks. Wild flowers bloom all the year round. Tea roses always display their queenly beauty. By this time the peach trees are in full bloom. The bay and magnolias follow in another month, and by the first of May the whole forest is properly clothed in its new suit of green, having accomplished in four months what a New England landscape does in two weeks. Amid such surroundings it is any wonder that people learn to take life easily and cease to hurry! It would be very strange if they did not. If the husbandman sees fit to plant corn in January, and does not want to go a deer hunting, or to a horse trot, or to hunt his hogs, or anything else, he can plant corn then, but if not convenient he can just as well plant corn in February. Should he be too tired in February, March is just as good as any other time for corn. If March is too dry, he may take advantage of an April shower and "make corn." Sweet potatoes may be planted in March or for six months thereafter. They are the great staple article of food here. If the corn is not planted at all, there is still plenty of time for potatoes, so it is no great concern about corn anyway.

To "make" potatoes here is not a very laborious operation. New land which is not infested with weeds is thrown into small ridges with the plow and finished with the hoe. Last year's patch usually furnishes plenty of vines. These are cut in pieces twelve to eighteen inches long and laid across the ridges. The planter follows and with a notched stick pushes the cuttings a few inches into the loose sand and the planting is done. When the tubers are large enough they are dug as needed.

"If the planting be late and the land poor they may not get large enough to use the same season, but that gives our 'cracker' no uneasiness, for he simply calls them 'stand-overs,' and lets them stand over to mature the next year. Why should a man hurry to keep up with the season and get ready for winter, in a country where the seasons never hurry and winter never comes except in name?"

### The Necessity of Firming the Ground in Planting Seeds.

Peter Henderson advises pressing the ground firmly with the feet after planting seed in dry soil. On this subject he says:

"After plowing, harrowing and leveling the land smoothly, lines are drawn by the 'marker,' which makes a furrow about two inches deep and a foot apart. After the man who sows the seed follows another, who, with the ball of the right foot, presses down his full weight on every inch of soil in the drill where the seed has been sown. The rows are then lightly leveled longitudinally with the rake; a light roller is then passed over it and the operation is done. 'By this method our crop has never once

failed, and what is true of celery and cabbage seed is nearly true of all other seeds requiring to be sown during the late spring or summer months.

"On July 2d, 1874, as an experiment, I sowed twelve rows of sweet corn and twelve rows of beets, treading in after sowing every alternate row of each. In both cases, those trod in came up in four days, while those unfirmed remained twelve days before starting, and would not then have germinated had rain not fallen, for the soil was as dry as dust when planted.

"The result was that the seeds that had been trodden in grew freely from the start and matured their crops to a marketable condition by fall, while the rows unfirmed did not mature, as they were not only eight days later in germinating, but the plants were also to some extent enfeebled by being partially dried in the loose soil.

The same season, in August, I treated seeds of turnips and spinach in the same way. Those trod in germinated at once and made an excellent crop, while those unfirmed germinated feebly and were eventually nearly all burned out by a continuance of dry, hot air penetrating through the loose soil to the tender rootlets.

"Of course this rule of treading in or firming seeds after sowing must not be blindly followed. Very early in spring or late in fall, when the soil is damp and no danger from heated, dry air, there is no necessity to do so, or even at other seasons the soil may be in a suitable condition to sow, and yet be too damp to be trodden upon or rolled. In such cases these operations may not be necessary at all, for if rainy weather ensues the seeds germinate of course; but if there is any likelihood of continued drouth, the treading or rolling may be done a week or so after sowing, if it is at such a season as there is reason to believe it may suffer from the dry, hot air."

### Useful Maxims.

BY PROF. J. WILKINSON.

A farm without water, however fertile, is yet a desert.

Never eat yourself, until your animals are all fed.

No farmer can afford to allow his animals to suffer with cold or hunger.

As a rule, avoid investing largely in things that are untried.

Never purchase a thing simply because it is new.

A good elder is desirable in the church, but they are all bad in the meadow.

The shivering animal can make no flesh or milk.

He who ministers cruelty to his family or animals, may expect to "be paid in his own coin," some day.

It is better to be a tenant free from debt, than to own a mortgaged farm.

The most dreadful thing to put on a farm is a mortgage.

Plenty of light and sun are as essential to all domesticated animals as food.

Pure air is the most valuable for its cost, of all our necessities.

Few things are more inconsistent than for the farmer who uses tobacco, to say that he cannot afford an agricultural journal.

Mixed husbandry is the most profitable, provided one knows just how to mix it, but unless there is judgment, experience and skill in the mixture, it will not combine to profit; but, as chemists say, it will "precipitate;" then "stand from under."

The best time to kill weeds is every day in the year, and the stage of their growth at which they are most easily killed is as soon as they can be seen.

Plant a few fruit trees of every variety every year, and your orchard will never be all old.

Variety in farming is safer than speciality.

If water must be supplied artificially, cisterns are better and more reliable than wells.

A filter in a cistern on the farm is needless.

The farmer who fails to keep a correct account with each lot and crop, is very apt to cheat himself.

The farm house should be susceptible throughout, of being made pure, warm and cool, light and dark, and unfit for vermin.

The sitting-room should be the most pleasant in the house.

The air of the chamber should be as pure as that is out of doors.



## Farm Stock.

### Growing Fine Wool.

There are localities in this country peculiarly adapted to the growth of wool of the finest texture known to commerce. We notice among some transactions in western Virginia that wool has changed hands this season almost equal to the Silesian staple, and it is not to be questioned that in some parts of that and other states where the conditions are equally favorable to this industry, an article can be produced equal to the celebrated Silesian wools whose fineness and the number of whose fibers to the inch have made it so justly celebrated. We make a note of the circumstance because the production of this class of wool in this country deserves mention and encouragement; not that it is the most useful staple, for it does not occupy that position; but as proving the perfect adaptability of our country to all branches of this great industry.

There are localities in the Virginias, the Carolinas, Kentucky, Tennessee, Georgia and Alabama, where the climate conditions are present and proper forage at all seasons of the year to make this branch of sheep husbandry eminently successful, and the only serious barrier to its success is the dog nuisance. Skill and care in breeding and the proper management of flocks would not be wanting if there was any adequate security against the incursions of worthless curs among valuable flocks, but the certainty of disappointment and loss from this source is the great stumbling block in the way of the introduction of this, or to any great extent, any other kind of sheep into these sections which are eminently favorable to this industry. The destruction of sheep by dogs even in the wool-growing states aggregate, every year, an enormous sum, and without doubt, it frightens many persons who are so situated as to make some branch of wool-growing a specialty, from engaging in it. The absence of the judicious and helpful laws for the protection of sheep-husbandry (denied by short sighted law makers), the most effective remedies for the dog evil are plenty of buckshot and strychnine liberally dealt out to every prowling canine who ventures outside of the domains of its owner, and approaches the confines of men who raise sheep. This abominable nuisance ought not to stand in the way of an industry whose development effects the productive interests of the country to so vast an extent as this does, and we are glad to notice that in some of the states wholesome laws on the subject are meeting with more favor than they have hitherto received.

As we have said, the United States can produce every class and style of wool known to commerce, and it ought to do so. We have reached that point in this industry where a full discussion of this matter is in order.—*American Stockman.*

### The Price of Beef Cattle.

There is discouragement, depression, and sometimes present loss, in the production of a number of prominent farm products. There is hope in the future, and not a very remote future as to these; but just now the results are not very satisfactory. This cannot be truthfully said of the production of beef. Prices are lower than they have been at times in the past—much lower than they were when our currency was depreciated; but the prices now current ought to give a fair profit to the beef producer who carefully manages his business. A good steer will sell for \$5 per hundred pounds, live weight, in the Chicago market; first class steers will bring more; but, with present prices of land, grass, grain, labor, freights, a good farmer can rear, fatten and deliver in Chicago a 1500 lbs. steer for less than \$70; or he can buy a thin steer, graze and feed it for a year, and sell it at a fair profit. The men who are doing this work are not growing rich very rapidly; the profits are not dazzling; but we have grown so much in the habit of looking on the dark side of American business affairs—of talking about the bad condition of farming—that it is worth while to emphasize the fact that there is now a fairly satisfactory state of affairs in the fat cattle trade. It must be borne in mind that the cost of production has been very considerably reduced in the last few years. Lands are sold or rented at lower prices. Only a few days since we learned of a fine body of pasture land, in good condition, within 125 miles of Chicago, which the owner was anxious to rent at \$1.50 per acre. To stock a good farm in Central Illinois with good steers would seem to give a certainty of a good profit, where so low a rental is to be obtained. Corn is comparatively low in price. Hogs are low; but, with the ordinary mode of feeding them, on cattle-feeding farms a small profit can be had, even at present prices. On the whole, the man who is rearing and feeding good grade steers is not in need of sympathy.—*Nat. Live Stock Journal.*

## Poultry.

### Diseases Among Fowls.

On this subject a correspondent writes to the *Poultry Yard*:

"A great many breeders complain of the roup, and ask what they shall do for it. I have had some five years experience in raising poultry, and I have not lost my first fowl or chick by roup or cholera. The cholera I have never had in my yards, but the roup has troubled me considerably; but I have always been successful in stopping it with very little trouble; the same with canker. All I have ever used is chloride of potash, which I always keep on

hand. In making the solution I am never very particular. I take a pint bottle; sometimes put in ten cents and sometimes fifteen cents' worth, two tablespoonfuls of white sugar, and fill the bottle with rain-water, and it is ready to use in a few hours. For a wash I take ten cents' worth of pulverized golden seal and a piece of alum about the size of a walnut, one good tablespoonful of honey or white sugar, boil it until the alum is all dissolved, and put enough water in it to fill a pint bottle; this makes a good wash for canker. I watch my fowls very closely, and once a week I catch every one of them and examine the mouth of each one. If any show signs of cold or roup, I take a small machine oil-can and inject the potash in the nostril and the slit in the roof of the mouth, and give a dose of castor oil, and in most instances two days is about as long as any one case has troubled me; excepting once, through negligence, a P. C. cockerel got the best of me; his mouth and throat were so sore and such a coating on his tongue he could not shut his mouth, and when I took the coating off the smell was fearful; the tongue was nearly all gone, and great holes in the roof of the mouth. I took all the stuff out that I could get at and washed his mouth with the golden seal, and kept it up for about ten days, from three to five times a day, and he was all right. By close attention most of the diseases, I think, could be prevented, and in most cases prevention is easier than a cure.

### Chickens Fit to Eat.

Don't imagine that it makes no difference how your chickens have been brought up. Don't suppose that they will be good anyhow. Chickens have been carefully dressed, deliciously stuffed, assiduously basted and tenderly roasted, and yet they were not fit to eat. There was a flavor about them that no soda rinsings could cleanse and no seasonings conceal. These are chickens that had picked up their living around pig-sties and other unclean places.

A chicken may be spoiled in dressing it to cook. If killed with a full crop, and allowed to lie for hours before it is "drawn" (or relieved of its internal organs), it gets an unpleasant flavor. Fowls should be caught and shut up without feed for twelve hours or more before they are bled. Then the crop and intestines will be empty, and the task of picking and dressing them will be greatly lessened. Old fowls are not necessarily tough—only cook them long enough. They are more tender twenty-four hours after they are killed than if eaten immediately.

### The Dust Heap.

The openness of the feathers of fowls which do not throw off the water well, like those of most birds, enables them to cleanse themselves easier from insects and dirt, by dusting their feathers, and then shaking off the dirt and these minute pests with the dust. For this purpose one or more ample heaps of sifted ashes, or very dry sand or earth for them to roll in, must be placed in the sun, and, if possible, under shelter, so as to be warm and perfectly dry. Wood-ashes are the best. The dust-heap is as necessary to fowls as water for washing is to human beings. It cleanses their feathers and skin from vermin and impurities, promotes the cuticular or skin secretions, and is materially instrumental in preserving their health. If they should be much troubled with insects, mix in the heap plenty of wood ashes and a little flour of sulphur.—*Piper's Profitable and Ornamental Poultry.*

### Poultry on the Farm.

Perhaps there is no kind of stock so neglected and forced to take care of itself, by the majority of our farmers, as is poultry. It seems to be the general idea of most of our farmers that fowls are obliged to lay about so many eggs and produce about so many chicks, let the care they receive be what it may. This is a very mistaken idea, as can easily be ascertained by a little observation. For instance, let any man keep two separate flocks of fowls and let him take good care of one of them, and let the other take care of itself, and he will soon find to his surprise the profit that follows care. We venture to say there is no kind of stock that will pay so large a per cent. on the investment as will poultry, if properly managed.

## Apiary.

### The Outlook.

From letters recently received from southern California we learn that the long continued drouths has blighted the prospect for a large surplus of honey and many will be satisfied if their bees store enough to carry them through the next season.

This state of things in California, in connection with the wide-spread destruction of the bees in all the northern and western states during the winter and early spring, cannot help having a healthful influence on the market for the crop of next autumn, and we venture to predict that the prices which will be paid will nearly double those of last year. The causes which produced the great depression in the honey market last year have been so often stated in these columns and are so familiar to honey producers that we will not repeat them now, but merely state that almost the direct opposite will prevail this year; so that those who have suffered the loss of half their bees, may congratulate themselves on the prospect of an advance of fifty to one hundred per cent. in the

prices they will be able to realize for the crop they are now gathering. Such a vast amount of honey as was all at once precipitated on the markets early last fall, could hardly fail to bring prices down to the lowest ebb. Yet even this has had a salutary effect on prospective prices; for when delicious honey came down almost on par with New Orleans molasses, thousands commenced using it who had never hardly tasted honey before, but have now acquired a liking for it which they will not soon forget, and so the army of consumers is greatly enlarged, while the amount produced for this year will, in the aggregate, be very much lessened.

Reports from all parts of the country except the Pacific slope, are now encouraging; and those who have not succumbed, on account of their past losses, but have manfully rallied again, will doubtless reap a golden harvest.—*Bee-Keepers Magazine.*

### Honey—"There's Millions In It."

Mr. Robert Thwaite suggests, in a communication, that it would be profitable for all farmers to keep a few colonies of honey bees. There is a large quantity of honey sold in Philadelphia, he says, which comes from California and New York, and but very little from Pennsylvania. In 1876 Mr. J. S. Harbison shipped from six apiaries, in San Diego county, California, ten car loads of honey, each car containing 20,000 pounds, or 200,000 pounds in all. The annual income of this gentleman on his honey amounts to \$25,000 per annum. A gentleman in New York, in 1874, sold 58,000 pounds of honey from his own apiaries. It is much easier, says Mr. Thwaite, to produce pasturage (in addition to natural resources) to supply 100 hives than to provide pasturage for 100 head of sheep, the profit on this being more than double that in sheep. The honey lost in California for want of bees to gather it is of more value than the gold gathered. It is estimated that the value of the honey crop collected annually is worth \$3,800,000. The wax is estimated at \$6,000,000, or a total of \$14,800,000. Of this amount \$1,200,000 worth of honey and 700,000 pounds of wax are exported, and yet, says the writer, the culture is only in its infancy. Two Michigan farmers, both of whom own large tracts of cultivated ground, had informed him that the profit on their bees exceeded that of their farms.—*Exchange.*

## Dairy.

### Granular Butter—Treatment.

Recent writers upon butter-making have had more or less to say about "granular butter," and I find, in conversation with several butter makers, that they have very little idea of what it is, and of the facilities it offers for washing and for subjecting the butter to the action of brine. This has led me to look into the matter somewhat, and I will tell my conclusions "as far as I have got," to use the current slang. All know that when butter "comes" it is hardly distinguishable from cream. The practiced eye sees within the churn a granular character. In many churns, notably the revolving-dash churns, this takes place gradually. In the old up-and-down dash churn, it occurs gradually also, but much more quickly and completely if the churn is less than half or one-third full. So it is also with the crank churns—the less they have in them the more completely is the work done, and the granules of butter appear more nearly all at once. In the reciprocating or oscillating churns, of which the Pendulum and Bullard are types, the change, when it occurs, is much more nearly simultaneous throughout the whole, and hence more marked.

At first the grains are very small, but a continuation of the process "gathers" them. They agglomerate into masses scarcely perceptibly larger—then these unite, and thus the grains rapidly increase in size, until, if the churning be continued, the butter is gathered into large masses. This is the usual process of churning and gathering butter. Granular butter is secured when the process of churning stops at that stage when the grains are but little larger than mustard seeds, say like Pearl Barley—certainly the largest of them being no larger than grains of wheat. A little experience will enable any one to judge at which stage he can effect the most perfect draining off of the buttermilk and most thorough washing of the butter.

It will be observed that if the grains are not large enough they will hold the buttermilk by capillary attraction, and the whole mass will appear mushy. When, however, the gathering goes too far, the little masses of butter will enclose completely some buttermilk, which it will be quite impossible to wash out, and it must be worked out. This, of course, is fatal to the process which we are considering. We must stop churning when the grains are well formed, and float up distinct from the buttermilk, and yet are not too large. In my experience grains as large as small peas are entirely too large.

The washing of grains of butter, of just the right size, is easily and quickly accomplished. They must first be chilled by a little cold water or ice water, if convenient, and then the buttermilk may be drawn off. A few of the finer grains are almost sure to run off with the buttermilk, and I have found a little wire-gauze strainer, common in the shops, indispensable in saving them and preventing what in the end would be a notable waste. With this the escaped grains are skimmed out of the buttermilk, or it may be made to flow through the strainer.

### Washing.

The granular mass in the churn may now be washed with pure cold water, which should cer-

tainly be strained before it goes into the churn. No one who has not carefully observed, has any idea of the specks and minute particles in ordinary, pure natural water. We do not notice them any more than we notice the birds far up in a clear sky; if we see one a moment and lose sight of it, it is gone. It may be a question whether "if the sky were to fall we should catch larks," but it is sure enough if we strain water we shall get specks out of it.

The quantity of water should be proportioned to the quantity of butter; fully as much should be used as the original mass of the cream—more does no harm, for water certainly does not wash out the flavor—except the flavor of buttermilk. Two washings are usually sufficient, and then the butter may be removed from the churn. If the water is cold, and especially if ice water is used, the grains will be very hard, and bear considerable handling without packing in masses; but it is usually best to lift them out of the water with a butter-ladle, if

### THE BRINING PROCESS

is to be followed, in which case they are placed at once in a clean tub or crock, covered with linen cloth or towel, and a barrel head, stone lid, or other "follower," which shall so nearly fit the tub as not to go to the bottom, but rest against the narrowing sides some inches below the top of the tub. Then fill up the tub with clear, strong, strained brine. The butter would of course float were it not for the follower, which may be weighted if necessary. The brine should be made of the purest and most odorless salt; it should be perfectly clear, and be decanted or poured off from undissolved salt. One hour's soaking in the brine is sufficient for the process, as is generally believed, and I know nothing to the contrary.—We need experiments to settle this and other points.—It is certainly desirable to lift the follower, barrel-head, or whatever it be—and stir the mass of butter once or twice; and it is very important that the brine should be icy cold. Brine made with cold spring water, when freshly made, is always considerably colder than the water of the spring, and if one has no ice it is cold enough. The brine may either be drawn off, or the butter taken out of it. It may be rinsed out with brine, or with pure water, and the butter may then be salted or left "sweet"—that is, not salted.—It keeps well without salt, and as this is not the case with other "sweet butter," and as there is a large and growing demand for this article; it is quite worth while for farmers to know how they may prepare it so that it will keep.

### WHAT THE BRINE REMOVES

is a question often asked. I have no record of such definite or accurate experiments that it is quite clear to me what is removed. This much seems certain—it is something very much like casein, for when the brine is boiled or heated, flocks of curd separate. The membranous sacks which enclose the butter—the cell walls—are supposed to be dissolved. The butter will not bear much working after brining before it becomes greasy. (There is, however, no need of working it more than enough to mix in the salt, and to get it into form).—And this fact leads us naturally to suppose that the salt dissolves the cell membranes, together with any casein which may be adhering to them, and leaves the butter nearly or quite pure. This curdy substance, whatever it is, is prone to decompose, and in the ordinary treatment of butter, salt is used to preserve this extra substance from change, not to make the butter itself keep. The casein, as it is called, in the butter, is what always changes first, and the rancidity of the butter follows in due time. For my own part, I do not see why butter thus purified by brine should not keep as well as any pure oil, or fat, like lard, tallow, or sweet oil. Experience may demonstrate that such butter is not adapted to all seasons and all markets, but so far it stands the test well. Nevertheless, without careful analysis, it is too much to assume either that all the cell walls or all the casein, together with everything else is thus removed, leaving only the pure fat—or butter.

I have before alluded to certain Irish butter, which is wonderful for keeping sweet in all climates, and for a long time—and to the fact that this butter is worked and salted with semi-liquid salt, rubbed up with water to a pasty consistency—thus virtually working it under brine. Some butter-workers, notably the Eureka and the Reid, are adapted to working the butter in or under brine, which recommends them especially to those who pack butter for long keeping, because butter thus worked does not need so much salt to keep it.—*American Agriculturist.*

## Horticulture.

### Fruits for Food.

There is no sense in the old, familiar motto: "Fruit is gold in the morning, silver at noon, and lead at night." Because, with a limited experience, people perceive that some folks can eat fruit at one time and not another, they lay down this rule as a principle for all. Take a family of children, teach them to eat fruit at morning, noon or night—their constitution conforms to it just as it does to tobacco or small doses of arsenic. The cases where fruit is unhealthy at night are the exception. It is true that in tropical climates heavy fruits difficult to digest ought not to be taken at night. Eating bananas in Cuba at night is considered next to suicide for a man who is unacclimated. I should never eat one here in the north unless I had a strong digestion. It lies heavy. But the fruits that are on our northern farms are all healthy, as a rule. Among the excellent small fruits are currants, gooseberries, raspberries, strawberries, grapes, mulberries—these last are a very much neglected fruit; there is no better fruit tree for children than the Down-

ing's ever-bearing mulberry. One of them will bear fruit for eight or ten weeks steadily, constantly ripening, and pleasing all the fowls and turkeys, and children and old folks. I would rather have this mulberry to-day than a strawberry. The common mulberry is flat and sweet; but this has a fine, sprightly, acid taste, as finely combined as lemonade.

As you go up, you have the apple, which is the patriarch, or the Abraham, of all fruits. If I had to choose but one fruit out of all in the world, I should decide for the apple. For uses of every kind, early and late, winter or summer, cooked or raw, Apple is king. Then comes the cherry, then the pear, then the plum and the peach.

I have not mentioned oranges because they are not raisable in the north; but they ought to be eaten at the right time, which is all the time from getting up in the morning until you go to bed at night. The man with whom they disagree is the exception. I learn a curious fact from President Clark, of the Agricultural College, Amherst, who lived in Japan for awhile. He tells me that there they eat the peach before it is ripe, just as soon as the peach stones have formed.

Both peaches and persimmons are eaten thus for the same reason the Irish like their potatoes boiled quickly—so that there may be a "bone" in them.

If a man has no ground he ought not to talk of fruits, unless a market is close at hand where he can raise them on the spot with silver; but if he has a small piece of ground, he can furnish himself with fruit during, perhaps, four or five months of the year. Half an acre of ground is enough for small fruits, which can be raised easily and successfully. You can take a currant stock, stick it down one season, and it will bear fruit the next or next but one. So with the raspberry. It only requires two years' waiting. People, however, who want to raise fruit on the principle of not having any trouble, cannot do better than migrate to the next world. Such folks run a line of currant bushes round a fence, and there they stand. Then they run round a line of raspberries, and they are never thinned out, nor the grass kept from them, nor air allowed to get to them, nor any pains whatever taken with them. A small plantation of twenty-four currant bushes planted in the middle of a garden, where the air can circulate all around them, will do a vast deal better. If you have a stone fence, it is a great deal better to train an apricot or tender peach against it. It is much more profitable than to put your small fruits there.—*Henry Ward Beecher.*

### Selection of Young Fruit Trees.

The time for setting young trees in autumn, is rapidly approaching, and the tree agent will doubtless soon make his appearance. A few suggestions in regard to the selection of suitable ones may not be out of place.

One of the great principles of nature is for all things to reproduce their kind. This is fully developed in fruit trees, and when, from any cause, disease or accident, a tree too young to commence bearing, is killed, or injured so it will surely die, the entire living energies of the tree are expected to reproduce itself. Blossom buds set, and if it lives long enough it blossoms, fruit sets and sometimes attains some little size before the tree dies. It occasionally occurs that, when attacked by some fatal but slow disease, young trees blossom and bear fruit one, two, or even three seasons before they finally die. Every observing farmer knows that when his young fruit trees are girdled by mice, etc., in winter or spring, or seriously injured from any cause, they frequently blossom and have fruit set, which attains considerable size before the tree withers and dies. It is this strange law of nature which impels the little remaining life to be expended in the effort to produce seed by which the dying tree may reproduce itself.

Knowing these things, farmers, in selecting young trees, should examine every one, and reject those on which blossom buds are found. If a nursery is near, and personal selection can be made, this class should always be avoided. They will soon die.

Some, in selecting trees, in their anxiety to have a bearing orchard in as short time as possible, choose those having on these premature buds or blossoms. Such are doomed to disappointment by the early death of the diseased and worthless trees. M. A. BUTTERFIELD.

### Cherry Valley, Montgomery County.

June 25.—Barley, half crop, wheat, equal to or better than that of last year, and rye good. All cut in the neighborhood, about half in stack and small portion threshed.

Wheat that has been threshed averages about 16 bushels per acre. I finished stacking 70 acres on the 18th.

Some oats ready to cut, but very short. Not more than half crop compared with last year.

A better prospect for corn than I ever saw in Montgomery County before. Some chintz bugs on corn next to stubble fields, but not numerous enough to do much damage unless very dry.

Early potatoes poor on account of dry weather. Mine commenced rotting and I dug them last week and laid them away in a cool, shady place. Am going to plant 1 acre in Early Rose potatoes to-morrow, and try for a second crop. Late potatoes looking well where they have been well cultivated. Have five acres of barley stubble that I calculated on planting in corn for late green feed.

Planted five acres in mangel wurzel, which is nearly a failure. Planted the 15th of May. Ground too dry but very fine, seed germinated. Calculate drilling turnips in between beet rows in hopes of getting good crop of roots yet. Every farmer should raise roots enough to give his stock at least one feed each day during the winter season. Pigs are very fond of mangels when deprived of grain food.

Had a nice rain the 20th and 22d.

H. A. S.



## Notes from the Agricultural Press.

The difficulty with all our people is that the high rates of interest and profits common to a young country have turned their heads, and the idea of low interest and reasonable profits looks like absolute ruin. England does well enough with a two or three per cent. rate of interest. Her capitalists do well enough and her industries do well enough. Everybody is satisfied with that rate. But what a fight we have had in this country to secure the lowering of the rates of interest upon government securities. "Couldn't get money at a low rate of interest," people said. But they were mistaken. We have got all the money we have asked for at four per cent., and we could have got the same money for three per cent. The days of high interest are numbered in this country. Twenty-five years from now such a thing as ten per cent. or even six per cent. will not be known; and it will be found that while our industries which are sustained upon borrowed money will prosper, that the capitalist who loans it will prosper. The principal that an unproductive dollar should not absorb the entire profits of the business which it floats will then be the principal of American enterprise.—*Western Rural*.

Ordinarily, the cardinal principal, in the management of a given enterprise is to procure the best possible return upon the capital invested in the undertaking. It might be supposed that all business meant this and nothing more, and that there could be no exception to this rule. Such a supposition would, however, be a great mistake if applied to the most important class of corporations. Our railroads are a singular exception to this rule, as indeed to almost every other rule of business. Not that they are so far regardless of the principles as to make no pretense whatever in regard to it; but, as a rule, their capital is in a large measure a fiction, adopted for the convenience of appearing to justify unreasonable charges for their services.

The New York Central and Hudson River, for instance, finding that it could obtain for its carriage much more than sufficient to pay for dividends upon its stock, and knowing that when its net revenue exceeded 10 per cent. on its stock the state had a reserved right to step in and dispose of the surplus, determined in 1869 to add at one stroke \$46,000,000 to its capital stock, upon which it has ever since paid 8 per cent. dividend; this device having enabled it to take from its patrons up to this time some \$30,000,000 more than was really contemplated in the terms of its charter. This is an extreme case; but it serves to illustrate one of the fictitious features of the capitalization of the railroads. As a rule, the railroads of the country have been built upon the proceeds of their issues of bonds; their \$2,313,000,000 of stock represent almost nothing in the shape of real investment. Nor is this all. In very many cases only a portion of the proceeds of the mortgages has been put into the roads, the remainder having gone as discounts, commissions, etc. It may be safely said, therefore, the actual cost of the railroads of the United States is not one-half the sum represented by their mortgages and their capital stock.—*The Husbandman*.

Labor saving machinery simply changes the methods of labor. New pursuits and fields are opened up to labor. The facility for production cheapens the same and stimulates consumption, and therefore is ever increasing the demand. We won't do without better and better streets and roads, and wagons and buggies, and houses, and so we are constantly taxing the ingenuity and labor of the world to produce these for us. It won't do to look at the world and its great intelligent forces as a walled city. There is nothing finished on earth, and there never will be. We contrive both mentally and physically, but all our contrivance is unsatisfactory and we again build on its ruins. And so we go on, and on, constantly making new drafts on labor, and ever will.—*Indiana Farmer*.

The New England FARMER publishes a very life-like picture of the "Old Agriculture," taken from the address of Vice-President E. H. Hyde delivered before the Conn. State Board of Agriculture. Every old reader will recognize the good old times in the following:

"Hardly a generation ago, thousands of hard working farmers were bound, like the Egyptians, to an almost superstitious servitude by the inflexible rules and axioms of uncultured and rude ages. Land must be tilled as the forefathers tilled it; farming and implements were handed down unchanged, from one generation to another. Old Dobbin, the horse, with no genealogy to speak of, equally graceful and fleet, whether under the saddle, in thills, or hitched to plow or drag, handy enough in his way, and altogether homely, lived and died and reappeared with the inevitable burdock in his tail; add from time immemorial, old crumpled horn, the cow whose bandy legs and non-descript patches were covered by a back like a Dutch roof, with its acute angles and dormer gables, chewed the cud and stole meal from the bin, and lengthened with every young crumple that she dropped, the meandering and attenuated line of a wretched and nameless pedigree.

Pork-fat, for sops, was better than crumple's butter, and the hog with the high shoulders and sloping hindquarters of the hyena, and ears set midway from tip to tip, crunched his nubbins, and through the frying pan eclipsed the chief glory of the dairy. Manifold old wives' songs were held in awe. The sky was one vast zodiac, flushing with celestial directions and proverbs concerning the planting of beans and the

slaughter of swine. The changing of the moon, the old moon in the arms of the new, the elevation or depression of the nether horn, and the mystic stars in the ring of the illuminated vapor, exerted a more potent influence than even the milky-way, in the curing of rennet and its use in cheese.

Tides, and winds, and clouds, unwonted ways of beasts and birds, unusual forms of vegetable growth, and the thickness of a corn husk, and the size of a young hazel leaf, were among the decisive auguries that cast the horoscope of the immediate future, and measured the heat and cold of approaching seasons. A faithful auxiliary, strong in its confirmation of signs celestial and signs terrestrial, the dear "old farmer's almanac," hung in the chimney corner, its corn-tinted covers rustling with every motion of the sweeping crane.

This was the "old agriculture" as our fathers knew it, and affords a marked contrast to the present era, freed from tradition and the curse of entailed usage; and the "new agriculture" which, as the speaker expressed it, "stands revealed as one of the great primal studies of mankind, towards which men of broad culture are turning from many fields of science, to learn with an ever increasing surprise and interest that the rich results of their patient explorations and experiments are but solutions of problems stamped by the hand of God upon its broad pages."

Mr. W. A. M'Pherson, general agent for the State of Kansas for the Challenge Well Auger Company his headquarters at Topeka, where he proposes to open an establishment for the supply of well boring machinery, etc., and from this point operate in all parts of the State. The company claim that their machine is an earth boring and rock drilling machine is the greatest labor saver of the nineteenth century. Mr. M'Pherson expects soon to be in a condition to demonstrate to the farmers and others of Kansas who wish wells sunk that the challenge auger for that purpose is the cheapest and best appliance ever offered to the public.

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

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## The Weekly Capital.

July 1st, as heretofore advertised, we begin the publication of the WEEKLY CAPITAL, a first-class family newspaper, giving latest telegraphic news from all parts of the world, state news, news of the cities of the state, and local news from the capital. It will be full and complete in all its departments, bright, newsy, and entertaining. It will be sent from July 1st to January 1st 1880, for fifty cents. One year for One dollar. Address Hudson & Ewing, Topeka Kansas.

## Advantages of River Navigation.

On this important subject we find a letter in the *Muscatine* (Iowa) *Tribune* from Samuel Sinnett, whose articles are familiar to the readers of the FARMER, the points of which we transfer to our columns. It would be well for the West if many more such earnest men would give their efforts to pushing forward the (to western farmers) most important work to be accomplished west of the Alleghenies. The Mississippi and its tributaries placed in the most navigable condition is the only proper solution to the transportation problem. Mr. Sinnett very properly says:

The improvement of the mouth of the Mississippi has given a new impulse to trade from New Orleans, several European lines of steam ships are either established or about to be, steamboatsmen are waking up to the necessity of prompt action. All the principal cities on the river are holding meetings. Wisconsin is all aflame, and petitions to congress are circulating in every township praying congress to pass liberal appropriations to improve the Mississippi and its tributaries. This is the only means of securing cheap transportation independent of the railroads, which are always unreliable, owing to their forming combinations and forcing up the fares and freights at such times as they can force the shippers to pay them. For the last three years freight charges from Chicago to Buffalo or Oswego have been only four cents per bushel on wheat and 1 1/2 cents on corn. Now the freights on the same articles from Muscatine to New Orleans ought not to exceed those figures, but ought to fall below them, as the navigation is not so expensive and perilous as lake navigation. I cut the following from the *Western Christian Advocate*. "During the course of the convention held in New Orleans last fall, for the purpose of taking action to memorialize congress to improve the navigation of the upper river, a delegate from St. Louis stated, that the week before, the steamboat William took down on one trip to New Orleans by means of barges, 27,000 tons of freight or equivalent to the full capacity of ninety locomotives and 2,700 freight cars, the freight bill by the steamboat being only \$18,600, whereas the freight by rail would amount to \$178,000." Now this is a significant fact that is very suggestive of the interest we have in this subject of river navigation. But there is a trade looming up in the near future that will vitally effect Iowa as well as the west. I mean the live and dead meat trade with England. It is very fortunate for us that our western cattle have never been inoculated with this fearful cattle disease, pleuro pneumonia, that is such a terror to all cattle dealers in Europe. I believe there is none of it known to exist except in a few localities in the east where those dairies are supplied with stale slop. Now this disease is one of the most contagious that is known. A healthy lot of steers driven into a yard, or carried on a car where an animal has been that was effected with the disease, are sure to catch it, and our western cattle after their long trip from the western prairies, arriving at the shipping port half starved, without sufficient supply of water, and bruised and sore with the constant jar and jolting of the cars are in just such a condition to catch any disease. But this can all be avoided by shipping in barges. On board the barge the steer fattens as readily as in the barn where he was raised. The corn and fodder necessary to keep him is placed on deck. The steam tug takes the barge alongside the ocean steamer, the steer is hoisted on board in a fine, healthy condition and is thus well able to stand the ocean passage at not more than ten per cent. of the cost at present incurred by railroad. No danger of quarantine regulations on the arrival of the ship in Europe. No stock yard charges, or middle men, to absorb all the profits. The same is true with respect to grain; the barges

in which it is shipped are run alongside of the ocean steamer, a steam elevator removes the grain from the barge and discharges it in the hold of the steamer without any elevator charges. I have written a letter to a Dublin (Ireland) paper for publication, calling attention to the opportunity that exists for a man with capital to come out here and purchase our corn, wheat, flax seed and other grain from first hands, together with our beef, cattle, hogs, etc. I sent the prices they were selling at here, the prices the same articles brought in Chicago and New York so that they could compare them and determine how much the prices were advanced by high transportation rates, and how much could be saved by shipping down the river to New Orleans. I put the saving at 75 per cent of present charges, and I believe I speak within bounds."

## The Future Farmer.

He who would excel in anything must be something more than a good copyist. He must in some respects be original, and approach an ideal standard. So the farmer of the future must be more than an imitator of the farmer who has gone before. He must strike boldly out into the field of modern science—a field at present comparatively easy to explore. Everything looks to the future farmer for success. Every year it is becoming more and more apparent that the farm must be the balance wheel of the nation, that it must in a large degree govern, regulate and control every other branch of industry. His is the most stable, permanent business; agriculture alone, it may be said, is anchored to the soil. All else is comparatively fleeting and transitory. Hence it is meet that the owners of the soil shall be the rulers of the country; we mean the actual owners of the land; those who gain their daily bread directly from the soil by personal supervision and labor.

Preliminary to this step agriculture must be infused with a higher culture, and the agricultural college properly conducted—lifted from the old schoolman's plain—offers the ready medium for this reform. When the agricultural college has been reformed, or rather perfected—for as yet it is but a feeble imitation of the old European institutions of classic literature, a slavish copy of which all our colleges and seminaries are—it will become fashionable and the wealthy of other pursuits will be eager to patronize it and send their sons to it to receive an education.

As the case now stands the world boasts of "ripe scholars" as professors to teach the book lore of dead ages; eminent lawyers, learned in all that pertains to that profession; model preachers, great divines, thoroughly acquainted with all the religious creeds and superstitions of ancient and modern times, requiring immense labor and research into black letter and dead lore. These, and many others with calligraphic letters punctuating their individuality—L. L. D., M. D., D. D., etc., etc. Agriculture alone, among these ancient orders is without honors or titles.

But the shams which have so long succeeded in hoodwinking the world are fast losing their power, as the clear, bright sunlight of true science dispels the fog in which they have been so long enveloped. The day is fast approaching and the time near at hand, when a professor of agriculture will mean something. All the vital learning of an ever living present is hers to appropriate and use to the lifting up of the human race.

Let us see what the model farmer of the future must be master of, and acquire for use, not to be worn as a button-hole bouquet. He must be a geologist and learn to read the rocks, and be acquainted with old Earth's formation; a chemist, and be able to use his laboratory, where the constituents of the soil, the mysteries of plant life, the pulling down and building up of organic matter are made plain; familiar with botany, which classifies and names the plants, shrubs and trees that are the constant companions of the farmer; a master of entomology, which points out the friends and enemies to the farm's crops, of swarming insect life; an ornithologist, no less useful than beautiful, and when he has learned the habits of the feathered tribes he will have the acquaintance of hosts of tireless friends, which he had never before dreamed of. Architecture, engineering and hygiene, in the farm vocabulary, signify beauty, convenience and health. Without these country life is shorn of the greater part of its riches and enjoyment. Meteorology has almost as strong claims on the farmer's attention as the mariner's. By it he is made familiar with the winds, the clouds and storms, cold and heat, and learns the effect of atmospheric changes on his soils, his crops and animals. Surely here is a field in knowledge large enough for the most sublime ambition, and attractive enough to win the smartest boys. Every agricultural college should embrace in its curriculum these studies, not as adjuncts but as primary, and a basis on which the whole superstructure of the pupil's education is to be built, and which should progress with an eye single to practical results, to the money it would be worth when in future it was applied to conducting a farm.

All boys could not become proficient in all these branches, but all could acquire a rudimentary knowledge of them to be improved by future study, many would acquire a practical knowledge of a number of them, and not a few would become proficient in all. The contest in the schools of to-day is for a useful, business education, and the exclusion of the large per cent of useless or unusable which is taught from the public school up to the college.

When farmers' boys are taught in the line of their life work as lawyers, physicians, clergymen, soldiers, etc., have always been taught,

they will begin to take a front rank in society and exert a controlling influence in the state which learning, coupled with numbers will always command.

## Low Rate of Interest.

Usury laws are among the oldest laws known to civilized nations. Those laws have been of the most stringent character. Forfeiture, fines, and imprisonment are among the penalties that have been enforced, and enforced with the utmost rigor when it was possible to do so, for the purpose of compelling those who had money to loan to accept a reasonable sum as hire for the use of capital. All laws under despotisms, or popular governments have, alike, been equally powerless to cure the evil or effect the slightest remedy. Every money-lender, every banking institution has always violated these laws with the utmost impunity, the latter seeming entirely indifferent in regard to the clause in their charters which works a forfeiture.

There is no remedy for the oppression of usury or high interest but the guarantee of absolute safety to the lender, and the independence to demand the use of money at reasonable rates by the borrower.

The United States government, when sorely in need of funds to prosecute the rebellion, was compelled to pay enormous rates of interest. Many of the bonds of the government were sold at low, we believe, at 45 cents for a dollar, or at a discount of 55 per cent., estimated by the money of the country and its purchasing value when the war broke out. This was not only a positive interest of over 12 per cent. on the amount of money actually received, but the government entered into an obligation to refund, or pay rather, 55 cents on every dollar more than it received.

This pernicious system is in active operation to-day, and every day, throughout the whole country, and especially so in the west. The idle dollar, in this way, is eating up millions of productive industry every year, and the only remedy by which there is a prospect of mitigating the evil is by making the security for future payment as near absolutely safe as in the nature of human events it is possible to do. How shall that be accomplished? Is the question awaiting solution. In answering we will consider it in its bearing upon the farm. An association of farmers could compass the object, or a strong, well conducted grange. If a member of the association found it necessary to use borrowed money in his business, his case would be laid before the association, which would take it under advisement, and if the decision of the committee was favorable, the financial officer of the association would negotiate the loan, and the property of the whole association would stand as security for the debt, which would leave no doubt or uneasiness on the mind of the lender, and in proportion as safety and assured payment of principal and interest at the day named was guaranteed, in that ratio would the rate of interest be lowered. We have no doubt if such a system was permanently and generally established, and when it came to be well understood and had gained the confidence of capitalists, that millions could be borrowed as low as four per cent. interest. The association would alone be known to the lender, and the property of the individual who received the use of the loan would be placed in the control of the association, to the extent that it is now placed subject to the control of the strange capitalist, who acts through agents and attorneys. If the borrower should be overtaken by sickness or other misfortune, or prove incompetent to manage his estate to the best advantage, the association would take it in charge and see that it was properly done, at a minimum expense. By this means the unfortunate family would not be ousted from house and home, but be protected and assisted by fraternal aid and sympathy in their homestead. The operation of such a system would, by its mutual benefits, draw the members more closely together in the bonds of interest, and every year would strengthen the confidence created by mutual protection and aid. In place of battling against the world single-handed, the farmer would have the active support of a strong combination exerting a powerful influence in the community.

While necessary debts under such a business system could be floated at a low rate of interest, unnecessary debts, which are eventually ruinous to the borrower, would be prevented. Every year thousands of farmers are overwhelmed by indiscreet and reckless borrowing.

## Stark's Binder.

We witnessed the operation of a new binder week before last in a field of wheat near town, which its inventor, Andrew Stark, of Topeka, claims possesses several meritorious features missed by other binders. The mechanism by which the wire is tied is wholly original and entirely distinct from all other binders, being a small device, the whole not weighing more than a pound, and confined within the arm which grasps the sheaf. This operation is performed in other binders by complicated machinery, weighing 75 or 100 pounds. There are other features of minor importance peculiar to Mr. Stark's binder, which he claims contain considerable merit, but the one of paramount importance is that the binder can be attached to any of the various reaping machines or harvesters in use. It is estimated that there are five thousand of these machines without binders in use in the state of Kansas alone, which at a cost of \$125 each, can be rigged out with Stark binders, making complete self binders of these machines. All the other binders in use require a reaper, built exclusively for the binder to work with, which will compel the owners of non-binders either to forego the use

of self-binder or lose what they have invested in their old machines, many of which will last years.

Mr. Stark has attached three of his binders to reapers of different makes which have been working in the wheat this harvest, run by farmers whose machines they have been attached to, who pronounce the binder a perfect machine. The one witnessed in operation did its work well.

It is the object of the inventor to organize a company and establish a shop in Topeka, to manufacture his machines, believing there will be ready sale for all the machines that can be manufactured for some time, in the state of Kansas alone.

## Agriculture in England.

In the telegraph reports from London, July 9th, it is announced that the house of commons had voted 76 to 56 in favor of the establishment of a department of agriculture and commerce, under a special cabinet officer. Agriculture in Great Britain is claiming that consideration which we hope in the near future to see it accorded in this country. If the post office, the army, the navy, foreign relations, the treasury and public lands, Indians and public buildings are of sufficient importance to demand the attention of a cabinet officer, agriculture and railroads, which exert a much greater influence in the nation than any of those institutions named, are entitled to the care and management of a cabinet officer. The present misnomer at Washington which distributes garden seeds by the hand of an office-hunting politician, is a disgrace to the agricultural class of this country.

## Johnson County Co-operative Association.

The grange establishment, located at Olathe, Kansas, shows by its twelfth quarterly report—from April to July—that it is not only doing a large but very profitable business for its members. The profits on sale during the quarter were \$2,930, which left a net profit of \$1,503.73 to be divided among stockholders and patrons, allowing a rebate among stockholders of 15 per cent., and to non-stockholders 7 1/2 per cent.

This is very encouraging, and the business of the association is steadily on the increase. Judicious co-operation is doubtless the road to success in every branch of industry.

## The Harvest.

We would be pleased if the numerous friends and readers of the FARMER, now that the small grain crops have been harvested, would send us statements of the yield and quality of the grain secured.

Reliable statements from every part of the state would not only be interesting to the farmers, as well as others, but would prove very useful in shaping the future operations of many in farming and other business. A good crop of marketable produce in any section means a prosperous and active business season for all in that neighborhood.

## Pamphlets and Catalogues Received.

The Fifth Annual Fair of the Shawnee County Agricultural Society will be held at Topeka, Kansas, September 30th to October 3d, inclusive.

The list is just out, printed at the office of the Kansas Farmer Publishing House. The premiums are very liberal, and tickets will be sold at the popular price of 25 cents, single admission; family tickets, \$1.00.

Ample camping facilities and abundance of water will be afforded on the ground. Stalls, sheds and pens are the best in the state, and enough to supply all demands. It is the purpose of the managers to make the fair thoroughly agricultural in its leading features this fall.

We have the premium list of the North Georgia Stock and Fair Association, for the second annual fair to be held at Atlanta, Georgia, commencing October 20th and continuing one week.

Premium list of the 27th annual Illinois State Fair, to be held at Springfield, commencing October 29th.

J. A. Alexander's large sale of Short-horn cattle is announced, in pamphlets, to take place at Woodburn Farm, July 30th, which is in Woodford county, Kentucky. The animals included in this catalogue compose nearly one-half of the Woodburn herd, all the families of the herd being represented excepting two.

## How to Utilize Old Fruit Cans.

Perhaps one of the most appropriate uses of an old fruit can that can be devised is to make it contribute to the growth of new fruit to fill new cans. This is done in the following manner: The can is pierced with one or more pin holes, and then sunk in the earth near the roots of the strawberry or tomato or other plant. The pin holes are to be of such size that when the can is filled with water the fluid can only escape into the ground very slowly. Thus a quart can, properly arranged, will extend its irrigation to the plant for a period of several days; the can is then refilled. Practical trials of this method of irrigation leave no doubt of its success. Plants thus watered flourish and yield the most bounteous returns throughout the longest drouths. In all warm localities, where water is scarce, the planting of old fruit cans, as here indicated, will be found profitable as a regular gardening operation.—*Scientific American*.

## The Drouth in the Western Counties.

The extreme limits of settlement in the southwestern counties of this state have been severely scourged by a protracted drouth this season, which has brought to the new and illy provided settlers of that region, extreme distress and suffering, and they will have to be assisted by their brethren in the older settled portions of the state, where Providence has showered blessing upon them with open hand in copious rains and abundant crops.

The counties of Comanche, Edwards, Pawnee, Rush, Ness, Lane, Sequoyah, Buffalo, Foote and Ford, are all newly settled with a sparse population, who have not had time to produce a surplus crop to fall back upon. All of these counties have been subjected to a drouth prolonged for several months. The wheat they put in last fall is nowhere; the prairie grass is as brown as in midwinter, and vegetation is nearly in a dormant state. The heavy rains on the 20th of June, which were so widely extended, did not reach that part of the state except in local showers. In the northwestern portion of the state, north of the K. P. railroad, rain has been more generously distributed. Old settlers who formerly lived on the extreme border of Kansas, near the Missouri river, and who now are located in the present drouth-afflicted counties named, assure us that this eastern section was, in those days, fully as dry as where they are now. What a marvelous climatic change has been wrought in the last twenty years. At present we have a great deal more rain than prosperous farming requires.

A public meeting was held at Brown's Grove in Ness county, composed of citizens of Pawnee, Hodgeman, Rush, Ness, Buffalo and Lane counties, on June 21st, to take steps towards securing aid in obtaining seed wheat for those citizens, who are unable, or have not the means to do so themselves, and also to adopt some means towards obtaining subsistence through the coming winter or until another crop is harvested.

A committee composed of Dr. G. Brown, J. S. Carrick and Captain Lewis Stoud, was appointed by the meeting to convey the resolutions and sense of the meeting to the capital and lay the case before the governor, and also to confer with the A., T. & S. F. railroad company and solicit the company's aid in furnishing the destitute settlers with seed wheat this fall. The resolutions addressed to the company are couched in the following language:

WHEREAS, A large number of our citizens will be compelled to leave the country unless aid is extended to them, thereby causing much damage and loss to the country and the railroad company; therefore be it

Resolved, By the people of Pawnee, Hodgeman, Ness and Rush counties, in mass meeting assembled, that we do hereby petition the Atchison, Topeka & Santa Fe railroad company for aid in obtaining the necessary seed wheat for next year's crop, and that the same may be furnished to us on such just and reasonable terms as common business prudence may permit. And be it further

Resolved, That we realize the efforts and energy displayed by the Atchison, Topeka & Santa Fe railroad company, in opening up the vast and fertile region of "Southwest Kansas" to settlement, and that we hereby heartily join in expressing our faith in its great fertility and its adaptation to pursuits of agriculture.

The meeting asks, through resolution, the governor to convene the legislature to provide relief for the citizens of those drouth-smitten counties. The petition addressed to the governor by the committee appointed to represent the sense of the people, says:

The drouth of the past season has left many of our people at present in destitute circumstances and largely crippled the resources of those who would aid the sufferers.

The present condition threatens a large part of our county with suffering in the near future, and unless relief is obtained sacrifice of property and utter commercial failure await many more, and a large depopulation of the county must inevitably take place, either by removal or starvation for those who are leaving and many are unable to leave.

We therefore urgently request you to consider the feasibility of calling a session of the legislature to act in our behalf, and in that of other counties adjoining, or to advise other means for our relief.

Local rains in the dry section of the state, recently, give the people hope that some forage and corn will be grown, which will partially aid in wintering the stock. But the new settlers in this region of country are doubtless in urgent need of assistance from their more fortunate brethren in other parts of the state and country, and that need should be speedily supplied. Individuals or communities who will furnish aid should correspond with Dr. Brown, at Brown's Grove, Ness county, Kansas.

## Inspect the Cellars.

Many of our farmers who have no special place built for wintering vegetables and fruit, store them in the cellar of the dwelling house. In order to keep them from freezing there, the cellars are banked up tightly in the fall. No ventilation is provided for, and the only way for the escape of the noxious gases arising from decaying vegetables is through the openings in the floor into the living rooms above, where it is dealing disease and perchance death to the occupants. Is it surprising that diphtheria and scarlet fever and every other fever results from such total disregard of the laws of health? A person will pay this inattention to sanitary measures, and then if his children sicken and die, he blames the weather, or murmurs and grumbles at the dispensations of Providence; cannot conceive why God should afflict him so severely. The Almighty is not to be blamed at all in such instances; the fault lies at the man's own door, or rather in his cellar, and he ought to condemn himself, and mourn over his own neglect of duty instead.—*Record and Farmer*.







## Literary and Domestic.

## Other Mothers.

BY MRS. M. E. BURR.

Mother, in the sunset glow,  
Crowning child-sons sweet and low,  
Eyes softly shining, heart at rest,  
Rose-leaf cheek against thy breast.

Thinkest thou of those that weep  
O'er their babies fast asleep  
Where the evening dews lie wet  
On their broidered coverlet,

Whose cold cradle is the grave,  
Where wild roses nod and wave,  
Taking for their blossoms fair  
What a spirit once did wear?

Mother, crooning soft and low,  
Let not all thy fancies go,  
Take swift birds, to the blue skies  
Of thy darling's happy eyes.

Count thy baby's curls for beads,  
As a sweet saint intercedes,  
But on some fair ringlet's gold  
Let a tender prayer be told.

For the mother, all alone,  
Who for singing maketh moan,  
Who doth ever vainly seek  
Disputed arms and velvet cheek.

## Ease Sentiment As To Work for Young Ladies.

A false sentiment has rendered it derogatory for a woman to be a business woman, for a girl to earn or appreciate dollars and cents, if she can possibly find a father, brother, or uncle to support her. The noble army of working women, who of all women best demonstrate their reason *d'être*, is in general a despised army; and while society applauds the woman who is an artist, an editor, an author, it does so by calling her a genius, and setting her out of that grand corps where she legitimately belongs. Families with three, four or five daughters, whether there are sons or not, if the father can possibly support them, are brought up to do nothing but help mother a little. This helping is not generally really learning house-keeping and seamstress work in all its varieties, but skimming the surface of things, making cake, dusting a room, trimming a gown, and leaving those weightier matters of the law, as shirt-making, ironing, bread-making and beef-cooking to some one else. Girls speak of it, as a hardship, if they are obliged by stress of circumstances to earn a support. "Anna thinks it is so hard; all her friends have their time to themselves, and she is forced to teach, poor child!" The whole training of the girl is aside from knowing anything about business; she reads stories and fashion magazines, not newspapers, and works on science and architecture, and practical every-day life. She does not learn telegraphy or carving, or furniture decorating, or gardening, or book-keeping, nor does she go into her father's business and learn it as her brother would if she had one; bless you, it would make her a working woman! This out of this army of working women are kept, so far as possible, all women of education means, refinement, cultured taste. These organized into a society make no end of blunders in business, and regard them as creditable rather than otherwise, as a Chinese lady cherishes the deformity of a cramped foot. If they read common law and medicine so as to be as well informed on these points as ordinary men, bless you, "they are very odd," at the least. These good ladies, with the very best intentions, undertake to handle the working-women question; they are thrown into contact with the poor, and knowing absolutely nothing of what it is to earn a living, or what it costs to earn a dollar, or what a dollar can be made to bring, they have only the most general and no particular sympathies; on the one hand, they will be deceived and kill by over-kindness, on the other, they will misunderstand and kill by hardness. It needs working women to understand and help working men; then they know that being bread-winners does not forfeit for them their position as wives and mothers; that while they earn daily wages they have the affections of the hearth; that the poor mother, left a widow, wants to keep her children in a home, not to sow them broadcast in orphan asylums; that the poor couple who have passed their married fifty years unhonored, it is true, by a golden wedding, do not want to be thrust into an Old Men's Home, the other into an Old Women's Home, or put into the separate wards of an almshouse, or one to go to one blind asylum and the other to another. There is a fine kind of charity in England, where endowments have been left so that decent, destitute old couples, or single people, can have a nice, three-roomed cottage, with fuel, water and lights, and a certain number of shillings weekly on which to subsist; and they can take in an orphan grandchild, or feeble child, living as in their own home, subject only to certain regulations of sobriety, cleanliness and good order.—*Sunday Afternoon for July.*

## Flowers.

July 5.—Among the many interesting articles in the FARMER I noticed several relating to flower culture, and as I am interested in every branch of improvement as relating to the homes of the people in Kansas, I read your worthy paper with deep interest, and note the advancement made. One idea that impressed me as being remarkably pertinent was in the article of June 18, "The Flower Garden," with regard to seed failure. I would say, it does not make so much difference where we get our seed, as how we treat them; giving proper care, at the proper time. I often give seed to people out of what I raise, and just the same as I sow, and ever I am obliged to hear it, year after year, "those seed would not grow," or else, "they did not come up," when it seems every seed I sow comes up. What is the trouble?

How can it be remedied? These are the questions to be answered.

I agree with the advice in that article about the care in sowing seed, etc., and it needs care, too, after they come up, in taking out the weeds early, or rather, never let them get the advantage of the plants. We must also discriminate between the care needed to produce the different kinds of flowers. Our perennials need care only in training during summer months. Our bulbs must be put in, in the spring, just at the right time, so that it leaves our way clear to have a few annuals, to enliven the home, previous to the bulb blossoms. Let those who are easily discouraged trying to raise annuals remember that poem, "If at first you don't succeed, try, try again." The first year after I came to this state I raised over sixty varieties of annuals; it was on new prairie soil, too, at Rossville. My husband had it broken, then sub-soiled, harrowed well, then gave me my portion, and I took charge of it. I no sooner commenced to lay off my beds and put in seed as one always should, before all the dampness of the mellow soil was evaporated. When a neighbor, passing, remarked, "you will have your labor for nothing; you can't raise flowers on new prairie soil." But being a real Yankee I answered, "I will try for it." And so I did, and was well rewarded, for I had a very handsome flower garden, plenty for all the school children as they passed, desiring "a few flowers," and plenty for every one. I also put up in packages and sold \$5 worth of seed, and gave away as many more. I relate this experience to show that it is possible in this climate to raise annuals. What is prettier or more attractive than beds or mounds of some of the fine annuals? A bed of Petunias with a few Verbenas, if nothing else, will make any home yard more attractive.

I remember an article in one of your papers in early spring, saying that on the farm the flower garden was not needed, or was out of place; would do in town, but trees were the thing at the farm house. I agree with the writer about the trees, we need them, certainly; but we can, by putting things in their proper places, have both. Annuals will never thrive under the shade of trees, so put the trees to one side, and a little back, to give place for a few flowers.

I have had many blossoms of different kinds in my yard since the first of April, Lilies, Roses, Cactus, etc., and now they are passed, the various varieties of annuals are coming to our relief, to beautify our home.

There are many reasons why we, as parents, should not neglect this means of home culture. One is, flowers have a refining influence over the mind elevating the thoughts, thus helping to keep life more pure, making home more pleasing, attractive and happy. I would never neglect other home duties to give every attention to flowers, for this is never called for: everything done "decently and in order" will give relish for the luxury of flowers, and who does not admire flowers? The child is pleased as it is allowed to pluck one to suit its fancy, and love for the beautiful bright annuals is not confined alone to the civilized American race, for the Indian, too, loves flowers, and I could ever get, as the saying is, on the good "side of them, with a bouquet of flowers: therefore a training influence on the part of one, and therefining influence on the other should more than offset the matter of care and labor. We might speak of the language, etc., of flowers—to the eye, to the heart,—but I desist, as I did not intend to theorize, only to give at this time a little of my experience in this department of home life.

We all, "at our house," welcome the KANSAS FARMER. The tested experience of others as given in it have proved a source of pleasure and profit. To us, on a new farm, there is, in every number, something particularly intelligent and instructive to each member.

MRS. JAS. PALMER.

MERIDEN, Kan.

## How to Grow the Calla (Lily).

I noticed in the FARMER a short time ago an article on the Calla Lily. Allow me through your paper to give some practical hints how to grow it with success.

After the Calla has bloomed during winter and spring, plant it out in the open ground in good, well cultivated garden soil, and let it remain till the 15th of September, or later, if no indication of frost. Then take the root up, shake all the soil off, and put it in as small a pot as possible without cramping the roots. Give one good soaking of water, then put it in a place where it is protected from the sun and cold weather, and water sparingly until it starts to grow freely, then put it in a warm and sunny place, give plenty of water, and move the plant into larger pots as often as the soil gets matted with roots.

Soil best suited for Calla is 2-5ths good garden soil and 1-5th sand well mixed.

I have had Callas raised as above which have commenced blooming before Christmas, and during winter and spring have produced seven to eight blossoms.

There is another way of treating the Calla, but it has never given me as many blossoms. It is after the Calla has bloomed in the spring, turn the pot over on the side in a cellar, or out of doors in a shady place, and let the plant rest until fall; at that time take it out of the pot and shake the old soil off, and put it in the pot again with fresh soil, then treat the plant as first described. I have grown Callas both ways with good success, and think the Calla is one of the easiest plants to grow.

I have never seen any Calla roots too poor or worthless to cultivate. The root may become

weak by improper cultivation, but as soon as it has been treated one season as above directed it will gain strength enough to bloom for next season.

H. Neilson.

ST. JOSEPH, Mo.

Mr. Neilson is a professional florist, making a specialty of bedding plants, and his instructions above given have been tested by practice in cultivating the Lily.

## Mignonette.

Who gave you your home, little darling?  
I wish that I knew  
Such a tiny, sweet, lovable blossom.  
I half think that you grew  
In the garden of old, and believe  
You were christened by Eve.

Or was it some quaint little maiden  
Of France, in old days,  
Who spied you, and loved you and called you  
(Oh, sweetest of praise!)  
—Arrestingly, as to a pet.  
By the name, Mignonette.

SUSAN COOLIDGE.

Mignonette is one of the most fragrant of annuals. I do not know of any plant that is more universally known and loved than mignonette. It will grow in almost any kind of soil, and if the seed are planted at different times, one can always have a pot of Mignonettes in blossom.

Mr. Rennie in the Chicago Tribune tells a charming little story about Mignonette. How a French political prisoner was confined in the Bastille, and whose only companion was a plant of this sweet flower. A bird was supposed to have dropped the seed where it lodged in a crevice in a wall, sprouted, and developed into a "Frenchman's darling."

Hardly ever is there a family so poor but what they can afford to buy a paper of Mignonette. It is very cheap, costing from five to ten cents a paper, and so may be obtained from one paper of seeds. A home however humble may be brightened so much by having one or two plants. Mignonettes do not bear transplanting very well.

TO MAKE A HUSBAND MAT.—Sort the corn husks, selecting the longest for braiding. Take nine husks and tie the butt ends with a piece of twine, then divide them equally in three parts for braiding. As each strand is laid over have three more husks ready to put in, leaving about an inch and a half of butt ends out. The under side of the braid will be smooth, while the upper will be very rough. It takes from six to ten yards of braid for a mat, according to the size you desire to make it. If the husks are very dry, dip them in water as you braid. The braid should be wet when you sew it, which must be done with stout twine and a long needle. Be sure and fasten the ends well.

BRAMBLEBUSH.

## Care of the Teeth.

BY MRS. J. B. MOORE BRISTOL.

Most people form their ideas of natural teeth from artificial ones, the tops of which are generally smooth. They think these smooth surfaces are easily kept clean, and they probably would be did they occur in the natural teeth. But let a child open his mouth so you can look at his back and side teeth, and you will find their surfaces or tops exceedingly uneven, full of ridges, holes or depressions, points, etc., most admirably adapted to retain small particles of food, and thus begin and promote decay. To keep these hollows clean would be a difficult matter, even if these teeth could be taken out in the hands, carefully looked at and cleansed; much more, then, when the owner thereof, often in a lifetime, never obtains a good view of them. It is a very common thing, too, to find these uneven surfaces of a tooth imperfectly covered with enamel, which increases the liability to decay. Whatever powder or preparation used in cleaning the teeth which has the effect of whitening them also corrodes them. All food containing phosphate of lime is excellent for the teeth, especially when they are forming, and also for a mother when nursing a child, as well as before the birth of her infant. It is well known that nature in her desire to supply strength and material for the younger life will rob the mother of so much. She therefore needs a large supply of phosphate of lime to answer for both. Most people are aware of the great injury liquid preparations of iron do to the teeth. "A lady," said Dr. Scott to me one day, "has just consulted me about her teeth, which some years ago when I saw them, were of the very best, and likely to last. But she took muriate of iron when given by her physician, and the teeth are now in such a state that it is no use to try and fill them." She imagined, as many persons do, that by taking it through a quill all danger was avoided. But this hardly protects the mouth at all, and iron is one of the most insinuating things, finding its way and remaining between the teeth where a tooth brush fails to reach it. If it is to be taken it should always be as a pill. Now, physicians well know the injury to teeth which iron almost always causes, yet it is rare for them to allude to it or warn a patient; much more for them to give the drug in the form of pills. We all learn by bitter experience lessons which, had we known them earlier in life, would have saved us a vast amount of trouble, pain and expense. Were I starting my life anew, with the knowledge I now have of the care needful for the preservation of teeth and the means one should use, I think I should have little occasion for a dentist after the second set had made their appearance in good order.—*American Farmer.*

## Hints for Household Decoration.

TO CRYSTALLIZE GRASSES.—Take one pound of rock alum and pour on it one quart of boiling water. When quite cool put into a wide-

mouth vessel and hang in your grasses a few at a time. Do not let them get too heavy, or the stem will not support them. You may again heat the alum and add more grasses. Adding a little coloring will give variety. Ferns are prettier bleached than crystallized. Take one pound sal soda dissolved in five pints of rain water; one-half pound chloride of lime in three pints of water, allowing twenty-four hours for the latter to dissolve. Strain out the sediment and pour the clear solution of lime into the solution of soda. The result will be a thick buttermilk solution. If it should not come so, the lime was not strong enough. Fill this until perfectly clear. For leaves, if skeletonized, use one part solution and one part water; for ferns use full strength. When perfectly white remove to clear water and let stand for several hours, changing two or three times. Float out on paper and press in a book when nearly dry. I have bleached ferns to perfection by the above method.

RAG CARPETS.—"I will tell you a good way to save hemming them. As they are cut off ravel out a few threads or strips of filling at the ends of each breadth, and tie the ends of the warp not unlike the last end as tied by the weaver. But it is not necessary to ravel out so much. This can be turned under when the carpet is put down, and will hold the tacks quite as well as either a binding or a hem. I prefer this way, it being the neatest as well as the easiest done.

## Fashionable Window Curtains.

Very useful and pretty curtains are made of the strong, yard-wide shilling prints, which come this season in sage green, buff and white grounds, strewn with gay little sprigs of flowers in red and blue, lined with white or buff paper cambric, with a double three-inch pleating for top, border and hangs, but the pleating must be very regular and full to look well. Finedotted muslin with border of inexpensive trimming lace, or frills bound with soft color, or with colored ribbon or cambric run in the wide hem, are seen at city windows. Nottingham comes as cheap as a dollar a yard, and is dipped in coffee starch to redeem its harshness by an ecru shade, and its figures are over-worked or darned in bright creases. The crash that comes a yard and a half or two yards wide makes fashionable curtains, with a border of wine colored or dark brown plush at 65 cents a yard, set on with catch in coarse bright silks, and is a field for wonderful embroideries in Kensington work. Roller blinds made of embroidered muslin with large centers in lacework cost from \$2 to \$8 a window. Large figured organdies and muslins in light colors are made into roller blinds, under white drapery, or used for screens on frames like mosquito nettings to imitate the window screens of painted muslin which are the finest fancy of the time.—*Shirley Dore,* in Toledo Blade.

THE FIREPLACE IN SUMMER.—A fireplace, large or small, may not only have its unsightliness covered, but it may be made an attractive and beautiful feature of the room by converting it into a fernery. It is well, to prevent all injury from water, to have a shallow pan or tray made of galvanized iron; this should fit the floor of the fireplace, extending as far forward upon the hearth as may be desirable, with its edges turned up all around for about two inches. This is the only expense attending it; all the rest is to be furnished by the woods and fields, and is vastly more easy to those who live in the country than to dwellers in towns—though these, if they have a taste for rambling, will find a way to accomplish it. Moss-covered rocks are preferable; these are to be disposed in a natural manner; woods-earth is to fill every crevice between and under the stones, and fill the pan. Bring home ferns of all kinds as soon as they show themselves, taking up good clumps of earth with them. Place the kinds known to be tall-growing in the rear, the smaller in front, disposing them in an informal manner. Then cover all of the earth with sheets and tufts of moss to make a complete carpet of green. If in getting the moss some of the low plants, such as partridgeberry and the like, are taken up, all the better; if the fireplace admits of it, arrange some kind of shelf or support within the chimney and above the opening, upon which may be set pots or fruit cans of Ivy and other vines, which may hang down naturally, or be trained along the mantle piece. Moss ferns love shade, and if supplied with water will flourish; when any are found not to like it, replace them by others. The soil care will be watering; let the soil be moist at all times, but never wet, or muddy. Water by sprinkling, as this will keep the plants free of dust and add to their beauty. Those who are fond of such things may not only hide the fireplace, but derive much pleasure from the care of such a fernery.

## From Anderson County.

July 11th.—Anderson county seems to get the good weather, and the crops are getting worthy of report? But I, as a resident, intend it shall be so no longer.

Our prairie is filling up with go-ahead, business men. Stock-raising seems to be the leading idea and the ultimate end of all plans, while our homes and our minds are not neglected. New settlers are turning their attention a great deal to sheep-raising, and it looks as if it might be a paying business if well managed. Farmers are improving their stock and their homes generally.

Richmond, our little station, though not in Anderson county, still interests us all, for it is near and all we have. It is growing as fast as could be expected. We have two stores, one a bran new one, large and well filled.

Our fruit will be light. Potatoes will yield well, I think. Corn is the main crop, and is looking well. S. farms have done us little or no damage.

SHEPHERD.

## 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.

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MAKE HENS LAY. An English Veterinary Surgeon and Chemist, now travelling in this country, says that most of the Hens 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. Possess one teaspoonful to one pint food. Sold everywhere, or sent by mail for eight letter stamps, I. S. JOHNSON & Co., Bangor, Me.

\$10 REWARD. I offer the above reward for any information leading to the finding of the following horses, strayed from my premises, two miles southeast of Auburn post office, June 2: One dark sorrel mare with small white spot between the eyes, no other marks; weight 1,300 lbs. Also a three months' old horse colt, color when shed same as mare. Also one five-year-old sorrel horse, pony with two white hind feet, blazed face and harness marks.

S. JOSLIN, Auburn, Ken.







### The Agricultural College.

A doubting Thomas visits the Kansas State Agricultural College at Manhattan, and comes away converted. From his letter to the *Atchison Champion* we make the following extract:

"I confess that I went to Manhattan prejudiced against the Agricultural College of Kansas, and entertaining the belief that industrial education was a 'barren idealism'—a beautiful Utopian dream, but not susceptible of realization. From what I had understood, I fully believed that our college was the most conspicuous failure in a system that was itself a failure. Since visiting Manhattan, my views have been wholly changed, and now I feel wonder and regret that the youth of northern Kansas, especially, have failed to avail themselves of this bountiful provision for their welfare.

Let us take the case of five young men who can command a little money, say from thirty to fifty dollars a year. One of them wishes to become a printer, and wishes, also, a thorough English education; another wishes to become a scientific farmer, capable of taking advantage of every factor of success in that noble art; another wishes to be a gardener, nurseryman or fruit grower, or all of these; another wishes to learn carpentry and joinery; another wishes to learn pharmacy and chemical technology. By going to the Agricultural College they can learn these trades, and at the same time they can receive a good English, scientific and practical education, which shall embrace the elements of all the practical sciences. And this at a cost so trifling that almost any live boy in the land can obtain it. These boys, entering at Manhattan, have nothing to pay for tuition. If resolute they can board themselves at a cost of one dollar a week; if still more resolute, they can earn twice this amount, or more even than that, at extra work on the farm, for which they can receive ten cents per hour. The course is so arranged that every pupil can have four hours to devote to physical development and pecuniary earnings each day. Who shall say that it is not better that a boy do this than 'develop his muscles' in boat rowing or base ball?

The course at Manhattan embraces nearly all that is unitarian in education—chemistry, botany, geology, physiology, zoology, meteorology and mineralogy, all receive their just share of attention.

These sciences lie at the base of all knowledge and all progress. By understanding them a Science of life becomes possible. With the development of biology, the science of social life and organization also advances. The Manhattan system of education is an attempt to reduce this conception to a reality. Most assuredly it falls far short of full realization, but it is neither the fault of the system nor of those responsible for the attempt.

It is no small matter to sweep away from the idea of education the idea of classics, and higher mathematics—beautiful, ornamental, and useless devices for intellectual gymnastics," which have so long passed current as the means of education that he is considered as striking at the foundation of the government and church who seeks to discipline them by utilitarianism.

Manhattan started off on the idea that it was to be a theologico-classical school, with a "tatter patch" adjacent, where the boys could alternate grubbing for tubers with grubbing for roots of the Greek verbs. All this, in 1873, by a resolution of the new Board of Regents was upset, and the attempt made to educate the youth of the land in the useful sciences, and practical drills in their application to the more common arts and industries. The "revolution" kindled much opposition, and the advocates of the theologico-classical system of dwarfing the intellect by Greek and Latin compresses made Rome and all its precincts howl with their scoffs and denunciations.

Manhattan has not, therefore, received its just support from the state legislature, the state officials, the county superintendents, the state press, and hence not from the people. Here is a magnificent endowment, bestowed by the general government for the benefit of industrial education, with especial reference to the needs of our principal industry, Agriculture. That fund cannot be applied to the creation or maintaining of buildings or libraries. But its usefulness may be and has been greatly "crippled, cabined and confined" by a systematic course of pinching it back by the State. Surely, it is poor economy for the State to cripple the utility of this institution by cutting off requisite appropriations for buildings and all needful adjuncts for bringing forth the best results. These people are of the kind that feed their milk cows on cotton-wood fencing, and then kick them because they do not give a bountiful supply of rich milk.

The State Agricultural college has given returns for vastly more than might rationally be expected from the nubbins doled out to it in the way of appropriations.

I was shown over the farm by Prof. Shelton, and through the laboratory by Prof. Failyer. The farm was in excellent condition, and if this department served no other useful purpose, it would amply repay its cost in affording a kindergarten example of how to construct and keep a farm. I had been led to believe that this department was especially a failure, and the offensive "dubs" affixed to the Professorship had led me to believe that there was no intellectual work for the Professor to do. Now as the system is, I found Prof. Shelton had plenty of brain work for his boys, in drawing them out on breeds and races of farm animals, the methods of improvement, the methods of feeding, the care of the young, the value of foods, the yield of forage, the feeding value of forage crops, the science of manures, the science and art of crop rotation, harvesting and storage, etc. Prof. Shel-

ton needs at least one assistant to develop more fully the science and art of dairy farming. This receives all the attention probably it can receive in the absence of the dairy itself. In the library are collected works on agriculture, some of them old and rare, yet taken as a whole they are a disgrace to the state. Prof. Shelton needs \$2,000 to be expended in modern rural works, so that his pupils may know what is already known before experimenting themselves. He also needs, most imperatively, a large implement museum, where the tools of agriculture may be gathered, of all times and nations, from the rude crooked stick to a riding plow; the sickle, the cradle, the reaper and the harvester should each here rest embalmed—monuments of agronomic progress. If Kansas will furnish the halls contributors will stock the museum. Such a museum would, of course, act as a kindergarten means of instruction.

I was delighted also with the work shop. There I found tables, chairs, desks, bureaus, house frames, bridge work, carpenters' finishing work, plans, estimates, specifications, etc., etc., in profusion. There was going on turning, varnishing, etc., in all stages of development. This was an "industrial," also. Here the boys amused themselves, instead of at the noble game of base ball, and I soon learned that boys had to be restrained from taking too much shop instead of forced to it as unwilling labor.

In the printing office the boys that were learning the printer's art were engaged in type setting and running a large job press, printing programmes. These boys were boys that intended to take to printing as a business, and the learning of their trade in no wise interfered with their education. So of telegraphy. Boys and girls wishing to learn that trade do so while getting their education, and when they leave school they have it—and scarcely know how they came by it.

In the laboratory I could see the outline of the work that had been done, though the shop was silent and voiceless at that hour. Here, chemistry, mineralogy, meteorology and physics are not only talked but worked. Principles and philosophies are without doubt here taught didactically only. But here, as elsewhere, in the Manhattan system, these are not greatly esteemed if they cannot be harnessed to do work. Pupils are required to apply their learning as it is acquired, and to do the useful things that their sciences say may be done."

A correspondent of the *Nebraska Farmer* makes the following pertinent observations:

It is a query with me why farmers do not write more for farm papers. There are numbers who could write good, strong articles of practical value, if they would, and so, by interchange of ideas and experiences, all be benefited. I have a conundrum I would like to ask: Why are farmers like a dark lantern? Because they are full of light but do not let it shine out.

Now I know some few things I think are pretty good, and I would like to swap ideas.

**A DRAIN FOR HORSE STABLES.**  
Take a post-auger, bore a hole as deep as you can, under each horse, where the water would settle, fill this with coarse, clean gravel, and your drain is complete. Simple, isn't it, and cheap? The water will sink through the gravel below the hard crust formed by stamping and your stall is dry, hard, smooth, and sweet.

Mrs. MURIEL took great interest in parish affairs. Last year she promised to assist in decorating the church. One illuminated text she thought would look well over the chancel screen, and she requested her husband to bring it from town. As might have been expected he forgot the text and size, and wired to his wife for particulars. To the surprise of all the telegraph clerks, this message came flashing over the wires: "Unto us a child is born, nine feet long by two feet broad."—*Punch*.

An Iowa husband furnishes his wife \$50 to buy a silk dress, but instead of so doing she put the money in the bank, let it remain there eighteen years, added to it whenever she could, and the other day paid off a mortgage on the farm.

**From Linn County.**  
The oat crop is very short. Much of it is too short to bind.

Never has there been a better prospect for corn at this season of the year than now. The season has been favorable from the first; early dry months to kill the weeds, and rain enough to make crops grow fast. We are having heavy rains now.

Grass is in fine condition of growth and stock doing finely. Stock cattle are scarce in this part. Two-year-old steers are selling at \$25 per head, and yearlings at \$10 to \$18.

There are not many fat hogs left but will be a fair crop of hogs in the fall should the corn crops do well.

Our county (Linn) has made a rapid growth in the last year. Over 1300 in population, and improvements and property in proportion.

Enough for this time. John D. Wait.

**Baldwin, Douglas County.**

July 11th.—I write more particularly of the southern part of the county. The wheat crop

is proving to be better than was anticipated. Where threshing has been done the yield is from 20 to 25 bushels per acre. Some claim that the Clawson or Centennial will yield from 30 to 35 bushels to the acre. The entire crop, which is large, has been got in stack in good condition, and so well satisfied are farmers with the crop as a paying investment, that more will be put in than ever before. The berry is heavy and very fine. There are two threshers running in this section, both with steam power, giving much better satisfaction than the old horse-power system.

Corn—well, as to this, the saying is, of every one, that it will simply be enormous. Never has there been a better prospect anywhere in any country. The stand is good, and it looks as if every one had done their best to succeed with their corn crop. The season has been very favorable.

Castor beans are looking well, though in this part the amount planted is not large. The prospect for all kinds of late vegetables is all that could be desired, so that take it all in all, we will be able to help feed the thousands that will move into Kansas the coming year.

Apples, I think, to take the county over, will be one-half crop, fall and winter varieties. Grapes, full crop.

The health of the county is good. I have passed some ten years in this part of the state; have lived in two other states, Iowa and Indiana; am satisfied they do not compare with Kansas in regard to health. And another thing I would say: If a great many of the thousands that are coming to the state, knew they could buy improved farms for from \$12 to \$30 per acre, and good wild prairie for from \$4 to \$8 per acre, they would not pass through the old-settled part and go on to the frontier where all is new and everything yet to be built up.

Corn is selling at from 26 to 28c; wheat, 80 to 90c; hogs, gross, \$4 per cwt.

WM. PLASKET.  
Wakefield, Clay County.

July 14th.—Wheat nearly all stacked; will average nearly twelve bushels per acre. Oats not cut, but will make a big yield. Rye, very little sown. Potatoes have a show for a big crop. Corn never looked more promising for a large crop than now, and a very large area planted.

New wheat worth 65c to 80c per bushel corn, 22c to 24c.

Very little of any kind of fruit.

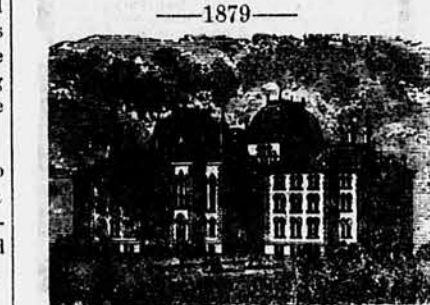
Farmers are now beginning to turn the sod back again, in preparation for wheat seeding, which is the sure way. Plow in time so that the ground may have time to settle before the wheat is put in, and sow in time that it can get a good root before winter.

Hogs are doing well. No cholera here at present.

Sheep have clipped a very big average this year, owing to the dry winter we have had. The Shropshire Down and their grades averaged 9 pounds of unwashed wool; the natives averaged 5½ pounds. The Shropshires and their grades pass as medium grade wool, which brings 6c to 7c per pound more than the native or Merino wool unwashed. I find the medium wool suits the manufacturers of Kansas best of any. The Shropshires are the champions of Kansas for mutton and wool. They will average 15 per cent. more profit than any other breed in Kansas, taking mutton and wool. Mutton is more suitable for this hot climate than any other meat. Four farmers could join, and each use a quarter without loss. Some people do not like mutton. Why? Because they have been used to Merino mutton, or so-called. I never could fancy I was eating mutton when I was eating it. It has a poor flavor. Try the Shropshire or Southdown mutton and you can eat it and like it, too. There is something beside bones and the woolly taste I have heard so much of.

"N. B." in the *FARMER*, recommends for sheep, copra and antimony, which I believe ought not to be put into any animal except a hog; nor is salt of any use more than candy to a baby. Sheep are just as fond of it as the boy is of candy, but neither are of any benefit to the child or the sheep. I have as good sheep as ever Kansas produced, that have never eaten a pound of salt in their lives, to my knowledge.

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—1879—



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