

THE KANSAS FARMER

ESTABLISHED, 1863.

TOPEKA, KANSAS JUNE 9, 1880.

VOL. XVIII, NO. 23.

THE KANSAS FARMER.

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

"Artificial Rain."

I would like to ask Mr. Hey a couple of questions: 1st, Is it the water upon the plains in any particular summer that determines the number of rains of that summer, or is it the number of rains and the number of inches falling that determines the amount of water upon the plains in any particular summer?

I will frame this question in other terms, that I may not be misunderstood: Does the air derive its moisture from the soil during the summer months, or does the soil derive its moisture from the air during the summer months?

I confess that when the soil is colder than the air that then the "balance of accounts" is in our favor, and I am quite sure that when the soil is hotter than the air, the balance is the other way, and drought is the result if our balance runs too low. To retain our balance from the period of excess for the period of deficiency, appears to me an easy, feasible and inexpensive job. But Mr. Hey and the editor of the FARMER, and nearly everybody else, can see in this scheme of obstructing the rate of water efflux, no possible good unless our whole rainfall were retained. Where I live, this, on the average, is now about 33 inches. If this were all retained and next year 33 inches more fell and was retained, we would have 66 inches of water with us; at the third year we would have 99 inches, or enough, if spread out, to cover the soil eight feet deep.

This, I understand Mr. Hey and the FARMER to say, cannot be done. "It is futile" to talk about restraining any of the water unless we restrain it all, and as we cannot restrain it all it is therefore "idle" to talk about restraining any of it. In other words, nothing will do but great damps, and these, besides being expensive, will wash away under the pressure of great floods. To this I will here reply that God has not found it necessary to build such great damps to restrain a very considerable amount of water in northeastern Russia and in a part of Minnesota, where the air is humid, and yet the rainfall light.

A system of natural shallow lakes, lagoons and marshes answers every purpose. The same was the natural arrangement in Illinois, and the climate was humid until these little damps were cut away, and the flow of the winter's water supply was hastened back to the sea.

My second question to Mr. Hey is as follows: Are forests the product of climate, or is climate the result of forests?

It is certainly true that in all countries where the air is humid all the year round, and no periodic droughts of long duration and great aridity occur, there forests abound. Thus in the path of all currents of air that traverse an ocean or a gulf, or even a great lake, forests are found whose luxuriance is proportional to the degree of humidity. Southern Chili, the northern part of the "Pacific Slope," to the windward of our great lakes, to the windward of the Atlantic Ocean, to the windward of the Black and Caspian Seas, forests are found.

In all places where the humid atmosphere cannot be predicated of the climate, without knowing whether the land be clothed with forests or not, you may be sure no forests are found, and the cultivation of trees is very difficult, though in many such places the experiment is still tried after from three hundred to a thousand years of failure, by people who, like Mr. Hey, believe that the climatic change is subsequent to the growth of the trees.

To me it looks quite as probable that the taking of the cattle out on the sand hills to graze will start living springs of water from that voided, as that the planting of trees (plants requiring more water than any cattle) will beget the supply of water upon which the trees are to live.

Nothing in all nature more completely exhibits the "harmony" of the relations between living things and their environment than this that exists between the distribution of perennial plants and the supply of heat and moisture. Where the heat is great and the air nearly saturated with water, vegetation, and particularly arboreal vegetation, is especially abundant and the species numerous, and individual specimens magnificent. This result is, of course, best attained in the tropics and to the windward of a large body of water. Diminish the heat, but keeping the degree of saturation

constant, and the species fade out in one line; diminish the supply of water faster than the heat is diminished, and the species vanish along another line.

From the humid air of the sea toward the heart of a continent along a line of latitude, the water gradually declines and the mean annual temperature gradually increases, but the summer mean increases more than the annual mean. The air therefore becomes drier and drier, and as we advance the tall, slender trees of the ship-builder first imperceptibly vanish, and the sturdy, broad shouldered oaks, walnuts, etc., as gradually take their place. Advancing further, these become more and more scrubby, low headed and spreading. And now openings begin to appear, and the shrubs begin to appear. Going further these openings increase in size and the dryness of the air has been found to increase also. At length the "prairies," "plains," "steppes," "pampas," "llanos," and all and singular those areas of grass without trees meet the advance with outstretched fingers "pointing out" upon some drier ridge or more unfriendly soil, while the forests break into groves on the uplands, and long fringes of timber upon the banks of running streams, or larger swamps and marshes. Periodic droughts, perhaps not coming around oftener than once in ten or twenty years, kills out the trees in the least favored sites, while other sites a little more favored, withstand drought, and so the border line between "plain," "steppe," "prairie," "pampas," "llano," etc., is broken into alternating groves and openings. Toward the heart of the treeless area, the timber points out along the banks of running streams, or seeks the cooler side of a hill, or climbs a mountain, or descends into a valley, or goes anywhere and everywhere, if the relative humidity is as great as is compatible with forest growth in that site.

Beyond the "grove land" we find "shrub land," and beyond "shrub land" "grass land," and beyond "grass land," and after a faint skirt of "artemesius," saline plants, "cacti," and "spurge," behold the desert!

Where there is a high, mountain range lying across the paths of ocean winds, the forest and desert are simply on opposite sides of the mountain range. Opposite the great Brazilian forests, which are on the windward side, receiving the humid trade winds, the sterile coasts of Peru and north Chili are found. To the southward Chili begins to receive the winds of the Pacific blowing from the northwest, (the return trades), and at Valdivia magnificent forests are found. But cross over to the sea side of the Andes and behold the magnificent forests of the Amazon are gone, and the desert of Patagonia lies before you. Turning our eyes to the northward, we see it all "grass land," "shrub land," "grove land," and "forest," while on the Pacific side we look southward through the same vista. Coming northward at the Tropic of Cancer, we look northward and we behold "desert," "grass land," "shrub land," "grove land," and "forest," lying on the western slope of the Sierra Nevada in the same climatic order of succession.

Which is cause and which is effect, Mr. Hey? The question is very important, for soon we shall behold another great cloud of deluded mortals, who barely know a mullein stalk from a maple tree, going out into the desert to take up a "homestead" and a "timber claim." Their hopes are high, for they are resolved to grow great forests and make it rain, and rain until prayers will have to be offered up to get it to stop. Then they will surround themselves with fine orchards of apples and pears, and quinces, and grapevines, and cranberries! Delightful vision if it had any framework. But the result of this timber claim bosh is that these settlers squat upon the sand hills, and plant a little "timber," and in the first six weeks (or months) they pass them a herd law, and destroy the only source of wealth their county or township contains—the boundless growth of verdure that God Almighty intended should furnish beef, and wool, and perhaps cheese, for a continent.

That the climate is changing so as to become more favorable to the culture of the broad grasses I have no doubt, and shall offer in time some excellent proof. But that the planting of trees, beyond the influence exerted by the plow that plants have assisted in this amelioration, is as absurd as to suppose that any other living thing which gives back to the air the water it receives from the air, and no other water ameliorates the climate.

There has never been a day since the settlement of Kansas, but that in that day from two to three times as much tree foliage has been destroyed by the ax as was planted.

To-day the whole breadth of artificial timber growing will hardly equal the amount of natural timber cut away by the Indian and sold to settlers, upon the whole plains.

There is little hope for the adoption of the proper and most feasible and useful means to redeem the Arid Belt—anciently the Great American Desert—from its periodic droughts, so long as that irrational doctrine prevails which means the following: Trees pour out more moisture into the air which surrounds them than any other living thing.

It is not necessary to say where this moisture is obtained, but being poured in the air, the humid air pours it back as rain upon the soil, and from the soil it is taken up by the trees and emptied into the air again, *ad infinitum*.

Trees require more water than any other plants. These "sylva cultural philosophers" all admit that. But that is of no consequence in their welfare; for planted in a region where the supply is deficient, they draw water by some occult power, not only for their own moisture but sufficient to grow acres and acres of contiguous corn, oats, wheat, barley, and potatoes!

C. W. JOHNSON.

How to Do It.

There is a best way to do everything, and the difference between doing a thing in the best way and some other way is often the difference between success and failure. A hint as to the best method of doing many simple things, may be of lifelong benefit. A few such hints I propose to give.

Some persons have difficulty in getting plants to grow when transplanted. Some wait for rain to wet the soil; but if wet enough to prevent wilting, it is apt, on drying out, to form a hard cake about the plant that injures its growth. Some puddle them by dipping the roots in a thin mud. This is well on first drawing them from the seed bed, but if the soil be inclined to be dry, the little moisture in the puddle is not sufficient to sustain the plant until it can attach itself to the soil, and it is likely to wilt if not die.

I have found the following the best plan for setting plants: Make a hole deep enough to receive the roots, so that it will stand some deeper than it did in the seed-bed; place the plant in it in a natural, upright position; pour the hole full of water, wait until it has nearly all settled away and press the soil firmly around the plant; clip off the larger leaves of the plant and leave it to its fate. It will grow.

If plants of any kind are to be watered after they have been planted, the top soil should be drawn from around them and the soil thoroughly soaked for some distance around. The surface soil is then to be replaced. This course will prevent the surface from becoming hard and impervious to water.

Too little water is generally used in watering plants, the surface being wet while the deeper soil is left unaffected. Common soils, if dry, will absorb 40 to 60 per cent. of their weight of water. That is to say, 100 pounds of soil will require 40 to 60 pounds of water to saturate it. A thorough soaking of the soil about plants once a week is better than a slight surface wetting every day.

The best way to raise good potatoes in our dry climate is to mulch the ground well after they are planted. They may be planted at a moderate depth, say three to five inches, and then have eight to twelve inches of straw, hay, or long manure, spread evenly over the surface. The mulching should be put on before a rain, as if put on while the soil is dry, it will remain loose and mellow all the year, but if the soil be wet when the mulch is applied it will become compact and hard. If potatoes are to be raised, without mulching, in our light soils, they are to be planted quite deeply. I find the best way to be to plant as the ground is stirred, dropping them in about every third furrow and throwing the soil from the next furrow onto them. If the plowing be done eight or ten inches deep it will give them a good depth. They should be thoroughly harrowed just as they are breaking through the soil. Cultivation is an easy task after this.

Many people have been surprised to find, after a few years of cultivation, their light, loamy soils subject to very bad blowing by our strong winds. It frequently happens that crops on the lighter, sandy places are entirely destroyed by the drifting sand. With some it has become a serious question how this blowing is to be prevented, for if some means cannot be devised to control it, many fine farms will become desert wastes, and many others will be greatly damaged. While this drifting may not be entirely prevented, I think it may be largely reduced and controlled. As our strong winds

are all from the north or south, all plowing should be done east and west. Where furrows or ridges run the way the winds blow, it will cut into them and drift badly, when if it had to cross them it would have little effect. Running the cultivator through the corn in an east and west direction, even after drifting has begun quite seriously, will soon stop it. Drifting soil should be plowed as soon after rain as possible, as newly stirred soil does not drift like that which has been rained on. Stalks, stubble and other litter should not be burned but plowed in, as they aid greatly in holding the soil. Very light sands may be sown to small grain without regular stirring, by drilling or harrowing the grain in the old stubble or stalk ground. Grain will frequently do better in this way than if the ground is loosened up by stirring. Intelligence must be used in the management of these light soils if the owner does not wish them to fly away and leave him. L. J. TEMPLIN.

Meteorology.

I have just been reading Prof. Johnson's essays on Meteorological Phenomena, and am deeply interested in the subject, though I do not believe that all his conclusions are warranted by the facts. We have a great deal to learn yet about the weather gauge, and I am glad to know that there are so many learned men interested in the subject most important to us farmers. It is probable that there are some larger circles of wet and dry years that influence the weather, that we have not sufficiently ascertained yet to enable us to tell exactly what amount of rainfall there will be within a given period or a certain area of land.

There are a few things that are known to be true of the weather in Indiana: 1st, We had an extreme wet year here every fifteen years since this country was settled, and two moderately wet years about half way between. Our extreme wet years were 1828, 1843, 1858, and 1873, which will bring our extremely wet year again in 1878, and our moderately wet years in 1880 and 1881, which is generally the case where you have dry seasons west of the Mississippi river and especially on the plains, though there are some notable exceptions to this rule.

I am less than forty years old, yet I have seen enough of the world, and especially of the United States, to know that at no very distant day in the past, what is now known as the plains was a dismal desert without vegetation. Now that nature, by a gradual process, has spread her mantle over those arid lands, we should assist her by the planting of trees and the propagation of the grasses.

It should be generally known among farmers that the vegetable kingdom always gives off oxygen and takes up carbon where the plants are growing, therefore spare the trees and the grass if you hope to have homes in Kansas.

ROBERT S. COOK.

Frankfort, Clinton Co., Indiana.

Sheep vs. Wheat.

Having subscribed for the FARMER and received one number, I am well pleased with it. I like the manner in which it is gotten up. Communications from different parties all over the state are a source of information to all that are interested in the steadily increasing prosperity of the great state of Kansas, whether engaged in agricultural pursuits, stock-raising, or any other branch of business pertaining to the building up of our commonwealth.

Having settled in Kansas two and one-half years ago, full of hope and inspired with a sufficient amount of courage gathered from the lips of the many farmers, that it was an easy matter to raise what they called the *king*, or the staff of life, I went to work with the plow and the harrow to raising wheat—the great, never-failing cereal of western Kansas! But alas! how quick my hopes were blasted. I have now the third crop growing, the first being spring wheat, which proved almost an entire failure on account of rust. Last season—250 bushels off of about 100 acres, and the present crop nearly a failure. So, friends of the FARMER, you are at liberty to come to the conclusion that I have about enough of wheat raising, not wholly on account of the failures since I have been in Kansas, but looking back to the welfare and prosperity of those that have been in Kansas and have gathered the bountiful crops of wheat in former years. When it yielded largely and brought a good price, and having learned that the majority of those big wheat raisers are heavily involved, reminds me of a successful farmer in Illinois that I once heard say, "The more wheat a man raises the poorer he will get."

Experience teaches the best lesson, and ob-

servation is a good mark to go by, so I have had some experience in wheat, and I observe that the stock men that give the business close care and attention are the men that are making the money. Here we have an abundance of the best of pasture, plenty of good water easy of access, and a healthy country for man and beast.

I would like to learn, through the columns of the FARMER, the breed of sheep best suited to the Arkansas Valley. J. E. WHITE.

Hutchinson, Kansas, May 25.

Weeds After Harvest.

I am pleased to see that Mr. L. J. Templin, of Hutchinson, has, in his letter to the FARMER, called attention to this most important subject. I am a new comer to this country, but I have been here long enough to see that the land is too fertile to be allowed to remain idle even from the time the wheat crop is harvested until the farmer is inclined to work it for another crop. Not only our neighbor's sand-burs, but wild sunflowers and other kinds of weed-pests, flourish until they show a finer crop than the farmer has raised, and this is more especially the case on the best bottom lands.

My object in writing this is to suggest that perhaps if cole-seed (or as it is generally known in England, rape-seed,) should be sown directly the wheat crop is taken off, the growth of weeds would be lessened and there would be a favorite forage for sheep, cows and hogs in the autumn, growing instead. The rape would not come to much of a crop where fall wheat is taken year after year, but on land intended for spring crops, I believe it is quite possible to make it profitable as a second crop, as well as a check to the objectionable weeds.

Will any of your readers give the benefit of their experience if they have tried winter cole-seed in this state? J. J. SMITH.

Morris Co., Kansas.

NAOMI, Mitchell Co., May 20.—I have waited a long time and waited in vain for a good rain, that I might make a more favorable report than I did in my last letter. It was dry then, and has been dry and very windy and dusty nearly all the time since. We had a light rain about a month ago, enough to wet down two inches. Last night we had a very gentle shower. It wet down 1½ inches. With these two exceptions we have not had rain enough at one time this spring to any more than lay the dust. As a matter of course, every thing in the shape of crops is very much in need of rain.

A large amount of fall wheat has been plowed up. That left standing is beginning to head out, and stands from six inches to one foot high. Much of it looks as though it was dying. I find, upon examination, that young chinch bugs have made their appearance. Spring wheat and oats stand very well, but are very small and backward.

Some corn, especially on fall plowing, looks very well, and is large enough to cultivate. On spring plowing some is dying, some looks well, and some never will come up until we have more rain. A very large acreage has been planted. A great deal of ground is plowed that will not be planted unless it rains soon. There is also a great amount of land that has not been plowed because it could not be.

So far potatoes have kept just a little in advance of the bugs, but when the young bugs begin their work, I fear the result. Gardens promise an entire failure.

Trees and hedge plants set this spring make a very poor showing. The greatest growth I have seen lately on anything is in the length of farmers' faces, generally.

I put out about 1,600 cottonwood cuttings for myself and a lot for a neighbor. Those that had been cut and buried until they were healed over the end, and had rooted before they were set, are perhaps one-half growing, while those stuck as soon as out, are nearly all dead.

My cataplas have not come up yet. I waited so long for rain that I fear I shall lose the most of my seed. Think I shall have at least ten thousand if all should grow.

With us prices range as follows: Wheat, 60c to 90c; oats, 25c; corn, 23c; fat hogs, \$3.25 to \$3.50; butter, 8c; eggs, 7½c.

Times very close and money hard to get. Farms for sale are very numerous. More people leaving the west than are going west, though in some counties west of us and even in some parts of this county, there has been more rain than here.

F. W. BAKER.

FORCE.—A pound of energy with an ounce of talent, will achieve greater results than a pound of talent and an ounce of energy.

Farm Stock.

Fattening Hogs.

I send you the following statement of an experiment in fattening hogs: On the 17th day of January I purchased eight shoats. They were not weighed, but the owner was willing to estimate them at 90 pounds each, and no one who saw them put them at over 100 pounds. I paid \$23 for them, brought them home and put them in a pen 16x24 feet, with a tight plank floor and a tight shed on one side open in front. I sold them on the 18th of May, and their gross weight was 2,005 pounds; gain in 121 days, 1,205 pounds. This was a gain of 11 pounds per day each. They were of mixed stock; one of them pure white, the other showed Berkshire and Poland China blood.

They were fed all the corn they would eat on the ear, and all the thin slop made of bran and meal, with the house slop, that they would drink twice a day. The feed was not accurately measured, but an account kept of the baskets full fed, and it was about 120 bushels. The account stands as follows: Cost of feeding, \$20; 2,005 pounds sold at \$3.40, \$68.17; making the net gain, \$48.17. This gives a little over 37 cents per bushel for the corn fed. The market price for corn at the railroad, twelve miles distant, has been 18 to 20 cents.

Salina Co., Kansas.

WM. PETTIS.

Selection of the Stallion.

We will presume that the breeder has definitely decided in his own mind what breed or strain or family he proposes to select from. He ought then to try to find a colt that has the longest possible ancestral line uniformly distinguished for the quality upon which he bases his selection, and then he should look carefully to see that no constitutional infirmities have been inherited. If there is blindness—not the result of accidental injury—in the near ancestry, although the colt himself may be apparently free from any defect in his organs of vision, it is a point against him. And so of any other constitutional defect, weakness, or infirmity, whether of form, structure, or disposition. Infirmities of temper are especially liable to be transmitted. It is very desirable that the breeder should know, to the minutest detail, the character of the ancestry on both the paternal and maternal sides; and the farther back they can be shown to be free from constitutional defects of any kind, the better. The colt may himself be free from any serious defects; but if they are known to have existed in his near ancestry, there is always more or less danger that he will transmit them to his progeny. Every observant horseman of experience can call to mind numerous instances confirming the truth of this position. The writer once owned a grey stallion, that was got by a grey stallion out of a grey mare. When placed in the breeding stud, it was found that he quite often got dun colts, even out of grey mares. Investigation into the ancestry of this horse developed the fact that his second dam was a dun mare. Here we had the inherited quality of color lying dormant through two generations, and re-appearing under the most unexpected circumstances in the third.—*National Live-Stock Journal.*

The Sunflower.

A correspondent of the *Country Gentleman* recommends sunflower seeds as a cure for the heaves in horses, and says: A gentleman told me that there is nothing equal to sunflower seeds for that purpose. He had one bushel of the seeds ground with two bushels of oats, and gave a horse two quarts of the mixed meal, wet in water three times a day. He took the time when the horse was not used at hard work. In two weeks not a sign of the heaves could be observed, and the horse looked as sleek and bright as if his hair had been oiled. He had cured two horses of his own of this distressing complaint, and recommended it to others, who had experienced a like result. In cases of horse distemper and coughs, it is an excellent remedy.

A Breed of Butter Makers.

In discussing the want of a breed of cows which will be bred for butter making, the *New England Farmer* contends that it will have to be formed by the selection of cows from several breeds, whose performance at the pail shall be the test.

When the ideal butter producing breed of animals is created, it will not be done alone by pedigree breeding, nor will the animals all be Jerseys. It will be accomplished largely through judicious selection. The breed will have much of Jersey blood, but it will also have much that is not Jersey. As in the best trotters there are crosses of unknown blood, so in the established breed or family which shall give us uniformly the best butter yielding cows, there will be elements that must be obtained from animals of no recognized breed, and found in no accepted herd book authority. This may be heresy, but it is not far from the truth. All experience teaches that there are grade animals, which, for purposes of the dairy—butter making—and for beef production, as well as for work, far exceed in value those that are termed thoroughbreds of the same breeds, for the same purposes. It is only a blind and silly adherence to fashion and the power of imitation, which has so long prevented some of our progressive breeders from striking out into a line of selection and breeding, which should tend in the di-

rection indicated, long before this; and we confidently look for sufficient courage and independence in some of them, to soon make an attempt toward the establishment of the better breed. All efforts at breeding in all the past, clearly indicate that selection from animals of high attainments, having a high standard in view, and consistency and intelligence, will not only bring, but establish, such qualities and objects as are desired. If such a course in reference to the butter yielding breed is persisted in until ancestors, or "foundation stock," as it is termed on the Island of Jersey, are obtained, possessing the butter yielding tendency so strongly fixed as to be sure of transmitting it, as has been the case with all artificial breeds or families, then the possibility of the ideal butter cow is secured. This is the course that must be taken to establish it, and the sooner it is commenced the sooner will the desired end be obtained.

Poultry.

Turkey Raising.

If the hens choose a nest for themselves out of doors, which they are very apt to do, they must be watched, and their eggs removed and replaced with chalk eggs. When she has laid (usually every other day) from twelve to twenty eggs, she will take to her adopted nest. If out of doors she must be carried home, her own eggs presented to her, and to which she may take without difficulty. But very often the hens are stupidly perverse, and must be cooped for some hours upon the eggs, to which they will at last be reconciled.

A little attention is required while hatching, to remove the empty shells, and to see that none are overlaid. Any manipulation of this kind must, however, be cautiously performed, as the hens are exceedingly impatient of any handling or interference. Some poulterers make it a point of dipping the eggs in milk-warm water about the twenty-eighth or thirtieth day of the setting. This is supposed to soften the shell, and to prove whether they are perfectly sound, and the chicks alive. This is not, however, absolutely necessary, as they often hatch very well without any such preparation. The chicks should not be suddenly removed, or allowed to leave the nest, as the warmth of the mother is still necessary, for some time after hatching. The latter is fed with barley or oats and water, as usual; and a paste, not too thin, is made for the chicks, composed of fine barley-meal, hard-boiled egg chopped fine, curd, and chives, or young onions, also chopped fine; if a few ant-seeds are added, it will provoke their appetite, and induce them to take other food which is more conveniently procured. A fresh mixture of these ingredients is made every day, as it soon turns sour and unwholesome. With this the chicks are fed two or three times a day, upon a dry board, and on which there is also set a very shallow plate of water. At these feedings of the young, the hen is cooped; otherwise she would devour all the paste, and starve her young ones without compunction.

At the point of the upper mandible there is a small scale, rather loosely fixed to the horn of the bill, and which is usually removed before the chicks are put to feed, to facilitate it, it is said, the picking up of small seeds, or particles of paste. It shells off with a very slight pressure of the thumb-nail; but whether this observance be really necessary is very questionable; because wild turkeys can have no such assistance, and they are reared in even greater perfection than are any domesticated birds.

The brood should be nursed in the house for at least ten days; and afterwards, in fine weather, taken out upon a piece of dry turf to run about in the sunshine, round the coop in which the mother is confined, for were she not confined she would stroll away and tire her chicks to death, or lose them in long grass, among which the old one is always fond of wading for concealment. And when they are old enough to follow their dam they must never be let out till the dew is off the grass, moisture and cold being exceedingly prejudicial to young turkeys, occasioning cramp and every kind of infirmity. For the same reason they should be housed early in the evening, and fed before they go to roost.

As they grow up they soon learn to eat corn like the old ones, and like them also shift for themselves in the fields. They are generally treated with a breakfast before they leave the yard, and are then suffered to amuse themselves for the rest of the day as they are inclined.

Turkeys are always fatted before they are considered fit for the table; and as mostly in season about Christmas—a month before and during a month or two afterwards—attention must be paid to put them up at least six weeks before they are wanted. It is more convenient to fatten all that are intended to be killed at the same time, together; for which purpose a section of the turkey-house is separated off by a lattice partition, or a separate narrow shed is employed.

The usual fattening food is a mixture of barley-meal and fig-dust—that is, fine oat-meal—moistened into rather a firm paste with melted lard. With this they are fed in a shallow trough three times a day; and the quantity should be exactly proportioned to the appetites of the birds, so that the whole may be eaten at each meal without stint or superfluity, as they are averse to starve food. They require but small quantities at first, as, being placed in a strange prison, they generally *sulk* for a week before they become willing gourmands. This circumstance should be allowed for in calculating the time for fattening.

Some birds will be more voracious than others, and consequently fatten faster; but it does

not do to separate the company by selecting the best first; a better plan is to take the whole at once, as any residue of the company *pines* rather than improve when they have lost their leading companions.

In order that they may all get fat equally and move expeditiously, some poulterers cram their birds—that is, their food made up into boluses, as large as the bird is joint of a man's forefinger; and while the bird is held by one person, the beak is held open by another, and the boluses, lubricated by liquid lard or sweet oil, are thrust, *volens volens*, down the throat of the bird until the crop is full. There are some advantages attending this plan of feeding turkeys, otherwise it would not be practiced. But it is unnatural and in some degree cruel; and therefore fattening them in freedom, and as they naturally choose, is a more certain way of procuring pure, healthy birds, free from all plethoric diseases.

Turkeys fattened in the plain way above described, arrive at from ten to twenty pounds, but they are increased in weight according to the length of time they are kept feeding. For city fests, they are fattened to an enormous size—to forty pounds or more; but it requires a period of two years to bring them to this weight; and these, even if they fetch one shilling per pound, never repay the feeder.—*Poultry Yard.*

Apiary.

Transferring Bees from Box Hives.

When you have bees to transfer choose a warm, still day; about 10 a. m. is the best time, as many bees will be in the fields at that hour. Get everything in readiness for use that you will need before the bees are aware of your intention. If you get the bees stirred up, and have to run to the shop, string-bag and pantry for tools, you will wish that you had never seen a bee, before you get through. You will need a box to drive the bees into, and a smoker to intimidate them. If we were doing the transferring, we should take the hive, after the bees were driven out, to the kitchen, as we should feel more at home working at the kitchen table, having provided there for our use beforehand a hammer and cold-chisel for cutting nails, a small saw for cutting off the supports, and a long knife for cutting combs loose from the sides of the hive, and something soft, like folded muslin, for laying the brood upon, so that the baby bees would not bruise their heads. If we were intending to fasten the combs into frames, with spines from the red haw, we should have holes punctured all around the frames, and the thorns near at hand; or, with splints, have them tied in pairs, and a wire, or string attached to the other end of one of them, so that they could be readily adjusted, when put over the frame. As some pieces of comb are more readily fastened one way than another, strings, splints and tacks should be at hand.

When all is ready, and the dog tied up, smoke the bees, and give them a little time to fill their sacs with honey, then invert the hive, and place the driving box on top, wrapping around where they join with cloth to prevent any bees from escaping. Now you can sing "marching along," keeping time by rapping sharply on the hive with a stick for about twenty minutes, when the bees will be clustered, like a new swarm, in the top of the box, and should be placed where the hive formerly stood, leaving an entrance to the bees which return from the fields.

The hive is now ready for dissection, and may be done in any way best suited for combing the combs entire. If the pieces of comb are cut a trifle larger than the frame, it may be sprung over it and more easily kept in place. All worker comb should be carefully saved, and drone appropriated for wax. Handle the combs containing worker brood carefully, for the future prosperity of the colony depends, in a great measure, upon the safety of the babies. When the frames are put into the hive, those containing brood should be placed together in the center of the hive. When the combs are all in the hive, it should be placed on its stand, and the bees poured out of the box in front of it, when they will readily enter, like a flock of sheep into the fold. In a few days the owner will notice that they are working with greater energy than ever before, and if splints or strings have been used to fasten the combs they may be removed, as the bees will have fastened the combs securely. We almost forgot to mention one important item—care should be taken that no honey is running from the transfer hive, to attract robbers, when it is placed upon its stand. This spring is a good one for transferring, as most colonies have very little honey.—*Mrs. L. Harrison, in Prairie Farmer.*

Horticulture.

Small Fruits on the Farm.

A correspondent of the *Nebraska Farmer* advises farmers to raise plenty of small fruit for home use, and then tells them how to plant and cultivate:

"There is a very general feeling among farmers and others that small fruit costs too much effort, takes too much time and care, and that it is too difficult to learn to care for it properly; yet 365 days in a year, and three times a day, these same parties will visit and care for their pig patches, and nearly the same time is given to a single cow or a dozen chickens. This of course is necessary and right, yet so many do this and remain oblivious to the fact that one-half, one-fourth, or even one-tenth

the care, study, and attention to small fruit would load their tables in summer and fill their cans for winter with the best of fruit, and thus supply their families with rich, luxurious, health-giving fruits, and save all the dimes now paid out for dried and canned goods. Besides this saving they would probably save one-half the sickness in their homes, with the accompanying expenses.

"The first thing necessary is to manure the ground with fine manure, then plow deeply; next, plant in good season, in April if possible; plant in good shape to cultivate, putting the rows far enough apart to cultivate with one horse, and leaving room enough at the ends to turn. Commence on the back side of the fruit garden with Snyder blackberries (it will not pay you to try any other), set them three feet apart in a row, and if you plant more than one row, put rows eight feet apart. Next, raspberries six feet apart and plants three feet or less in the rows; next, currants and gooseberries, about the same distances; next, grapes, which if to be put on wire or wood trellis, should be ten feet or more each way, or if to be trained to stakes at about eight feet each way. Strawberries may be raised between the grape rows for three years, planting two rows between, three feet apart. If desirable, early garden may be raised among all these fruits, except the strawberries. Cultivate with a shovel plow or hoe—any way to keep the weeds down—and you can have a crop of berries as regularly as you can have a crop of potatoes."

Miscellaneous.

Sprouting Sweet Potatoes.

A New Jerseyman gives his mode of sprouting sweet potatoes in the *Maryland Farmer*. Though too late to test the plan this season, it were well to remember it, or preserve the paper containing the article. It has the advantage of doing away with expensive hot bed sashes or other frames:

"We select a southern exposure, dig out a pit 10 inches deep, 7 feet wide, and as long as is necessary to hold the required bushels of tubers, plank the sides and ends, securing the plank by nailing to a small post (scantling will answer) driven down on the outside of the bed; put a post across between these posts to prevent the plank from mashing in, (any rough lumber will answer). We then put in the bottom about six inches of rough hay as well packed as possible, then about eight inches of fresh horse manure, the fresher the better; put on the manure one inch of sand, and tread down. We then cover the entire bed with rough meadow hay, three feet deep. In two or three days it will heat to about 80° F. We then remove the hay and put in the tubers, (medium size) pressing into the sand as close together as possible, not allowing them to touch; then cover with sand one and a half inches deep, let the same be as pure as possible, taking care not to dish it on, or the tubers may be displaced. Again, put on the hay well pressed down with the fork handle, and your bed is completed. It must now be examined once or twice a day, by running your hand beneath the hay, and if the temperature is above 90° F., remove the hay for an hour or more, until the bed is cooled down to say 60°. This must be continued until the sprouts are well through the sand. When they are about one inch high, have one or more casks filled with water at least twenty-four hours before using, in order that it may have the proper temperature, for watering the bed. This should not be done earlier than 4 p. m., and the hay put on immediately thereafter. Continue this process until the plants are ready to be taken to the field, leaving off the hay during eight hours in the middle of all pleasant day, after the plants are about one inch high, and by exposing them or leaving off the hay for a few nights before transplanting will make them more hardy. This has been my plan for thirty years, and I do not remember a failure."

Wool.

If the following statement and inferences from the *Ohio Farmer* prove true, the sheep and wool business in this country is only in its infancy.

The *U. S. Economist* of March 25, says that at no period in the history of the wool trade has the market been so excitable as now, all over the world. No fine clothing wools can be bought ready for manufacturers' use below \$1 for the scored pound, and much of it runs up to \$1.10, \$1.25, and \$1.30. Combing, delaine, and carpet wools are equally high, and no one can tell where prices will stop, as the tendency is still upward. A telegram from London, March 25, represents the market there as follows:

"Our market is agitated and higher for all kinds. It is greatly feared that we are approaching a wool famine. Clothing wools are in demand, and are firmer. Combing wools are in request, and prices are still going up with some demand for America. Irish Hogs are up to 18½d. for selected. English Down Tegs have jumped up to 20d. a pound. Carpet wools are in active request, chiefly for home use. Egyptian white fleeces have risen to 15d. and 20d. for good to choice. Oporto white washed wool is up to 16d., and Scotch white highland to 3d."

Private letters to the editor reveal the causes of the famine. Hundreds of thousands of sheep have died of "liver rot," in Great Britain, and wars in the East have caused millions of sheep to be slaughtered. Wool growing in Persia, Turkey, Russia, and India, has been al-

most given up on account of war and the low prices that have prevailed for the last five years.

If this is a correct view of the situation, it indicates a brisk demand and higher prices for the coming clip of the United States.

Ashville Shearing, Solomon Valley Wool Growers Association.

The fifth annual shearing took place at Ashville on the 27th ult. The location is the center of a large wool growing section. About 30 sheep were on exhibition, which were divided into classes as follows: 1st, Rams two years old and over. 2d, Rams one year old. Ewes, two years old and over; Ewes one year old. Result as follows.

RAMS TWO YEARS OLD AND OVER.

Name of Owner.	Age	Weight of Fleece.	Weight of Carcass.
Moses Baird.....	4 years	35½ lbs.	141½ lbs.
Solon Steere.....	"	36½ "	139½ "
John M. Vernon.....	"	35½ "	137½ "
E. C. Baker.....	"	35½ "	137½ "
A. O. Foote.....	"	35½ "	137½ "
T. McGrath.....	"	35½ "	137½ "
H. F. Baker.....	"	35½ "	137½ "
M. J. Wilcox.....	"	35½ "	137½ "

Moses Baird received first prize, Solon Steere second, and M. J. Wilcox, third.

EWES TWO YEARS OLD AND OVER.

Name of Owner.	Wt. of Carcass.	Wt. of Fleece.
J. A. Gifford.....	104 lbs.	28½ lbs.
M. J. Wilcox.....	75 "	28½ "
Roy Parrish.....	104½ "	16½ "

Wilcox received first premium, Gifford second, and Parrish third.

RAMS ONE YEAR OLD.

Name of Owner.	Wt. of Carcass.	Wt. of Fleece.
J. Brock.....	73½ lbs.	18½ lbs.
A. O. Foote.....	82 "	18½ "

Foote took first prize, and Brock second.

EWES ONE YEAR OLD.

Name of Owner.	Wt. of Carcass.	Wt. of Fleece.
J. A. Gifford.....	104 lbs.	28½ lbs.
L. Pagett.....	62 "	12½ "
J. Brock.....	65½ "	22 "

Vernon took first prize, Brock second, and Pagett, third.

J. A. Gifford, one wether, carcass 105½ lbs., fleece, 23½ lbs.

There was a shearing match just before dinner. Johnson Woods received first premium; R. Stannard, second, and Geo. Lighthall, third.

It was a fine day. It is thought four or five hundred people were present—more than ever before. 17,309 sheep were represented, besides 6,327 lambs. All told, sheep and lambs, 23,686. All from Mitchell, Cloud and Lincoln counties. The largest flock is that of Sands Brothers, 3,600 sheep and 1,000 lambs, of Ashville. Quite a number of sheep were not sheared for lack of shearers.

A. O. FOOTE, Secretary.

Tomatoes.

A common mistake in the cultivation of this plant is to imagine that it requires an enormous space to perfect its growth in. Of course, if it is allowed to wander at its own sweet will, it will occupy a great deal of ground. But this is not at all the best way to get ripe fruit, though, any amount of leaves, stalks, and green tomatoes, may be produced by it. Please give the following plan a fair trial. Set the plants in rows two feet apart, and fifteen inches between the plants in the row.

When the first bunch of buds has fairly made its appearance nip off the whole of the shoots growing between the stem and branches, but allow the main stem to grow on until four, or at most five, bunches of buds are formed. Then, the plant being, probably, about three feet high, pinch off the main stem, about three inches from the highest bunch, and continue to nip off the shoots, as before, as fast as they make their appearance; just as in the culture of tobacco.

If this is properly done, the greatest amount of ripe fruit that the climate is capable of producing will be secured. Stakes, about four feet long, will be required to tie the plants. They should be driven firmly into the ground and the stem should not be too tightly bound. I have practiced this mode of growing tomatoes for twelve years, and have never failed to obtain an early crop of well matured fruit. Keep the ground well stirred and mulch with half-rotted dung. Lots of liquid manure.—A. R. J. P., in *Illustrated Journal of Agriculture.*

Save the Old Paper.

Never throw away old paper. If you have no wish to sell it, use it in the house. Some housekeepers prefer it to cloth for cleaning many articles of furniture. For instance, a volume, written by a lady who prided herself on her experience and tact, says: "After a stove has been blackened, it can be kept looking very well for a long time by rubbing it with paper every morning. Rubbing with paper is a much nicer way of keeping the tea-kettle, coffee pot, and tea pot bright and clean than the old way of washing them in suds. Rubbing with paper is also the best way of polishing knives, tinware, and spoons; they shine like new silver. For polishing mirrors, windows, lamp chimneys, etc., paper is better than dry cloth. Preserves and pickles keep much better if brown paper, instead of cloth, is tied over the jar. Canned fruit is not half so apt to mold if a piece of writing paper, cut to fit the can, is laid directly on the fruit. Paper is much better to put under a carpet, than straw. It is warmer, thinner, and makes less noise when one walks over it."—*Home Journal.*

Repairs should not be left until the machines are wanted to work. Every owner of a reaper and mower, thrasher, drill, or other machine, should get them repaired now, if they are needed.

TOMATO SOUP.—Boil a veal and a beef bone the day before the soup is to be used. The next day fry in butter two onions, two carrots, parsley, twelve cloves and a bay leaf till brown. Add this with a half a can of tomatoes to the soup. Boil two hours and strain before using.

Patrons of Husbandry.

The Grange and Politics This Year.

Bro. H. Eshbaugh, master of the Missouri state grange and lecturer of the national grange, gives the following advice to the patrons of his state. It will apply with equal truth to patrons everywhere:

"Politicians and office seekers are getting around quite lively in some localities telling patrons what to do. Of course they are lovers of the farmers and very friendly to the grange, 'until after the election,' provided, however, they can use you as tools to accomplish their personal objects. But it does seem that most of the patrons in the state must have learned by this time, that a wary politician or a scheming office seeker will scarcely do to tie to. They will not, therefore, allow themselves to be misled. Do your own thinking and act for yourselves, to protect your own interest. Experience has demonstrated the fact very clearly, that men who have sought longest and worked hardest to get office, have made the poorest servants. This rule has probably not changed, but holds good both in and out of the grange. Hence it is not strange that a true patron should look with misgivings upon one who is over anxious for office. The teaching in the grange is that the office seeks the man and not the man the office. If patrons will act and move in harmony with the law and principles of our organization, they will soonest accomplish their work. Let them advocate their rights upon the principles of justice, and act accordingly, and they may not have any cause to regret their work. But if they allow political elements and partisanship to control the grange, it may do harm. There is danger of this, for partisan feeling is warming up, and in many places will get to fever heat early in the campaign. I presume the usual stories and reports whether true or untrue, will have to be printed and circulated, more to deceive than to inform. But be this as it may, it need not disturb the grange. This depends, however, upon the course pursued by its members. It matters not so much with what party granges act, as it does how they act. They can act with any political element they choose, but there certainly is no necessity of taking partisanship into the grange, or the grange into political turmoil.

I appeal, therefore, to their good judgment, to think before they act, so as to act wisely in the duties they owe the order, so that when political excitement has passed away, the campaign ended and the elections over, our order may be unharmed and grange principles be preserved in all their purity."

Cheering on the Granges.

Worthy Master Thing, of the Maine State Grange, has been rallying the farmers, in a noble manner, and these are his encouraging words. Let worthy masters and other grange leaders all over the country, imitate this zealous Master's example:

"The world moves. Farmers are 'speaking out in meeting.' The granges are demanding a hearing. The ring-masters, monopolists and railroad kings at Albany are on a snag. The granges are in the way. Their line is too long to go around, and too stubborn to break through. The eyes of the whole people are upon them. They have bearded the lion in his den—taken the bull by the horns. Railroad laws are to be revised, remodeled and executed. Railroad corporations are to administer their affairs in the interests of the people. New York is to be redeemed from the iron rule of the money king, and if Gov. Cornell fails to come up to his promises made before election, he will die a yearling—and William G. Wayne or some other intelligent and trustworthy farmer takes his place.

Then the farmers are in Washington looking after their servants. The grangers are actually in congress, and the farmers all over the country are staying up their hands. Worthy Bro. Aiken is 'argus-eyed' for our interest, Bro. Forsythe is on the alert, and Senator Davis with right, justice and common sense on his side, will prove himself a host in the upper house. Politicians are to lose the patronage of the agricultural department, and the farmers are to take possession of it. The commissioner is to be made a member of the cabinet, and the demagogue who shall seek to use the department to insure his re-election to congress, will have leave to retire to private life.

"Then we (I mean the farmers) are to have the agricultural department enlarged, the appropriations increased, the cornstalk and the cane-sugar experiments fully and thoroughly tested, the economy of tea-culture demonstrated, an experimental farm worthy the millions of tax-paying farmers of the country, and a corps of chemists adequate to the wants of the department. 'The world moves.'

"Then away out in Michigan the farmers have actually decided that their next governor shall be a farmer! A farmer for governor!"

What Experience Has Demonstrated.

Those indifferent to the mutual success of the order of patrons of husbandry are ever finding fault with that provision of our constitution admitting females to membership in the order. Woman in the grange sorely distresses their finer feelings, and of course they feel very unhappy, if not indignant. Every now and then the question is asked of deputies, "Can't you organize a grange without women?" the interrogator in many instances affecting to regard the admission of our wives and daughters as an innovation, and that it will ultimately defeat the essential purposes of the order. After an

experience of over ten years it has clearly been demonstrated that one of the best and most redeeming features of a grange meeting is the presence of the ladies; and we cannot understand how any grange could now possibly exist without them. Therefore we say, God bless the women in the grange for the noble, self-sacrificing interest they have thus far taken for the encouragement of their husbands and brothers in the order of patrons of husbandry.—*Farmer's Friend.*

Grange Items.

From the Grange Bulletin:—

Farmers of all parties, see to it that your local caucuses, primaries and county conventions are not run by railroad "attorneys." Let us strike at the root, the "first cause" of much of our "class legislation."

If your grange is not at once a complete success, it is no reason for abandoning the effort. Shakespeare says, "Do not for one repulse forget the purpose that you resolved to effect."

Just as long as the farmers can be kept divided by sectional and partisan strife, and blinded to the real issues upon which depend their own and their children's welfare, so long will they bear burdens not their own, and remain powerless to defend the right.

And now comes the annual talk in the commercial papers about the great wheat crop of this year. It is but a part of the buy cheap and sell dear policy of those who live by speculating in the products of the farm. From the Bulletin's standpoint, of the universally "immense" crop, we can only say, "we can't see it."

Neither can we. Kansas will not have more than enough to bread her rapidly increasing population.—[Ed. FARMER.

The perpetuation of the rights and privileges a free people derive from good government, depend upon the intelligence of its subjects. Let us as farmers educate ourselves and our children for these important trusts.

The "railroad kings" are actively at work in both the great parties to secure the nomination of a railroad candidate. They either wish more power or are becoming alarmed at the popular uprising against their increasing encroachments.

The Virginia Granger sounds a key note that is timely and has the true ring for farmers of all parties. "The time is near at hand when they (the members of congress) will be again before you seeking your votes and begging your suffrage—and to listen to their eloquent tongues and plausible harangues, one would suppose that they had exhausted every means to accomplish the work the agricultural people had asked them to do. The duty of the agricultural masses will be to require them to show where-in they made any effort, and to give the cause of the failure. Political excitement and partisan prejudice can never cure the evils of which we complain, and is the sure way to perpetuate them. Show your own platform, demand that the man who proposes to represent you shall stand squarely upon it, or else withhold your suffrage."

MacDonald, an old Scotchman, had been a quiet listener, as well as a looker on, to hear the explanations of the agent to the gaping crowd of farmers who were listening and taking in, as gospel, all the agent said. MacDonald said he thought he knew there was a trick the way the machine did its work. Whenever the agent put the wheat and the cockle together it just parted every pickle as it gied through the flapper. I kint quite weel that an the pickles a bath wheet and cockle were of a size, and thoch in my ain mind that it had been done for the occasion. I jist got some grain on the sly, that had na been prepared, an' cast it in the fan; but, oh! man, it wadna work; and the agent was awfu put about it, as he didna ken the trap was laid for him, and didna ken what was rung wi the machine, that it wadna dae the work it dune sae weel a wee time before. When I sune made the gaping crowd to understand if they had thouch for a moment and their ain judgment wae open ein they might ha seen they were cheated by the agent. A lot of you folks does nae thinking for yoursells but tack in everything the genteel and weel dressed men will tell ye. Ye jist open your mouths and shut your ein an staun and gape and never tak a bit of interest at nae time, an will aye be cheated by this ken, a buidys they ken the way to do it an they gettaur rich at your expence. Farmers ha brains enough, but they dinnae mack guide use o' them. They are aufo selfish an' will no come together to argue matters about their every day's work, they wudna be sae easy cheated by every sharper that ha met them.—*Tricks on Farmers, in Farmers' Friend.*

Every patron, in the busy season of his agricultural labors, can always manage to give some time and thought to grange interests. We do not say that grange work is paramount to the necessary labors for the fruition of the coming harvest, but we do say that there is not one in the vast number of patrons who cannot snatch time enough from his pushing labors to give some thought and encouragement to grange interests.—*Grange Bulletin.*

Farm Letters.

COPE, Jackson Co., (16 miles northeast of Topeka,) May 24.—Again we itemize for this part of Kansas. We have been having very dry weather for some time, and the wheat is shorter in straw than I ever saw it in Kansas, and will be a short crop in this part of the state. Many fields have been plowed up and

planted to corn and other crops. The oat and flax crop will be short unless it rains soon. Corn, so far, is doing well, but in the proper season will need rain to secure a crop.

The late frosts caused much of the fruit to drop, especially cherries and apples, but upon the whole there will be a fair crop of all kinds. Wild fruit will be more abundant than for many years past.

Stock of all kinds is doing well, being healthy and in fine condition.

Some of the farmers are beginning to wear long faces from the prospect of the present crop. Others are cheerful and hopeful, thinking and trusting that if we have failed to get the early rains we will get the later ones and thus secure a fair crop after all. Having had five good crop years in succession, it is about time that we—with all other countries—have a reversion, and, hence, should be wise and prepare for it, husbanding well our resources and surplus that we may not lack in case of a short crop.

Improvements are going on on a large scale in our county. New farms are being opened up on all sides; new houses are going up. Many of the farmers are building fine, substantial residences and beautifying their premises otherwise. Our towns and villages, too, are improving faster than ever before in the history of our county.

Wheat is worth 90c; corn, 23c; hogs, \$3.50. Cattle seem to be dull, and not much doing in the trade. T. W. WILLIAMS.

GENEVA, Allen Co., May 23.—The very dry weather of the past winter and spring has finally given place to frequent showers and one good, heavy rain, and note the change! All nature appears in its brightest coat of green, and everything and everybody rejoice in the happy release from the drouthy bondage.

I notice, this morning, a communication (which I had heretofore overlooked,) from Dickinson county, signed "E. M.," in which he speaks of stalk-cutting vs. burning. Now I must beg leave to differ with him as I have tried both to my satisfaction. He speaks of the ashes of the burnt stalks acting as a better fertilizer than the decayed stalks when plowed under. In the same article he speaks of the continued high winds prevalent in his county. I would like to ask him where he would look for his fertilizer (the ashes) about twenty-four hours after burning his stalks? Probably in the next county. My idea of the matter is this: If farmers will plow under all cornstalks, grass, weeds, and all rubbish year by year, they will not only keep their land loose and mellow, but they will increase the fertility of the soil in proportion to the amount plowed under. I know from experience and observation that this practice has no tendency to increase the chinch bug crop as spoken of by "E. M."

Don't burn off anything that you can plow under—the deeper the better. On all waste places, around your fields, in fence corners, ravines and low places not accessible to the plow, there apply "E. M.'s" remedy. By doing this thoroughly, you not only destroy millions of insects, but you tend to promote the good health of your families.

Thank you, Mr. Coburn, for your timely warning in regard to scrub bulls running at large. What benefit can we expect to derive from keeping blooded animals if the law is not enforced in the premises?

Dry weather has shortened the wheat crop somewhat, but still with no further drawback we may reasonably expect an average crop. Corn acreage far above any previous year, and present prospects No. 1. Mostly cultivated once over.

Stock of all kinds in fine condition and good health, except fowls, among which cholera is raging quite fatally.

Will some of the numerous readers of the FARMER give us a plan for a good, cheap, outdoor cellar and milk-room?

Wheat harvest will commence here about the 10th of June. Old wheat is worth 90c; corn, 25c; fat cattle from \$2 to \$3. D. D. S.

ROCK, Cowley Co., May 10.—After an absence of three months from home I again resume my faber. Farmers somewhat despondent, though in better spirits than a fortnight since. Weather unusually dry up to May 7, when a good rain greatly revived all parching nature, not, however, in time to save much wheat. In the valley one-third of the crop killed and much of the remainder badly injured. Upland wheat though short in stalk is fairly headed, and will make from one-half to two-thirds of a crop. Another good soaking rain yesterday places wheat beyond all danger from further dry weather until matured. Corn though quite backward in germinating is all up and growing off finely.

Although Cowley county has over 20,000 inhabitants already, immigration is steadily flowing in from eastern states, and there is plenty of room for more. Real estate is advancing in price quite rapidly since the advent of railroads. Each year there is more attention being paid to stock raising, which, by the way, is more remunerative than almost any other occupation. Stock is advancing in price. Being adjacent to the Territory, which affords abundance of pasture, makes this county peculiarly adapted to the business.

If any of your many readers know of a good point at which to start a newspaper, by mentioning the fact in their communications they will greatly oblige. COWLEY.

NEWTON, Harvey Co., May 23.—Another Kansas hornpipe to-day. It seems almost sacrilegious that the wind should play such lively tunes on Sunday. Had a glorious, good rain on the 19th, the first thorough wetting our fields have had since last November. Everything growing finely now; there is need of it to make

up for lost time. Our wheat will probably make half a crop. Corn is just booming, and the potatoes would be it if it was not for the bugs.

Where is that correspondent who advised planting potatoes in the middle of the cornfield so that bugs could not find them? Just as though a Kansas bug would not hunt until it found them, if there was but three hills in the midst of a section of corn.

Stock doing well and held at high prices.

Self binders are laid on the shelf this season. Headers and perhaps tweezers will be in demand next month.

Considerable real estate has changed hands this month at good prices. Eastern men are coming here and improving new farms. They think Harvey a good county to settle in. Our towns are making a steady, healthy growth this year. S. C. WING.

MOUND VALLEY, Labette Co., May 18.—Weather mild and pleasant for last week; raining to-day. Corn looks remarkably well. Wheat looks well but rather short. A good crop of chinch bugs. Small fruits of all kinds are doing well this year. Peaches a fair crop. Apples bloomed well. Some varieties dropped their fruit after it attained the size of a small marble; notwithstanding we will have double the amount of apples we ever raised in this county. More castor beans planted this year than any year previous. There seems to be quite an interest in the improvement of stock, especially cattle. R. W. GANDY.

Advertisements.

ANCHOR LINE.

UNITED STATES MAIL STEAMERS

Sail every Saturday.

NEW YORK TO GLASGOW.

CABINS, \$50 to \$100. STEERAGE, 25c.

These steamers do not carry cattle, sheep or pigs.

And every Saturday.

NEW YORK TO LONDON DIRECT.

CABINS, \$50 to \$100. STEERAGE, 25c.

Passenger accommodations are unsurpassed.

All Steerage in a Main Deck.

Station in Europe or America.

Drafts at lowest rates, payable (free of charge) throughout England, Scotland and Ireland.

For books of information, plans, etc., apply to HENDERSON BROTHERS, 90 Washington St., Chicago, or to ROWLEY BROTHERS, 40 A. P. BISSON, Topeka.

ON 30 DAYS TRIAL
We send out 30 Days Trial our **RECTOR-VOLTAIC BELTS, BANDS, BANDAGES, TRusses, and other appliances**, to those suffering from Rheumatism, Gout, Debility, Weakness, or those afflicted with Rheumatism, Paralysis, Dropsy, Liver or Kidney troubles, etc., etc., to a day. Speedy cures guaranteed. Our Illustrated Pamphlet Free. Address **VOLTAIC BELT CO., Marshall, Mich.**

It is not necessary to keep on taking this medicine continually, using a syringe or dosing day and night for months at a time. The bowels are restored to regularity, the digestion strengthened, the blood purified, the bad breath made sweet by a short systematic use of Simmons' Liver Regulator, in a healthy condition after its use, which saves the patient from continuing dosing.

"I was cured by Simmons' Liver Regulator, having applied for the medicine while in a most wretched condition some two months ago, and now am so changed that I am a subject for congratulation by my family. ISAAC MULLIN, 57th and Lancaster Ave., Phila."

THE AMERICAN FRUIT EVAPORATOR.

Cheap, Portable, Practical. Catalogue free.

AMERICAN DRIER CO., Chambersburg, Pa.

ABSOLUTELY BREAKS AND PREVENTS any Cow from Kicking, Walking About, Winking Tail or otherwise retarding the Milking. Indispensable for breaking young or stubborn cows. Cures all cases where Files are bad. Confines whole Animal. No dose. Sells for 10c. Dairy Men and Farmers. Farm Rights sent for 50c. Agents make from \$2.00 to \$10 a day. Send for circular to **E. E. MANN, Hiawatha, Brown County, Kansas.**

Rectangular and Square BOX CHURNS CUPPER AND SONS' Superior fixtures, and always reliable. Six sizes of each kind made. Three sizes of the **Less Butter Worker** made. Best material used, and every Churn and Butter Worker constructed exactly as represented. One Churn at wholesale where we have no agent. Send Postal for Circular. Agent wanted. **CORNISH & CURTIS, Fort Atkinson, Wis.**

HUNT'S REMEDY
CURES WHEN ALL OTHER MEDICINES FAIL. It acts directly on the Kidneys, Liver, and Bowels, restoring them at once to healthy action. HUNT'S REMEDY is a safe, sure and speedy cure, and hundreds have testified to having been cured by it when physicians and friends had given them up. Do not delay, try at once HUNT'S REMEDY. Send for pamphlet to **W. E. CLARKE, Providence, R. I. Prices, 75 cents and \$1.25. Large size the cheapest. Ask your druggist for HUNT'S REMEDY. Take no other.**

Attention, Owners of Horses!
The Zinc Collar Pad is the only permanent and reliable pad for sore-necked horses or mules that has ever been produced, and has been greatly improved since Jan. 1, 1880. The new pad, of proper size, with iron loops in top, can be buckled close at the top if desired. Being of smooth metal, they do not wear the mane, and always disengage, when needed, their medicinal virtues. There are over a million and a half of them in use. Made of other material can only temporarily have any curative properties whatever, and soon become worthless by abrasion in cleansing them. The Zinc Pads are sold by leading Saddlery Houses throughout the country, and harness makers generally. Ask your harness maker for them. Manufactured by **ZINC COLLAR PAD CO., Buchanan, Mich.**

120 Acres in Cultivation.

George Achelis.

West Chester, Pa.

Sells Crab Apple Trees and other Fruit trees; Evergreens and other ornamental trees; shrubs, vines, etc. Prices reasonable. Correspondence solicited.

Breeders' Directory.

BLUE VALLEY HERD—Walter M. Morgan, Hereford Cattle and Cotswold Sheep, Irving, Marshall county, Kas. Choice Young Bulls For Sale.

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

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

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

MILLER BROS., Junction City, Kansas, Breeders of Ohio, strains; also Plymouth Rock and Brown Leghorn Fowls. Eggs, \$1.50 per 13. Descriptive Circular and Price List free.

Nurserymen's Directory.

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

MIAMI COUNTY NURSERIES, 11th year, large stock, good assortment; stock first class. Orange hedge plants and Apple trees at lowest rates by car load. Wholesale and retail price lists sent free on application. **E. F. CADWALLADER**, Louisville, Ky.

Dentist.

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

JAMES A. BAYLES,

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

HOGS.

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

Shannon Hill Stock Farm

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

CATTLE SALE.

The co-partnership in cattle heretofore existing between George B. Sylvester and Albert F. Thayer having expired by mutual consent, said cattle will be sold at

Public Auction for Cash on Thursday, June 17th, 1880,

at the farm of Albert F. Thayer, at Maple Hill, Wabasha county, Kansas, situated 9 miles south of St. Marys, and two miles north of "Buffalo Mound." Said cattle comprise 175 head of choice cattle, consisting of

65 three year old cows, 19 two year old heifers, 21 one year old heifers, 3 three old steers, 18 two year old steers, 15 one year old steers, and 34 steer and heifer spring calves.

Also one high grade Durham (short-horn) Bull, of the famous Duke of Aldridge stock, 4½ years old, said to be, and undoubtedly is the finest grade bull in Wabasha county. The sale will commence promptly at 10 o'clock, a. m. A substantial lunch will be served at noon. All persons desiring to purchase choice stock are here given an opportunity seldom offered. Remember Thursday, June 17th, and at 10 o'clock a. m. **ALBERT F. THAYER, A. J. HUNNATE, Auctioneer.**

1,300 HEAD OF SHEEP

FOR SALE.

I have 500 Ewes, 200 Lambs, and 100 MUTTON SHEEP for sale on my farm in Woodson county, Kas., near Neosho Falls, and

500 Stock Sheep near Chetopa

Labette county, Kas. **A. HAMILTON,** Everett, P. O., Woodson Co., Kas.

THE POULTRY WORLD

(Monthly) and

THE AMERICAN POULTRY YARD,

(Weekly). Both publications are exclusively devoted to Poultry. Published by H. H. STODDARD, Hartford, Conn. The Poultry World is sent post-paid for \$1.25 per year; the American Poultry Yard for \$1.50. Both papers for \$2.00. A series of 12 magnificent chromos, each representing a standard breed of fowls sent for 75 cents extra, to all subscribers of either publication.

ELIGH CLASS POULTRY,

C. C. GRAVES, Brownsville, Mo. (NEAR SEDALIA.)

Breeder & Shipper.

EGGS FOR HATCHING

In Season. Send for Illustrated Catalogue, Free.

PIANOS

\$150 TO \$400.—All strictly first-class.—Sold at wholesale factory prices. HIGHEST HONORS at Centennial Exhibition. Matheson's Scale for Square Grand. Finest 1½ prices in America. 12,000 in use. Catalogue of 48 pages free.

JUBILEE ORGANS, the best in the world. An 8 stop organ only \$65; 13 stop \$97; circular free. All sent on 15 days' trial, freight free if unsatisfactory.

Factory 57th St and 10th Ave. Sheet Music at 1-3d price; catalogue of 300 choice pieces sent for 3c stamp.

Mendelssohn Piano Co., Box 2058, N. Y.

ORGANS

17-STOP ORGANS

Sub-bass and Oct. Coupler, boxed and shipped only \$97.75. New Pianos \$150 to \$1,000. Before you buy an instrument be sure to see my Mid-summer offer (*Illustrated, free*). Address, Daniel F. Beatty, Washington, D. C.

ROSES AND GERANIUMS.

100 by express, \$5; 50 by mail, \$3; 25 for \$1.75; 14 for \$1.10; 20 Greenhouse and Bedding Plants for \$1.10. Lists free. **T. MONTGOMERY,** Mattoon, Ill.

THE KANSAS FARMER.

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

TERMS: CASH IN ADVANCE.

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

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

ADDED TO SUBSCRIBERS.

Subscribers should very carefully notice the label stamped upon the margin of their papers. All those marked "24" expire with the next issue. The paper is at 24 ways discontinued at the expiration of the time paid for, and to avoid missing a number renewals should be made at once.

Post Office Addresses.

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

The Political Side of Agriculture.

Candidates for congress and the state legislatures will soon be round among the farmers with smiling faces and honeyed words, soliciting their support at the primaries and the polls. Let farmers anticipate their movements, and through their different organizations have prepared a series of interrogatories requiring candidates for re-election to state what measures they have endeavored to get through congress or the legislatures entitling them to your support. But this business should be pursued with some system and concert, in order to have a beneficial effect. Farmers in their associations should consider what measures they most need legislation on, and prepare a list by committees, whose reports should be submitted to the association, and adopted in such form as meets the views of the majority. Having a list of measures prepared which you desire legislation on, the candidates can be brought to the test, and if they attempt to evade the issues or refuse to be pledged, then withhold your support and assist in placing before the public the names of other candidates who are willing to be pledged to your measures.

For a few farmers to attempt to exact pledges from candidates will amount to little or prove of no avail, but when vote solicitors are met at every step by the same demand on the part of farmers, they will begin to realize that a new power has arisen; a factor which they had not heretofore known has to be taken into their account, and many a formerly successful politician whose whole stock in trade for the office he seeks was, "a sharp, mighty clever fellow!" will be sent home with a flea in his ear, acknowledging that he has discovered a "very large mouse."

This farmer plank in the political platforms, to use the parlance of politics, will not be partisan but agricultural. It will be a formal demand for such measures as will promote the interest of every man who draws his living directly from the soil by his own exertions. Those measures of legislation demanded by the agricultural interest, we will not attempt to enumerate; they are many, and both local and national. Let those of a national character be embodied in a "platform" and distributed among all the farmer alliances, clubs, associations and granges throughout the country for their endorsement, with such measures as pertain to local interests added by the associations within the several states.

The thought and demands of the agricultural class having thus been placed in a tangible form, a rallying point will be fixed from which the united power of the agricultural interest can be brought to bear, and force recognition by acting directly in each locality on members of congress and state legislatures. Each member will then find his home constituents and neighbors demanding of him an explanation of his vote on not merely general measures, but specific ones. He will not be left in a position as now to play fast and loose with the farmers, while he acts as the attorney of some powerful corporation, receiving his orders from it, and doing in the most subservient manner the bidding of its officers. Great corporations can fee members as their attorneys and purchase the vote of others for a special bill, but they cannot elect one member if the farmers say no. They cannot say "no," however, until they know exactly what they want, and the whole fraternity of agriculture is of one mind in regard to well defined and well understood measures.

The belief has heretofore obtained that the all-important part of a farmer's education was to understand hoeing corn and potatoes and foddering the cows; and in relation to matters of government his place was that of a spectator. So persistently has this false doctrine been taught that the majority of farmers quietly acquiesce.

It is very important for every farmer to understand all the improved modes of cultivation and the management of stock; but it is also equally important to understand how to protect his interest by legislation, in order that the profit arising from the application of the best system of farming shall not go into the pockets of other classes almost wholly, as it has been doing for the last third of a century. The non-producing classes in that period by taking charge of steam power and the telegraph, and having a complete concert of action among themselves, are enabled to appropriate fully three-fourths of the profit arising from agricul-

ture. We thus have the spectacle of a minority constituting probably one-fourth, composed of non-producers, enjoying, by virtue of this power of combination, three-fourths of the profit arising from the products of the soil, while that other three-fourths of the population whose labor exerts from the soil the wealth of the nation, are compelled to be content with a fourth of the profit of their labor.

Without claiming that our approximated data is statistically correct, it is nevertheless sufficiently so to present a true picture of the position agriculture at present occupies, and the position it will continue to occupy until farmers realize the fact that it is equally important for them to guard and protect their earnings, as it is to create crops, and to accomplish this they must occupy the political stage as farmers, not as party politicians, making party all the time secondary to their material interest as all other classes and industries have been doing. The agricultural journals have formerly contented themselves with teaching georgic and bucolic lessons, pure and simple. They discover that this is only partially fulfilling their duty to agriculture, but that they must also invade the realm of politics and discuss questions of government, considered from an agricultural standpoint. Heretofore political questions have been considered almost wholly from a commercial point of view or from the high ground of the office-seeker. It is time, now, to study them from the pasture grounds and grain fields of the nation.

Farmers' Clubs.

A correspondent writing from Milo, Lincoln county, Kansas, desires us to give him some information as a guide in forming a farmers' club. There is nothing necessary except to call a meeting of farmers who desire to form a club, at some suitable place. Organize when all are present that seem likely to attend, and elect a chairman, or president, and vice-president and secretary. It is not worth while to have any written rules or constitution and by-laws. A few dollars will be needed to purchase a minute book and other stationery, and defray other incidental expenses. Appoint one of the members treasurer and raise a collection. You can adopt any rules of business you choose. The secretary will make a copy of them. Agree upon some time for stated meetings. The chairman will call the meeting to order and state what subject has been agreed upon for discussion, or what member is to read an essay. When the essay is read the president will call for comments of members, which can be made sitting or standing. Have a box for questions, and any member who wishes information on a subject, can drop the question in the box, and when the chairman, in the order of business, calls for the question-box to be opened, the secretary will read the questions, and any members who can do so will answer them. This is about all there is of a farmers' club.

But a grange is much more effective and can be made more useful than an ordinary farmers' club. The farmers' wives and daughters constitute a part of the grange, which give the meetings a social charm and feature which a club never can possess. Any neighborhood association which rules out the ladies of the family constitutes, at best, but a stag arrangement; a dish without seasoning, which is found to be flat, stale, and unprofitable, is soon neglected and fades out of existence.

"Artificial Rain."

Under this caption we publish an article from Prof. Johnson, which has been in hand for several weeks. It is not one of the series on "Weather Laws," running through the FARMER from the same writer, but a reply to articles which have appeared in the FARMER on the subject of supplying the plains with the requisite moisture through the season by artificial aids to the natural rainfall.

Mr. Johnson appears to entertain the opinion that it would not be an impossible project to add to the humidity of the atmosphere by the construction of shallow dams in large numbers throughout the plains. As far as the FARMER expressed an opinion on the subject, we did not question the soundness of the theory, but the practicality of such artificial means. Where the configuration of the country is such as to admit of shallow lakes, ponds and marshes, nature completes the work of furnishing the supply of water. Where a country is almost level with natural indentations there such reservoirs are found, but to fit such an undulating country as Kansas for a system of dams or lakes, covering a surface sufficient to supply the atmosphere with that degree of moisture throughout the seasons sufficient to carry on vegetable growth without serious checks in the hot months, would require feats of engineering which are simply impossible.

We are not an engineer but will risk the assertion that any board of engineers which could be formed would pronounce it an impossibility to construct a system of dams capable of restraining a sufficient quantity of the rainfall to add, by evaporation, any perceptible degree of humidity to the atmosphere. What we have said on the subject of dams has either been misunderstood or we have failed to make our meaning plain. We certainly never intimated that because all 33 inches of rainfall could not be restrained by dams, such a project is futile. This is not the point we made against the dam delusion, but it is this: Dams cannot be constructed on the rolling prairies of Kansas, at a cost within reasonable bounds, that will or would restrain one-hundredth part of one inch of annual rainfall. Where we find a flat,

marshy, lake country, nature has performed the requisite engineering and the basins are ready for the surplus water. Such is not the case in Kansas, and man can only construct reservoirs in which to store a sufficient quantity of the 33 inches annual rainfall by breaking the tough, hard surface of the prairie with the plow, and preparing a subterranean receptacle for the water, whence it will not flow away to the sea rapidly or be drunk up by the winds and the hot sun of summer too rapidly. This is the only system of artificial dams or lakes practicable in Kansas and which will pay for their cost in grain and grass, and that has been found to answer admirably from the Missouri river to central Kansas.

The late khedive of Egypt planted millions of trees in that dry country, and by the assistance of man they have grown into forests which have materially modified the climate by assisting to add moisture to the atmosphere. The hand of man, if misdirected, can turn to a barren waste the most productive countries, and if properly guided can restore a barren waste to a fertile and productive region. If man aids trees to grow by irrigation and proper cultivation, they will shade the ground and afford a constant supply of moisture to the atmosphere by partially restraining the periodic rainfall, and the increased moisture will produce more vegetation until a maximum is reached. But where natural laws are in conflict with a distribution of moisture through the seasons, the constant effort of man is necessary to counteract the natural tendency of regions cut off from large bodies of water, to return to the desert condition; the philosophy of which is so clearly demonstrated and beautifully expressed by Mr. Johnson in his article entitled "Artificial Rain."

The Influence of Under-Drains, and How to Construct Them.

EDITOR FARMER: In concluding a former paper on this subject, I promised a sequel to it, embracing important data excluded from it by want of space.

A common idea entertained with regard to the beneficial influence of under-draining, is that it simply removes the excess of soil-water, so that very wet land may be tilled and made to produce cultivated crops. That this is the primary object is admitted, but that it has other economic influences no less important, and a sanitary one infinitely more important, is also true. Aquatic soils copiously engender malarial gases in excess of the capacity of aquatic vegetation to appropriate and consume, hence these gases not only render the locality in which they are produced insalubrious, but they are disseminated by wind currents, and contaminate the atmosphere of neighboring territory until the bane is wide spread and seriously noxious.

This evil, thorough drainage is conceded to correct, and when intelligently estimated it must also be conceded that its sanitary effect is by far the more reliable. Lands requiring draining are usually when reclaimed more productive than adjacent lands which are naturally drained. The topographic position of aquatic lands are favorable to their augmenting fertility. Excessive rainfall, in flowing from high to low lands, carries with it vegetation in both an undecomposed and a decomposed condition, and the interval land being approximately level, becomes a receptacle for those periodic supplies of alluvium and substances that produced it, but so long as these elements of fertility are saturated, they are congenial to the growth of more nutritious cultivated vegetation—when however, the excess of water is removed by drainage, and tillage is supplemented, especially sub-soil tillage, a new condition obtains.

The acidified water is removed, and as it percolates the pulverized soil, and in its subterranean exit it draws after it the lower stratum of the atmosphere, which imparts heat to the colder soil, also the fertilizing properties which rain water is known to contain, thus materially meliorating the condition of the soil for the production of cultivated vegetation.

This aeration of soil reclaimed by drainage is highly advantageous in the various ways described, hence the art of drainage deserves special consideration and study by rural denizens. The very marked sanitary improvement that drainage has in numerous instances been known positively to produce, is alone so desirable, that independent of the vast economic influences it is equally well known to have produced, the former emphatically demands legislative, as well as individual attention. While judicious appropriations of the national treasure for the improvement of navigation and harbors is proper and commendable, it cannot be denied that needed appropriations for removing causes of insalubrity in populated districts, are more imperative.

THE CONSTRUCTION OF UNDER-DRAINS.

This involves two distinct operations—first the excavation of the trenches in which to locate the drains—secondly the construction of the drains.

Hitherto the art of draining has received little attention in this country from a majority of owners of the soil, and although tenant farmers in England have drained extensively at their own expense, no farmer/tenant is encouraged to embark in it here.

Numerous efforts have been made on both continents to invent ditching machines that would economically open trenches suitable for under-draining. I have tested several, but have found none that I can recommend,* hence

*If any machinist has a ditching machine that he can guarantee, he should advertise it.

I have adhered to methods that I adopted near a quarter of a century since. My method however, is not in general use among the few who are attempting to drain. If the soil is too wet and sloughy to admit of working a team and plow for opening the trenches, I use a long steel knife, which was invented, and is sold as a "hay knife," for cutting hay in the mow or stack. With it I cut each margin of the trench with the proper slope, then cross-cut into sods of suitable size to be handled on a long handled fork.

When the turf is thus removed, if the depth of the fertile soil is such as to warrant preserving the fertile surface to return to the trench as surface again, it should be cast back far enough from the trench to admit of placing the sub-soil between it and the trench. The turf having been removed, if the next "spit" is of a nature that it may be readily removed by a sharp spade, it is so removed, but in case the texture is so solid that a pick is required to prepare the soil for shoveling, I substitute a proper sub-soil plow for the pick, with which to prepare the soil for the shovel.

If the surface is still too wet to admit of the use of a team on it, I clean up the bottom of the ditch already described, with shovels, that water may drain off unobstructed. I cut a number of drains one spit in depth, in the manner described, and when the surface has become sufficiently dried to admit of using a team, I commence with the ditch first opened, and break up the sub-soil with the sub-soil plow and shovel out each plying, and thus proceed until the excavation is completed. The draught chain of the plow is attached to the axle of a light cart, constructed for the special purpose. For wheels I use those from the front axle of a road wagon, placing them on a rude axle, the arms of which need not be ironed. A rude pole may also be used. The axle should have sufficient length so that the wheels will run far enough from the ditch to clear the earth on the bank. A double team of horses or oxen may be used, or 4 or more, if desirable, all two abreast, and tandem. The neck-yoke in either case should be of a length that each animal will walk before each wheel. The draught chain of the plow is to be attached to the middle of the axle.

There is but one plow suitable for this work made in this country, and none on the other continent that I am aware of. That which I use is made by Speer Bros., Pittsburgh, Pa. Those interested should send for their catalogue.

The plow is both right and left hand, in fact, a double plow, or two complete plows in one. It is constructed entirely of steel and iron—its self sharpening, strong and durable, and is withal, the best sub-soil plow for ground tillage, in the market. The coulter, of steel, is a part of the land side, and is on the principle of the "lock-coulter," and is admirably adapted to cutting roots. A trench as narrow as six inches, may be cut with this plow. The shovels used must of course, be of suitable width for such narrow trenches.

I heat the sides of round pointed, long handled shovels and turn up so that they will work in the narrow trench. The sides of the shovels should not be cut off, as they are better when turned up.

THE CONSTRUCTION OF THE DRAINS.

Where gravel is obtainable, I use it in preference to all other draining material. Six inches by six inches in cross section forms an under-drain quite sufficient for ordinary drains, tho' I often make the main drains 12 inches by 12 inches, being governed by the amount of water to be conveyed. Ordinarily, I screen out finer gravel and sand, using the coarsest. Pebbles as large as hens eggs are not objectionable.

When practicable, an inverted turf on the gravel for the first covering is preferable, though I generally return the sub-soil on the gravel drain, whatever may be its geological character. Where tiles are to be used, care should be taken to properly grade the bottom of the trench, and to make the joints as close as practicable. Water is sure to gain access to the tile drain.

Where rubble stones are to be used as draining material, they should be small, and the top should be of the smallest stones obtainable. The old method of constructing a conduit, or culvert in the bottom of the stoned drain is obsolete. They were formerly made by placing a stone on each side of the trench, each of a size to fill one-third of the width of the bottom of the trench, and a larger one was laid on these, thus forming a conduit. I found that drains so constructed, were very defective, particularly if the fall in the drain is excessive, as the water concentrated into one channel would wear away the bottom and undermine the side stones, and the silt was deposited in the portions of the drain having less fall, and the drain was destroyed. This never occurs where the stones are small and are thrown into the trench promiscuously.

A great fall in an under-drain is not desirable—from one-eighth to one-fourth of an inch fall to the linear foot is ample. No branch of under-draining is more important than the arrangement of the discharge ends of drains where they connect with open ditches or streams, but the detail of this, I am compelled to defer for want of space.

Brooklyn, N. Y.

J. WILKINSON.

Weather Report for May, 1880.

[From observations taken at Lawrence, by Prof. F. H. Snow, of the Kansas State University.]

The warmest May on our 13 years record. The abundant rains of the last quarter of the month have ensured a fair average wheat crop for eastern Kansas. In central Kansas, wheat fields which had been given up as failures are

heading out satisfactorily. The corn crop is in splendid condition.

Mean temperature, 70.59 deg., which is 4.90 deg. above the May average of the 12 preceding years. The highest temperature was 95 deg., on the 6th; the lowest was 52 deg., on the 1st; monthly range, 43 deg. There was no frost. The mercury reached 90 deg. on 7 days.

Rainfall 4.11 inches, which is only about 0.04 inch below the May average, and is more than double the rainfall of 1879. Rain fell on 9 days. There were 6 thunder showers. There was a small amount of hail on the 25th. The entire rainfall for the 5 months of 1880 now completed, has been 10.42 inches, which is 1.07 inches below the average for the same period in the 12 preceding years.

Mean cloudiness, 40.43 per cent. of the sky, the month being 7.29 per cent. clearer than the average. No. of clear days, 17 (entirely clear, 2) half clear, 8; cloudy, 6 (entirely cloudy 2). Mean cloudiness at 7 a. m., 47.10 per cent.; at 2 p. m., 42.90 per cent.; at 9 p. m., 31.29 per cent.

Wind:—SW., 36 times; SE., 22 times; S., 12 times; E., 9 times; NE., 6 times; N., 4 times; NW., 4 times. The entire distance traveled by the wind was 14,108 miles, which gives a mean daily velocity of 455 miles, and a mean hourly velocity of 18.96 miles. The highest velocity was 50 miles an hour, at 2 p. m., on the 23d. Mean height of the barometer, 29.019 inches; at 7 a. m., 29.049 in.; at 2 p. m., 28.994 in.; at 9 p. m., 21.013 in.; maximum, 29.350 in., at 7 a. m., on the 1st; minimum, 28.678 in., at 2 p. m., on the 28th; monthly range, 0.672 in.

Relative humidity:—Mean for the month, 62.6; at 7 a. m., 73.5; at 2 p. m., 45.8; at 9 p. m., 68.9; greatest 100 at 9 p. m., on the 26th; least, 24.8 at 2 p. m., on the 1st. There was no fog.

American Nurserymen's Association.

The annual meeting of this association takes place at Chicago, Ill., in the Exposition building, June 16th to 18th. A large attendance and a profitable meeting is anticipated. Reduced rates on most of the leading railways have been obtained, particulars of which, and certificates entitling delegates to this reduction, can be obtained by addressing the president of this association, T. S. Hubbard, Fredonia, N. Y. Headquarters at Grand Pacific Hotel, where reduced rates are also given. The programme, which is before us, promises an interesting session, with papers and addresses from many of our prominent nurserymen and horticulturists.

Place Your Money Where It Will Do the Most Good.

I have advertised in twelve different papers, and must say that nine-tenths of all my orders came in answer to my advertisement in the FARMER, although a small advertisement. I consider the FARMER one of the very best of advertising mediums. I have had orders and shipped eggs from Illinois, east, to Nevada, west, and south to Texas, all which shows where to put your advertisement to do the most good.

F. E. MARSH.

Golden Belt Poultry Yards, Manhattan, Kan.

ED. FARMER: Tell Mr. Mitchell, of Great Bend, and all others, they need put as little faith as possible in the item of "Gophers will not eat honey locust," for they will cut them if they come in their track. W. E. FOSNOT.

Ellsworth, Kan., June 4th.

MORTONVILLE, Jefferson Co., May 25.—We have had very little rain this month until this morning we have had a fine rain. Not as much as needed for the ground was very dry. Wheat, oats, corn, grass, flax, were all suffering badly. This rain will not help wheat much, it is getting too late. The crop will be a short one. A good deal was plowed up, and a good deal that is left is quite thin and very short. About the usual amount of oats were sown this spring and a large acreage of flax. These crops will be greatly benefited by to-days' rain. Corn came up well, and is a good color.

Our prospect for fruit is fair. The early apples, Early June, Early Harvest, and Maiden Blush, are well set. Winter varieties are rather thin. The violent wind of last Sunday blew off a great many apples. There will be a fair crop of peaches; cherries are quite scattering; small fruit injured by the dry weather.

Fat cattle are lower this spring than I have ever known them in Kansas. Good fat steers averaging 1450 pounds, sold last week for \$43.75; hogs were worth at the same time \$3.50 to \$3.75.

JOSHUA WHEELER.

Recipes.

PRESSED BEEF.—Take the thin, flabby pieces on the fore quarter, boil until tender, then chop fine, then put it back in the kettle, add a piece of butter, and season with pepper and salt. Let it boil a few minutes, then pour into a dish and press like chicken.

GOVERNMENT WHITEWASH.—Slack half a bushel of lime with boiling water, keeping it covered during the process; strain it and add a peck of salt dissolved in warm water, three pounds of rice boiled until it is a thin paste, half a pound of Spanish whiting, and a pound of clear glue dissolved in warm water. Mix these well together and let stand several days.

Whitewash sticks much better when put on hot. If the lime be slacked in hot water in which a little rice has been boiled until thoroughly dissolved, and some salt added, it will be greatly improved.

The sale of lands during the month of March, by the Kansas Division of the Union Pacific Railway company, formerly Kansas Pacific Railway, were 16,474 acres.

who propose engaging in the stock business and would prefer handling sheep to cattle. Any information will be thankfully received.

POMONA, Franklin County, May 31.—The dry spell vanished last week, the ground being well soaked. Grass is good, with stock thriving on it. Corn is making a wonderful growth—never looked better at this time of the year. Wheat has short straw but will head well. Oats poor. Potatoes booming and fine. Hogs, \$3.50 gross. F. D. CORNEY.

FRANKFORT, Ind., May 25.—It was wonderfully wet here through the winter and early part of spring, but it has been more seasonable for some time and the farmers are happy, while stock raisers and horticulturists have no cause to complain. Everything being considered I guess we are about as well off as we are likely to get here.

ROBT. S. COOK

Scrofulous swellings, carbuncles and boils, blotches, pimples, and eruptions, enlarged glands, internal soreness, torpid liver, and general condition of the system, all yield in due time to nature's sovereign remedy—Dr. Pierce's Golden Medical Discovery. Sold around the world by druggists and chemists. Foreign trade supplied from London branch. World's Dispensary Medical Association, Proprietors, Buffalo, N. Y., R. V. Pierce, M. D., President.

West Blue Mound, Wis., March 8th, 1879.
Dr. R. V. Pierce: Dear sir, Having suffered many weary months from liver complaint without relief, I was last summer induced to try your olden medical discovery and pellets. At the time I was scarcely able to walk. Owing to their effect I commenced to improve rapidly and am now as well and strong as ever. I thank you from the depths of my heart for the good they have done me and wish you all success.

Yours truly,
Mrs. S. STAGNER.

Remarkable.—John Hunt, of Providence, R. I., found himself seized with a general dropsy of his body, swelled to an enormous size; he could not lie down, and death seemed inevitable. His kidneys were badly affected. The services of a renowned physician were secured, and a prescription was made after a thorough examination. Mr. Hunt began to improve at once, and after a time was restored to perfect health. The family used the medicine in similar cases with the same results. They named it *Hunt's Remedy*, the great kidney and liver medicine, and it is now sold by all druggists. Trial size, 25 cents.

A Wise Deacon.
 "Deacon Wilder, I want you to tell me how you kept yourself well the past season, when all the rest of us have been sick so much, and have had the doctors visiting us so often."

bro. Taylor, the answer is very easy. I used
bitters in time; kept my family well and
reduced the doctor bills. Three dollars' worth of
kept us well and able to work all the time.
My warrant it has cost you and the neighbors
to two hundred dollars apiece to keep sick
at same time."

"Deacon, I'll use your medicine hereafter."

It Saved My Life.

There is one medicine in this world that has
merit. I shall never cease to praise it, for
it saved my life. Three dollars' worth of
kept us well and able to work all the time.
My warrant it has cost you and the neighbors
to two hundred dollars apiece to keep sick
at same time."

"Deacon, I'll use your medicine hereafter."

Golden Balsam for the Throat and Lungs."—
"M. E. Collins, Moberly, Mo.
"Your Golden Balsam has cured my wife of
"incipient consumption. I have sent two bottles
"to my sister, in Louisville, Kentucky, who is
"suffering with the same disease."—[A. Delissa,
"Cumma, Iowa.
"Marsh's Golden Balsam is for sale by every
"druggist in Topeka, Kas., and by prominent
"dealers everywhere. (Lans.)

should be borne in mind by practical dairymen, that the Perfected Butter Color of Wells, Richardson & Co., Burlington, Vt., is the best obtainable in the world. It is absolutely pure, harmless, free from odor or flavor, and cannot injure in any weather, is in liquid form and ready for instant use, costs but little, and is of a uniform standard as to strength and intensity of color. Use no other.

A Good Piano.
Frank Leslie's *Illustrated Newspaper* says: A good piano at a fair price is one of the wants of the times. An instrument that is durable, is substantially made, and has all those qualities of tone which make a first-class piano can be had from the Mendelssohn Piano Co. New York, from \$150 to \$400. For over twenty-eight years their factory has been producing pianos, and adopting every new invention which has proved itself to be valuable.

be compared by an expert with the
umens of the highest name and fancy
and, the result is surprisingly satisfactory.
A piano is warranted for five years, and no
owner has ever made a complaint. From
national knowledge and critical examination
in recommendation and one to send for a cata-
to the above mentioned manufacturers.

T. K. McLaughlin of Topeka, has made
engagements to have his horses, Royal George,
English draft horse, and Kickapoo Ranger, at
r Lake, Kas., the present season on the
three days of each week.

Do a Favor to a Sick Friend.
You have a friend suffering from
asthma, cough, cold, or any of the
common ailments of the throat and
lungs? If so, you should at once
procure a box of Dr. Williams' Pink
Pills for the Pale. It is the only
remedy that will cure these troubles
and strengthen the system. It is
sold by all druggists and is
guaranteed to give relief. Price
25 cents per box. Sent by mail
for 30 cents. Write to Dr. J. C. Williams,
Medicine Department, 100 North
Third Street, New York, N. Y.

of the Kidneys send bug from any dis-
 eases, and you will make them happy.
 tonic power is especially directed to
 diseases, and it quickly relieves the dis-
 eases cure the disease. Have you tried it.

8 and 9

ht and nine per cent. interest on farm loans
 wnee county.

per cent. on city property.
 good bonds bought at sight.
 ready money and low interest, call on
 A. PRESCOTT & Co.

PRESCRIPTION FREE

speedy cure of Seminal Weakness, Loss of
 and all disorders brought on by indur-
 excess, As Dr. Davidson's has the ingredients
 sold DAVIDSON & CO., 78 Nassau St., N. Y.

Markets.

Camp
 New
 New
 Camp
 Pa
 MIS
 ST.
 C.
 L.
 2
 MIN
 WH
 2
 COR
 bushel
 2
 OAT
 RYE
 BAR
 BUT
 EG

TOPEKA MARKETS.

Poultry and Game.

Published weekly by McKay Bro's., 294 and 92 Kansas Avenue.

ENS—Live, per doz.....	2.00@2.75@3.00
Dressed, per lb	.08
YS—Live, per lb	.08
Dressed, per lb	.08

Produce.		St. Louis Produce Market.	
Retail price list, corrected weekly by J. A. Lee		FLOUR—unchanged.	
Country produce quoted at buying prices.		WHEAT—cash higher and options lower; unsettled	
TUPE—per doz bunches.....	.40	July; 91, 10¢; cash 1 cent; 1 to 1½¢ June; 93 to 92½¢	
ONIONS.....	.40	July; 91, 10¢ August; No 3, 35¢	
ARAGUS.....	.40	CORN—slow; 35¢ cash; 34½¢ to 34½¢ June; 34½¢ to	
DISHES.....	.40	34½¢ July	
CABBAGE—per doz.....	1.25	RICE—ull; 31½¢ bid cash; 31½¢ bid June.	
BETTS.....	.40	RYE—Steady; 35¢	
S.....	1'00 to 1.25	BARKLEY—No market.	
NACH—per bushel.....	.08 to .70	PORK—Dull; \$10.45 bid cash and June; \$10.50 bid	
TER—Per lb—Choice.....	10 to 12½¢	July.	
S—Per lb—Fair.....	.12 to .15	♦ ♦ ♦	
NS—Per bu—White Navy.....	.12 to .15		

Per 100 lbs	50
No 2	3.00
No 3	2.75
Rye	2.50
MEAL	3.00
CHOP	1.00
AND OATS	1.25
NATS.	1.00
NTS.	.70

Hide and Tallow.

Butchers' Retail.		Liverpool Market.	
Sirloin Steak per lb.	12½	BREADSTUFFS—Market unchanged.	
Round " " "	10½	FLOUR—10s 10d.	
Kosks " " "	10	WHEAT—Winter, 10s to 10s 3d; spring do 9s to 9s 9d.	
Fore Quarter Dressed, per lb.	6	CORN—New, 4s 10d.	
Hind " " "	6	CHEESE—6s.	
By the carcase	6½	OATS—6s 3d to 6s 6d.	
ON—Chops per lb.	10	PORK—5s.	
Roast " " "	10½ to 12½	BEEF—10s 10d.	
	12½ to 13	BACON—Long clear middles, 3s; short clear, 3s.	
		LARD—Cwt. 3s.	

St. Louis Wool Market.
choice clean and free from burrs 44 to 45c, a 40 to 42c, low and dingy 35 to 38c; Fleeced, 45 to 40c; Unwashed—choice medium 29 to 30, 27 to 28, low or coarse and dingy 24 to 26c, nominal at 25 to 30c, heavy merino 18 to 22, 24 to 26c. Burry black, cotted, etc., 5 to 15c.

Denver Market.
FLOUR, GRAIN AND HAY.
MAY—Upland, 24 to 26; second bottom, 21 to 22; bottom hay, 19 to 21.
FLOUR—Colorado, 34 to 35; 45c; Graham, 30 to 32.5.

of 1881.....		106½%
GOVERNMENT BONDS,		
.....	106½%	
(registered).....	106¼% to 110	
.....	106¾%	
.....	106¾%	
.....	106¾%	
.....	109¼% to 109½%	
SECURITIES.		
IC SIXES—95; 123,		
RI SIXES—\$1 00,		
R—\$1 07,		
N D R—\$1 137		

Asasas City Live Stock Market.
 Receipts for 48 hours, 61; shipments, 60;
 Market and quotations unchanged.
 Receipts for 48 hours, 1,686; shipments 246;
 Market steady at 10c per dozen.
 Market unchanged.

ended steady but closed weak with packers
 70 to 8 7/8; sales ranged at \$3 70 to 3 95; bulk
 3 85.
 Receipts none; shipments, none; mar-
 ket for *agave*. For terms address
N. D. Thompson & Co. Pubs., St. Louis, Mo.

Literary and Domestic

Off The Coasts of Sleep.

BY D. H. R. GOODALE.

A land I know, afar, yet close and clear,
Remote and dim, yet close and clear—
A broad, rich realm, by man untamed,
Our very own, yet all unclaimed.
Out from life's daily jar and fret
It shines, in tranquil borders set;
Upon its shores earth's burden falls,
And fancy takes the reins o'er all.

Dark flees the day; the twilight chill
In deeper gloom we wapped and bill;
The angry winds howled loud and hoarse,
And shook the walls with savage force.
The air with snow and sleet was pelted;
For winter's fury gather a wild
Spent with his wrath, I stole away
To greet a brighter, kinder day.

Oh, soft upon that distant coast
The flashing waters leaped and tossed;
The white sails with halcyon air
Green were the woods hung pictured there;
Strange fruitage there the sun doth kiss;
Lapt in those airs, 'tis life with bliss;
Its subtle wine my pulses stirred
Like rhythmic music faintly heard.

On sunny slopes thick set with bloom
The senses thrill with strange perfume;
More vivid, yet more frail those flowers
Than any bloom in mortal bowers;
They nod, they bend, they glow, they move;
They mingle human strife and love;
As all things'neath those far off skies
Do daily mock our earthly eyes.

Freed from all trouble, pain and care,
Our hearts burst into blossoms there;
Tongues are unloosed; the poet's fire
Burns in each breast with new desire;
On wondrous harmonies of song
The golden hours are borne along,
Till soul and sense, transfused, seem one,
In new-made forms of life begun.

Literary Items.—No. 40.

FERRET.

It is a common expression to say, "I must ferret it out," that is when a circumstance is somewhat mysterious. It is a very significant word to express our intentions, yet many make use of it without knowing that the word ferret originated from this connection. In the western states many there be who have never seen a little carnivorous animal called a ferret, or even heard of such an animal.

In most European countries, and in the eastern states, the ferret is kept by some persons who follow the occupation of killing rats. With a few well trained terrier dogs, they make a sudden devastation among the rats. The ferret is an animal about the size of a weasel, of a cream color, and can readily enter the rat holes. They are not to be handled by a stranger, for they bite severely. It has been stated that they cannot be tamed. Those who raise them may, by proper management, so domesticate them that they may be taken in hand without danger; at least I can say this much from experience.

ALCHEMY.

The days of alchemy have passed and gone. Modern chemistry has done away with the delusions of alchemy. Yet, strange as it may appear at this day, a little over one century ago thousands of persons were firm believers in and seekers of the Philosopher's Stone, which turned iron into gold or silver, and formed diamonds by a chemical process. This credulity was not confined to the multitude, but men of sense, learned in philosophy, were carried away by this ridiculous folly. The noted Friar Bacon said that "the Philosopher's Stone would render us immortal."

The following incident will illustrate the faith which pervaded all classes of society. It is certainly equal to any of our modern "Yankee tricks." One of these pretended philosophers called on the Duke of Bouillon and addressed him as follows: "You have not a sovereignty proportioned to your great courage, but I will make you richer than the emperor. I cannot remain for more than two days in your states, having to go to Venice to hold the grand assembly of the brethren. I only charge you to keep the secret. Send to the first apothecary of your town for some litharge; throw into it one grain of the red powder which I will give you; put the whole into a crucible, and in a quarter of an hour you will have gold." The duke performed the operation and repeated it three times in the presence of others. This man had previously bought up all the litharge from the apothecaries in Sedan, and got it re-sold after mixing with it a few ounces of gold. The adept, on taking his leave, made the duke a present of all his transmuting powder. And the, having made three ounces of gold with three grains, doubted not that with three hundred thousand ounces he should in a short week possess eighteen thousand seven hundred and fifty pounds of gold, besides what he should afterwards make. It took at least three months to make this powder. The philosopher was in haste to depart; he was without anything, having given all to the prince, and wanted some ready money to continue his journey. He was very moderate in his desires, and only asked twenty thousand crowns. The duke, ashamed to give so small a sum, presented him with forty thousand. When he had consumed all the litharge in Sedan, he made no more gold, nor ever more saw his philosopher or his forty thousand crowns.

We no longer, in Kansas, believe in the wonderful charms of the Philosopher's Stone, but in lotteries and gift enterprises.

VETO.

I am not going into political questions. I only intend to call in question a statement which has been made by public speakers for the last forty years, and which we believe, so

far as our knowledge extends, has never been called in question. Here is a case in point of recent date: "The king of England, for one hundred and fifty years, has not ventured to oppose his single will to the will of the nation, and veto a bill which had passed the parliament of the realm." (Thaddeus Stephens' speech on confiscation, March, 1878). Most of our public speakers date the last veto of the king of England to the time of William II. The last veto in England is of more recent date. George III vetoed the Catholic Emancipation bill in the year 1805.

The following is still more erroneous, and it is strange, considering the number of citations the work has gone through, that it has not been corrected. I quote from Burton's Anatomy of Melancholy: "Cato (says Burton) counts it a great indecorum to use men's shoes, or broken glasses, which are doing to the dung-hill. He could not find in his heart to sell an old ox, much less to turn away an old servant," etc. Vol. I, page 88. This statement is certainly incorrect, for Cato is charged by Plutarch with doing all these things. He says: "I cannot but charge his using his servants like so many beasts of burden, and turning them off as selling them when they grow old, to the account of a mean and ungenerous spirit, that thinks that the sole tie between man and man is necessity. He left his war horse in Spain to save the public the expense. Is this (asks Plutarch) a great or a littleness of soul?"

A ROMAN WIDOW.

A Roman widow of the name of Aria, celebrated for her beauty, was advised by one of her friends to marry again. "No," said she, "if I marry a man as affectionate as my first husband, I shall be apprehensive for his death, and if he is bad, why have him after such a kind and indulgent one." It is my private opinion that in Kansas, at least, there are not many widows who would be so considerate as this Roman matron, at least we hope not.

JAS. HAWWAY.

Lane, Franklin Co., Kansas.

Cover for an Upright Piano.

No piece of needlework now-a-days is more in fashion than a scarf or cover for the almost universal upright piano. This may be made of peacock blue, diagonal serge, bordered with old-gold satin upon which peacock's eyes are worked, the whole finished by a band of old-gold plush, fringed with tufts of combed out curls in the two shades. A piano scarf has been made, worked with a design of poppies springing from a border of maroon plush. Below this border the ends of this scarf are finished with an inserting of Russian lace, another strip of the maroon plush, and a wide edging of the Russian lace.—*Arthur's Magazine.*

Andrew's Bazar gives a new design for a pin-cushion. It is made over an ordinary flat-iron and the iron is entirely covered with some pretty shade of silk or satin, being first smoothly padded with cotton. On the face of the iron a bunch of flowers is either embroidered or painted in water colors. Bows of satin ribbon may be tied on the handle. The iron is stood up so that the pins are stuck in the face of the iron. The foundation may be of wood if the iron is too heavy.

BRAMBLEBUSH.

How to Observe Sunday.

The question of the proper observance of Sunday has been a much disputed one, and is one of much interest. A certain amount of religious services should of course form a part of each Sunday's life; should indeed be its central idea, but it should not infringe upon the demands of overworked nature for rest. But what is rest? Clearly what would be rest to one would not be to another. What would increase vitality and strength to the day laborer would make the weary student, book-keeper or editor more weary. The work of the six week days, whatever it is, should be put entirely out of sight from Sunday until Monday. Mental labor—reading, writing or other employment that requires mental effort. Physical laborers must cease physical labor, and can obtain the desired rest in mental improvement. Those whose work days are spent within the four walls of a store or an office, should be in the open air, in the broad fields, where they can breathe nature's purest serial draught, as much as possible. Those who labor out of doors will find their greatest rest and enjoyment on Sunday in their homes. The business man and the banker should cease all thought of his business, take a complete respite from all thoughts of "shop," and Sunday for all classes should be made as widely different from other days in the week as possible. It should be made enjoyable, especially for the children, that they may grow up with the love of the day, instead of an aversion for it, as so common even in the best of Christian families. The observance of the day in each household should be made a study, that the most profitable and rest-giving enjoyments to suit each case may be found, and then let the observance of the day, once settled, be lived up to as strictly as a business transaction. The day should have its distinctive features; religious culture; freedom from toil for servant as well as master; rest in its true sense, and enjoyment of the higher order, which relaxes the nervous system, and is one of nature's greatest restoratives. All have their place, and none of them should be neglected.

Patchwork.

A "Farmer's Wife," in the New England Farmer, laments that an old custom has fallen into disuse:

The old-fashioned style of work has, in a great measure, gone out of use. It is to be regretted on many accounts. First of which is,

that our little girls can in no way so well acquire the use of the needle as in piecing up calicoes; there is a fascination in patchwork that no other kind of needlework possesses, and the charm beguiles half of the tediousness of learning to sew "over and over," which is the foundation of needlework. It is a great mistake to neglect teaching girls how to sew; machine work will be of very little avail unless one has a practical knowledge of the use of the needle. Again, it is good economy to use up the fragments that are left of garments, and convert them into useful articles that are needed in a family. I would not advise the buying of new goods and cutting them up into little scraps for the sake of sewing them together again; but there are half yards and less of almost every dress or polonaise that is made up in a family that are of no earthly use, and they really make nice carpets and bedquits; and the time that is spent on patchwork would be of no account, as it would probably be spent either in idleness or play. Children form habits of industry at a very early age, if properly instructed; and, also, if not attended to, may contract habits of laziness that they will carry with them through life. Therefore it is a matter of regret that so many of the good old-fashioned ways are laid aside. A child is happier and more content that has some pleasant employment to occupy a certain portion of every day, and by doing some light needlework that is interesting, they not only learn the use of the needle, but they learn to be industrious and happy at home; which three items of knowledge will be a life-long blessing.

I know it is a task to cut out, arrange, and baste the patchwork for the little fingers to sew, but still there is a pleasure in the work, when the mother knows she is sowing the seeds of useful knowledge in the minds of her daughters, that in future years may bear a rich harvest of good works. So it is not best to let the scraps of cloth go to waste; but gather them up, and teach the little ones to piece them up, the same as their mothers and grandmothers did before them.

Shut the Door.

"Do not look so cross, Edward, when I call you back to shut the door; grandpa's old bones feel the March wind; and, besides you will have to spend your life in shutting doors, and you may as well begin to learn now."

"Do forgive me, grandpa; I ought to be ashamed to be cross to you. But what do you mean? I am not going to be a sexton; I am going to college, and then I am going to be a lawyer."

"Well, admitting all that, I imagine 'Squire Edward C——' will have a great many doors to shut, if ever he makes much of a man."

"What kind of doors? Pray do tell me, grandpa."

"Sit down a minute and I will give you a list."

"In the first place, the doors of your ears must be closed against the bad language and evil counsel of the boys and young men you will meet at college, or you will be undone. Let them once get in possession of that door, and I would not give much for Edward C——'s prospects."

"The door of your eye, too, must be shut against bad books, idle novels, and low, wicked newspapers, or your studies will be neglected, and you will grow up a useless, ignorant man. You will have to close them sometimes, against the fine things exposed for sale in the store windows, or you will never lay up money, or have any left to give away."

"The door of your lips will need especial care, for they guard an unruly member, which makes great use of the bad company let in at the doors of the eyes and ears. This door is very apt to blow open; and, if not constantly watched, will let out angry, trifling or vulgar words. It will backbite worse than a March wind, if it is left open too long. I would advise you to keep it shut much of the time, till you have laid up a store of knowledge, or, at least, till you have something valuable to say."

"The inner door of your heart must be well shut against temptation, for conscience, the doorkeeper grows very indifferent if you disregard his call, and sometimes drops asleep at his post, and when you may think you are doing very well, you are going down to ruin."

"If you carefully guard the outside doors of the eyes, ears, and lips you will keep out many cold blasts of sin which may creep in before you know it."

This shutting doors, you see, Eddie, will be a serious business—one on which your well doing in this life and the next depends."

Tight Shoes.

The wearing of shoes which compress and distort the feet is a singularly injurious custom. Suppose I said that nine-tenths of the feet were rendered misshapen by the boots and shoes worn, that statement would seem extreme, but it would be within the truth. The pointed shoe or boot is the most signal instance of a mischievous instrument designed for the torture of feet. In this shoe the great toe is forced out of its natural line toward the other toes, giving a reverse curve from what is natural to the terminal part of the inner side of the foot, while all the other toes are compressed together toward the great toe, the whole producing a wedge-like form of foot which is altogether apart from the natural. Such a foot has lost its expanse of tread; such a foot has lost its elastic resistance; such a foot has lost the strength of its arch to a very considerable degree; such a foot, by the irregular and unusual pressure on certain points of its surface, has become hard at those points, and is easily affected

with corns and bunions. Lastly, such a foot becomes badly nourished, and the pressure exerted upon it interferes with its circulation and nutrition. It ceases to be an instrument upon which the body can sustain itself with grace and with easiness of movement, even in early life; while in mature life and in old age it becomes a foot which is absolutely unsafe, and which causes much of that irregular, hobbling tread which often renders so peculiar the gait of persons who have passed their meridian.

It sometimes happens for a time that these mistakes in regard to the boot and shoe are increased by the plan of raising the heel, and letting it rest on a raised impediment of a pointed shape. Anything more barbarous can scarcely be conceived. By this means the body, which should naturally be balanced on a most beautiful arch, is placed on an inclined plane, and is only prevented from falling forward by the action of the muscles which counterbalance the mechanical error. But all this is at the expense of lost muscular effort along the whole line of the muscular track, from the heels actually to the back of the head—a loss of force which is absolutely useless, and, as I have known in several cases, exhausting and painful. In addition to these evils arising from the pointed heeled boot, there are yet two more. In the first place, the elastic spring of the arch being broken by the heel, the vibration produced by its contact with the earth at every step, causes a concussion which extends along the whole of the spinal column, and is sometimes very acutely felt. In the second place, the expanse of the foot being limited, the seizure of the earth by the foot is incomplete both in standing and walking, so that it becomes a new art to learn how to stand erect or to walk with safety.—*Harper's Weekly.*

Seasonable Hints.

About this season of the year, trees and shrubs transplanted in spring will often show signs of weakness. If so a severe pruning will help them. Sometimes there are spaces about the roots—places where the soil does not touch. In such cases pounding by a heavy rammer has often been found to do a heap of good. If the soil be very dry a watering may be necessary. For this make a basin about the tree so that the water will be compelled to soak in and not run away. And all this is true of shrubs and flowers, hedge plants and vines.

Some trees and flowers will be benefited by a mulch to keep the earth cool. The heat of the climate seldom hurts anything; it is from the heats of the ground that so many things suffer. Roses are now pegged over the ground, instead of being trained to stakes; and they show by the increased flowering, how much they like the coolness the branches make by shading the ground. Speaking of roses reminds us to say that most people now know that the more flowers are cut from rose bushes the more they bloom. They stop blooming when they have to mature seeds; and this is true of most flowering things.

Flowering things are often 'pruned into shape' in the winter; and an ugly thing a pruned bush becomes. If useless branches are taken out in the summer time, and the stragglers nipped back, it is wonderful how different the result will be.

Many grafted trees throw out suckers from the stocks, and people wonder why the stem becomes diseased and the plants die. Watch for suckers now and take them off as they appear. This is very important in the cases of Kilmarnock Willow and grafted roses.

No trees, evergreens especially, should be suffered to have grass grow about them for a year or so after planting. It becomes "rank" in the deeply loosened soil, abstracts moisture, and otherwise seriously interferes with the tree. When the tree gets a fair start, grass does less injury, and when it becomes a tough sod, and the tree by its shade, or say by frequent mowing keeps the grass short, the grass roots do not penetrate deep, and the sod is of benefit, by keeping the surface spongy, and the substratum cool.

Many herbaceous plants, such as Phloxes, Hollyhocks and similar things, that are scarce and valued, may be propagated now very easily by taking portions of their flower stems before the flowers open, and inserting them as cuttings in a half shaded, cool, and not dry situation. Layering of many things, shrubs, half shrubby perennials, etc., should be done before the young wood becomes too hard, if good plants are required the first year. Most plants root more quickly by having a notch cut in the layered shoot. Good, rich soil, just about the layers is very important. Good soil favors an abundance of roots. One of the greatest mistakes in gardening is the prevalent notion that plants in a poor soil have a greater proportion of roots than in a rich one.

By the modern rage for bedding plants, the old-fashioned hardy herbaceous plants have been sent into back corners. At this season there will be many gay flowers out, and those who love these things, should note their names as they see them in their neighbor's grounds, and get them in season. Too often hardy plant borders look bad, because of a want of system in selection. Those which bloom in May should be put together, and those which flower in June, and so on. An autumn group of *Asters*, *Solidagos*, etc., is a beautiful sight.—*The Gardener's Monthly.*

Kidney Diseases.

Kidney diseases afflict the greater part of the human race, and they are constantly on the increase but where the virtues of Kidney Wort have become known, they are held in check and speedily cured. Let those who have had to constantly dose spirits of nitre and such stuff give this great remedy a trial and be cured.

Advertisements.

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

62 Golden Chromo, Crystal, Rose, Damask, Navy, &c. In case, gold and jet sets, Winslow & Co., Meriden, Ct.

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

\$777 A Month and expenses guaranteed to Agent Outfit free. Shaw & Co., Augusta, Maine.

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

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

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

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

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

ELEGANT AUTOGRAPH ALBUM, gilt covers, 48 pages. 47 Select Quotations, 15c. Agent's outfit for cards, (over 60 samples), 10c. Davids & Co., Northford, Ct.

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

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

CHEAPEST BIBLES Ever furnished Agents. FORTJER & McMAKIN, Extra Terms and Large CINCINNATI, O. CASH PREMIUMS.

AGENTS WANTED Everywhere, best Family Knitting Machine ever invented. Will knit a pair of stockings with HEEL and TOE complete, in 20 minutes. It will also knit a great variety of fancy work for which there is always a ready market. Send for circular and terms to The Twombly Knitting Machine Co., 460 Washington St., Boston, Mass.

AGENTS WANTED for the richly illustrated and complete history of the great tour of GRANT AROUND THE WORLD.

It describes Royal Palaces, Rare Curiosities, Wealth and wonders of the Indies, China, Japan, etc. A million people want it. This is the best chance of your life to make money. Beware of "catch-penny" imitations. Send for circulars and extra terms to agents. Address NATIONAL PUBLISHING CO., St. Louis, Mo.

\$55.66 Agents Profit per Week. Will prove it or forfeit \$500. 34 Outfit free. E. G. RIDEOUT & CO., 215 Fulton St., N. Y.

Pasture for Horses.

80 acres pasture to let for horses, 3 miles west of Auburn, Shawnee county, Kan. Water and salt in the pasture. Address F. O. BLAKE, Auburn.

A. PRESCOTT & CO.,

TOPEKA, KANSAS.

Have on hand

\$100,000 TO LOAN

In Shawnee and adjoining Counties on good Farm security

At 8 and 9 per cent.,

Per Annum.

WORLD FAMOUS WOMEN Types of Female Heroism, Beauty, and Influence, from the Earliest Ages to the Present Time. Magnificent and complete with Full-page Steel Plate Engravings. Agents Wanted. Paying Employment for Young Men, Ladies, Teachers and others in every county. \$50 to \$75 per month. Send for circulars and terms. P. W. ZIEGLER & CO., 4 N. Sixth St., St. Louis, Mo.

WANTED.

To contract for 300 Ewes, two years old, seven eighths Merino, to be delivered at Kinsley, Edwards county, Kansas, between September 1st and October 1st, 1890. JAMES HOLLINGSWORTH, 210, LaSalle street, Chicago, Ill.

Concordia CROWN Nursery

C. C. HUNTER, Proprietor, Florist, Seedsman and Market Gardener.

HOUSE PLANTS A SPECIALTY.

Corner 3d and State streets, Concordia, Cloud Co., Kas.

DEATH TO RATS.

For sale, SCOTCH TERRIER PUPS, \$10 each at six weeks old. Also, ONE BITCH, three years old, a good rat-ter. Also.

TWO NEWFOUNDLAND

Bitches, splendid watch dogs. Address W. T. RWIN, Topeka, Kas.

Rent paid two-and-a-quarter years back one.

BEST CABINET OR FAYLOR ORGANS IN THE WORLD. Winners of highest distinction at EVERY WORLD'S FAIR. FOR THIRTY YEARS. Prices, \$1 07, \$2 09, \$4 108, to 500 dollars and upward. Also for easy payments, \$2 a month, or \$5.38 a quarter and upward. Catalogues free. Mason & Hamlin organ Co., 154 Tremont St., Boston; 46 East 14th St. (Union Square), New York; 148 Wabash Avenue, Chicago.

THE FAIRMOUNT NURSERY COM'Y.

The well known Fairmount Nursery Company first established at Bendersville, Pa., in 1830, removed to Troy, Ohio, in 1865, has organized a

Branch at Topeka, Kansas.

The association have already grown millions of trees, &c. and have this spring alone transplanted nearly fifty acres. A general variety of Nursery stock at Topeka. We have a large supply on hand and are prepared to furnish the people of Kansas and the west with such varieties as are best adapted to the western climate, such as fruit and ornamental trees, &c. All communications address

Geo. PETERS, SON & TAYLORS, P's

Topeka, Kansas.

[illegible]