

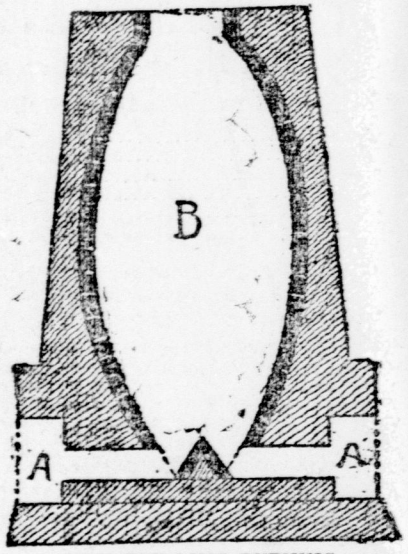
FARM GARDEN

CONTINUOUS LIME KILN.

It Does Not Cost Very Much to Build One on the Farm.

Limestone is a carbonate of lime, and lime is the oxide of the metal calcium, which has such an intense avidity for oxygen that it takes fire and burns with intense heat and light when exposed to air that is at all moist. Thus it is a rare metal, and used only for chemical purposes. The great abundance of limestone, which is more or less diffused everywhere in the soil, and in places is very abundant, being found in vast beds of marble and other forms of it, might lead to the supposition that plants might procure all they need without any help. But it is quick lime they need, and not the inert carbonate of it; and thus it is that the stone is burned to drive out of it the carbonic acid, and make it into lime, which is an acid, caustic substance that exerts a most energetic action on all organic matter; and considerable action on mineral compounds in the soil, dissolving silica and thus setting free such plant foods as potash, magnesia, soda and phosphoric acid from insoluble compounds. Limestone is insoluble in water, but lime is soluble in 700 parts of water. Thus it is that while the roots of plants may possibly decompose to some extent the common carbonate, and get a little lime in this way, it is found very useful, some think indispensable, to apply the actual lime to the soil.

It is not much of a job to make lime. The limestone may be put in a heap of wood or coal, and a wall built up around the heap to confine the heat. The fuel being fired, the stone is made into lime in three or four days. But this is a costly way, and thus where there is a demand for the lime, kilns are used, some temporary ones, but little improved on the heaps, or clamps, as they are called, and some strong structures called permanent kilns of which the cut is an example. This is made of any kind of hard stone, and lined with fire brick. It is egg-shaped, because as the limestone is burned, and the coal or wood used as fuel is consumed, the bulk decreases, and thus what will fill the belly of the kiln, only fills the throat at the bottom. This kiln may have three or four throats or openings for drawing out the lime, but each is made in the way shown. The lime when it reaches the bottom being fully burned, is drawn out into the hearth a, through the opening into the kiln, b. In burning the stone is broken into convenient size for handling, and a way is made to the top of the kiln, which is most often built in a



KILN FOR LIME BURNING.

bank. A small sloping track is sometimes made to the top of the kiln, and a platform around it, so that the small cars of lime and fuel may be drawn up and dumped into the kiln. The fire is started in the bottom by filling in dry wood, from the throat, then more fuel, wood or coal (the cheap check being used), is dumped in at the top, then some lime, and then alternately fuel and limestone until the kiln is full, when it is fired, and goes on day after day as long as lime is required. About the third day, the lime is ready for raking out, which is done with long bars of iron with a right angled hook at the end. It is only necessary to start it, when it fills the hearth, where it is left to cool. When it is taken out, more lime comes down, or if it lodges, the hook is used to loosen it. After the kiln is first charged, the stone sinks down steadily, and as this is always to be kept heaped at the mouth, as soon as it has sunk down to a level, a fresh supply is heaped up. As the fumes from the kiln consist of carbonic acid, which is a deadly gas when breathed, it is necessary for the man in charge of feeding the kiln to keep on the windward side, so that the gas is blown away from him.—Rural New Yorker.

Do Repairing at Home.

On all well-conducted farms where much machinery is used, farmers spend a great deal of time running to and fro from the blacksmith shop. There are so many different tools used that something gives out almost every day. Now a great deal of this expense may be saved by having a small shop on the farm. A portable forge can be had for \$15. This will answer every purpose, although it is not advisable to get one too small. Secure a hand anvil weighing about 100 lbs., a good hammer, a ten-pound sledge, a steel punch and a good blacksmith's vise, and you are ready for almost any job but horseshoeing. Of course a beginner cannot expect to do skilled work at first, but with a little practice, time and money can be saved. A farmer should not be without an assortment of good carpenter tools. Many a dollar can be saved by their use. If the farmer does not care to do his own repairing, perhaps the boys (if there be any) will take hold and to them it will soon become more of a pleasure than a task.

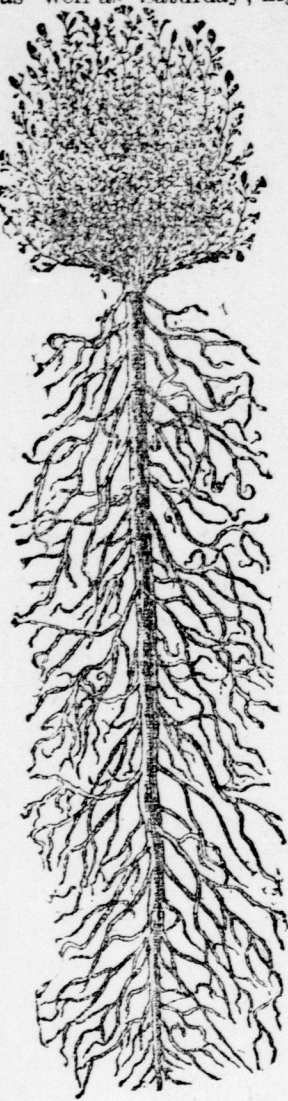
Reclaiming Swampy Lands.

No dwelling house ought ever to be built near a swamp. If such one exists either the house should be removed or the swamp should be drained. There are many places where the deepening of ditches already made is all that is needed to make dry land fit for cultivation of what has been an eyesore to the neighborhood. This making of an outlet is much the most expensive part of the reclamation. It will improve the neighboring upland also, for that equally needs underdraining, but cannot get it until a safe reliable outlet has been provided. All swampy lands have been for ages the deposits for vegetable matter from uplands. So soon as the latter is underdrained the water falling on the upland sinks down to the file and enriches the soil, instead of washing away its fertility.—Rural World.

THE SILENT SUBSOILER.

The Roots of the Alfalfa Plant Strike as Much as Twenty Feet Deep.

There are some silent subsoilers that do their work with ease, and in their way as effectively as any team or plow ever hitched, although in some lands use of a subsoil plow is essential to the best beginning of such work. The clover plant is righteously famed as one of these, and alfalfa is its superior. Its roots work Sunday as well as Saturday, night and



AN ALFALFA PLANT AND ITS ROOTS.

day; they strike five, ten, fifteen or twenty feet deep, making innumerable perforations, while storing up nitrogen, and when these roots decay they leave not only a generous supply of fertility for any desired crop, but millions of openings into which the air and rains of heaven find their way, and help to constitute an unfailing reservoir of wealth, upon which the husbandman can draw with little fear of protest or over drafts. "Is long, heavy roots disturb the subsoil, push and crowd the earth this way and that, thus constituting a gigantic subsoiler. These roots become an immense magazine of fertility. As soon as cut, they begin to decay and liberate the vast reservoir of fertilizing matter below the plow, to be drawn upon by other crops for years to come."

Firming the Soil.

The great mistake that people often make in preparing the soil for setting plants is to leave it too loose. This is especially the case with boxes and flats, on the greenhouse bench, and in frames. Plants set in such loose soil usually wilt badly when first set, and they never grow so well as when set in compacted soil into which the plant can only be crowded with some effort. Another mistake, which becomes apparent at this time, is growing the seedlings in excessively rich soil. Thus grown they have only little root, and consequently they will wilt more and receive a greater check when transplanted than when their roots are larger, owing to the less fertile soil. Soil made from decayed sods is good for these purposes, as it contains plant fibre enough to bind the soil well to the roots. A proportionately large admixture of clay also serves to make the soil adhere well to the roots. I like a rather stiff and only moderately rich soil for the coldframes in which to harden off tomato and similar plants. When ready for going out in the open ground, the plants can then be taken up with a spade, and all the soil as cut out in square blocks will firmly stick to the roots and be set out with the plants, so that the latter are but little affected by the transfer. Of course, even then, we must see to it that the soil is firmly pressed around the blocks containing the plants. It can be done by tramping down with the feet.

Cheap Butter.

"The Rural New-Yorker has the following hint to butter-makers: "I wish that you would send me some one to buy that butter," said a commission merchant pointing to about 50 tubs of all kinds and sizes piled up in a corner of his store. "First-class butter never stays in the store over night, but I don't know what to do with that stuff. The use of cottonseed has almost destroyed the demand for the cheaper grades of butter. A dealer who buys a good deal of cheap butter was in here, and I offered him the whole lot for 14 cents a pound. He took a number of bills from his pocket, and showed me where he had purchased; a number of different lots for 14 cents per pound. He said that, while some of it was nothing but grease, some was fair butter. What we are to do with that stuff, I don't know; I wish that they wouldn't send it here. There is a lot in five-pound pails. The man who sent it, also sent some in tubs. The latter was good butter, and sold at once, but he had evidently packed the poor stuff in pails thinking that the packages would sell it. But there they are." Why will people make good milk into poor butter, and then expect people to buy the stuff at good butter prices?

Best Way to Sell Wool.

"Another wool season is at hand, and one of the problems which no doubt confronts our readers who have wool is where and how to dispose of it to the best advantage possible. Like all farm produce it finds its way to the large markets for distribution, and the fewer hands it passes through before this distribution takes place the more money he realizes for his wool. Such being the case, it is certainly for the best interest of the wool-grower to ship his wool direct to the large markets or points of distribution in order that he may realize the most money possible for it. The necessity for doing this at present is much greater than if wool was bringing as good price, and when the profit to be gained by the grower of wool shipping direct to market is brought to his attention, as is intended by this article, we think he will take advantage of it. There can be but one possible obstacle, that is confidence in securing the right kind of a house to receive and sell his wool to the best advantage possible and one which will remit his money promptly. Confidence is the foundation of all business transactions.



THE GLADIOLUS.

They Give the Greatest Satisfaction for the Least Trouble.

"If I were to name one plant that, all in all, has given me the largest satisfaction for least expense and trouble, I should name the gladiolus," says E. P. Powell. "The bulbs require so little space, fill up spring bulb beds for later bloom, and are so magnificent in bloom, outdoors and in, that they ought to be in every garden, but for some reason they are not."



TYPES OF GLADIOLUS.

You get your satisfaction very soon after planting, and the flowers succeed each other for months. The cost is now very trifling, although I remember paying \$5 for a very plain gladiolus in 1890. The highest value, however, is in the tendency of this plant to give us rich new seedlings. It takes from three to five years to bring the seed to a flowering bulb. I find that the choicest variety of seedlings are slowest to mature. The poorest sorts go to bloom the third year; the finest of all rarely before the fifth. I have bushes of fine bulbs of such seedlings, all of which go into my grounds to make August, September and October months of wonder. It is delightful to be able to give away flowers by the armful; and such flowers, I like very much to plant near by a large mass of monstrositas. These are almost as good as the gladiolus for cut flowers. A bunch of either placed in a vase will open all its buds, even those only half developed when cut."

Blackberries.

At the recent horticulturists' meeting at Rochester, a paper was read by C. E. Chapman, Perville, N. Y., on "One thousand dollars from an acre of blackberries." Mr. Chapman said his attention was called to blackberry growing by a newspaper article, and he resolved to go into it, but did not know anything whatever of the requirements in the way of soil or varieties. He bought some plants where he could get them cheapest, and afterward learned that the cheapest plants were sometimes the dearest. A good many dig up old plants from old plantations which were nearly worthless, and sold them for what they could get. After experimenting for a great many years and buying his blackberries for family use, he finally succeeded in learning enough about the business to grow crops successfully. He had not yet got to where he produced at the rate of \$500 worth from a measured one half acre, as did a neighbor. Part were sold at 15 cents per quart, but the greater portion at 10 cents. A single picking sold for \$100. The first requisite in blackberry culture is to have nice, mellow soil in a fine state of cultivation. Raw manure was not good. He had the best results where the ground was twice thoroughly manured with well-rotted manure, and cultivated in farm crops. Blackberries should be planted in rows seven feet apart, on ground so rich that a solid row four feet wide could be produced. This made a close, hedge-like row to shade the fruit, and gave the actual conditions under which this fruit thrived best. He mulched with moist hay or straw on either side the bushes, and gave thorough cultivation along the middle of the spaces. He cut the old wood directly after picking.

The New Beans.

The Burpee bush lima is a great addition to our list of garden vegetables. For the table it seems in every way fully equal to its more aspiring relative. The beans are nearly, if not quite as large, a little earlier, and they have withstood the dry weather better than any other variety of beans. The land in New Jersey is free from the pest of the bean beetle, and the drought of the past two seasons has dried the pole beans up before they were large enough to use, but the Burpee bush lima has produced large crops of very fine beans both years. The expense of growing the bush lima is small compared with that of growing the pole varieties. Not only is the entire expense of procuring and setting the poles saved, but the plants are more easily cultivated while growing. If the land is well fertilized, 8x4 feet is close enough for the hills (one bush in a hill), and it is as easy to care for them as for the same area planted to potatoes. Unlike the pole varieties, nearly all the pods on a bush ripen within a comparatively short time, and if a continual supply is desired, it is necessary to plant at intervals of two weeks. For an earlier bean of the pole variety, either the Black Lima or the Horticultural Lima is good. They are both very productive and an improvement upon the old varieties of pole beans.

Good Prices for Fine Maple Syrets.

The markets of to-day demand the best of everything and so it is with maple sugar and syrup, and in order to get a fancy price the goods must be fancy. Maple sugar is used as a luxury more than as a common article of food, and therefore should be nice. The market is large enough for all the fine goods that can be produced and at good prices. The trouble is, there is too much poor sugar made and sold for a poor price. Let every sugar maker strive to make the best and then let consumers know he makes the best, and it will be wanted at remunerative figures.

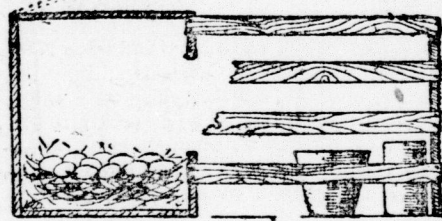
COMPARATIVE VALUE OF MILLETS.

Common is the Earliest, While German is the Best for Thin Soils.

Common and German millet withstand dry weather better than Hungarian grass, and are more largely grown in the west, while Hungarian is generally preferred in the east. Common millet is the earliest of the three and may be recognized by its green, slender, nodding head, which is open or ragged at the base, while the dark-purple head of Hungarian is compact and nearly upright. German millet has a large, rough head, with coarse stems, generally, but one from each ear. The seeds from Hungarian are easily recognized by their mixed color; many of the grains—the more the better—are dark purple, while there are always present more or less yellow seeds, but the seed of first class southern-grown German millet is smaller and plumper than that of common millet and generally has a coppery tinge which has sometimes given it the name of "golden" millet. When this southern seed is planted in the north and west it often fails to ripen thoroughly, and tends to become oval in shape instead of round, so that it much resembles common millet. On this account some have supposed all common millet to be degenerated German millet, and it is getting to be a practice with some seedsmen to substitute, intentionally or otherwise, the cheaper and generally less desirable common millet for the German variety. Out of twenty-one samples obtained this year under the name "German millet" five were pure common millet and four mixed with that variety. The latter variety is the best for thin soils, or late sowing, or for early sowing to be followed by fall crops, but on good land where the full season can be given it, by far the largest yield of hay will be produced by the German millet. Common millet sown last year, June 2nd, and cut for hay August 3rd, yielded 1½ tons per acre. German millet sown the same time was not ready to cut until September 13, and averaged nearly 2½ tons per acre.

Best Way to Set a Hen.

The accompanying illustration shows the very best way to set a hen that has yet been discovered, so far at least as the writer has been concerned. The nest is made in a roomy box, with a cover. Nail to one side of the box is a little slat yard—slats on top also—in which water and food are kept constantly. The hen can go out into the yard at any time, eat and drink, and has no temptation to wander away and let her eggs get cold. Where



IMPROVED HEN'S NEST.

several hens are sitting, a contrivance like this for each, saves all bother of looking after them, to see that two do not get on one nest, etc. You put food and water in the dishes—the hen "does the rest!"—American Agriculturist.

Mushrooms and Manure Heaps.

As grown in old green pastures, mushrooms are agreeable and excellent eating, especially if cooked properly and cooked fresh. Even as produced artificially for the market, they are often quite wholesome, if washed clean and cooked early. But as is well known, says the Lancet (London), mushrooms belong to an order of vegetables of a somewhat low organization, and they grow and reproduce themselves with remarkable rapidity when sown in decomposing vegetable matter. Many growers take advantage of this fact to cultivate mushrooms on manure heaps—heaps, that is to say, not of ordinary farmyard manure, but of the vile and rotting filth of every description which is gathered together in large towns and delivered to suburban and country mushroom growers by horse wagon or train. Now, plants take up into themselves the very stuff, modified, on which they grow. Mushrooms grown on matter of this kind are able to assimilate, but the arrangement of the "cap" of the mushroom enables it also to absorb the vapor of the manure, which is a dangerous poison to man and other animals. Thus the scores of hundreds of radiating plates of which they principally consist are in practice little better than traps for the catching and retaining of more deadly poisons still.

Timothy and Clover Compared.

Timothy and clover, says the New York Times, has been a standard mixture for hay, and pasture after it, and in some localities, as where the summers are comparatively cool, it does very well. But where the summer heat is greater, the timothy does not mature as soon as the clover, and unless the clover is cut too late the timothy is not ready for cutting. Thus it is better to use an earlier grass, as orchard grass, which is in its best condition for cutting at the same time that the clover is. Another advantage as to this grass is that it is far more permanent than timothy, and after the clover has run out it will occupy the land for many years, certainly thirty or forty, with good management, as, for instance, frequent top dressings with manure, and some new seed, to be covered in with a harrow, the harrowing being done after the manure has been spread, so that the seed is covered and the manure broken and spread at the same time.

Swine in Large Numbers.

Where swine are kept in large numbers they are very likely to be confined in very close quarters, with no regard for cleanliness and pure air. One who recently visited a distillery where a great lot of hogs were kept to be fattened upon the waste products, gives a description suggestive of the "black hole of Calcutta." The fetid atmosphere seemed to torture the swine, and the visitor would have fainted but for a speedy exit. This was an exceptional condition, but in all cases where filth is prevalent and the air infected there must be more or less taint to the meat, even if disease does not appear. But hogs so developed are very liable to be infested with some dangerous disease and parasites, and those who eat them as food do so with peril to health. The swine should be fed as pure food as other animals, and all their conditions recognize sanitary laws.

Cautions for Butter Producers.

Pure water is absolutely necessary, and pastures must be kept free of noxious weeds. Do the milking in a quiet place and make no noise doing the work. If in a stable, have it free from odors. It is necessary that you be able to control the temperature while ripening cream.

Let Us Reason Together, Reader,
When Paine's Celery Compound Cures the Most
Desperate Cases of Disease, Is it not the
Medicine for Your Trouble?

A TERRIBLE CASE OF RHEUMATISM.

It Baffled the Doctor's Skill.

The Racking Disease Was Completely Banished by the Great
Health-Giver.



All sensible and rational men and women will certainly admit that there must be merit and efficacy in a medicine that cures the most desperate forms of disease, and save life after the failures of physicians. The medicine that accomplishes such magnificent work is surely worthy of the attention of all sick and suffering mortals. Past experiences and results have heaped up mountains of proofs that Paine's Celery Compound is the only medicine that can rescue and save in extreme and desperate cases of disease. The annals of medicine cannot show or tell of any medical prescription that has won such a bright and lustrous fame as Paine's Celery Compound. This marvelous medicine has succeeded and conquered when all other agents have failed; it has saved life when men and women were given up to die. No wonder that thousands use it and sing its praises every day. The following letter of testimony from Mr. Douglas Hixon, of Beamsville, Ont., proves that the worst cases of rheumatism can be cured by nature's wonderful life-giver:

"In June, 1892, I had a severe attack of rheumatism. I was doctored, and used liniments of all kinds, but grew worse instead of better."

"In November I was carried on a bed to the General and Marine Hospital, St. Catharines, where I received kind and careful treatment. My general health improved, but my rheumatism remained the same."

"I returned home in January, and again commenced trying doctors and medicines, but I grew worse, and in April I once more returned to the hospital. My general health again improved, but the rheumatism remained very painful. I could not raise my arm to my head, and was dressed and undressed like a child."

"After two months I again returned home. A friend of mine in Scotland, Brant county, wrote me not to despair, but to try Paine's Celery Compound. I have taken ten bottles, and can truly say it is the only thing that has done my rheumatism any good. Since using the Compound I feel no return of the disease, and can now go about doing work. I take pleasure in recommending it to all who are afflicted with rheumatism."

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