Rural Economy.

WINTER FARM WORK.

Roots, Celery, etc., stored in pits or trenches, will need gradual covering as the cold increases. Recollect that such things suffer more from covering too soon and heating, than they do from freezing. Do not put on the final covering until winter has fairly set in.

Cellars where roots are stored should, for the same reason, be kept open as long as can safely be done without freezing the contents.

Cold Frames in which cabbages, cauliflowers and lettuce are wintered, should be daily aired whenever the thermometer is above freezing. The great point is, to keep the plants hardy, and this is done by preserving a low and uniform temperature. Cauliflowers are more tender than the others, and in very severe weather, the glass should be covered with mats or shutters. Poison or trap every mouse.

Hot-beds will be wanted in February and March. Have the sashes and frames in readiness now that there is leisure. Paint, reglaze, and have all in working order. Accumulate a supply of

Manure for hot-beds; the best is that from horse stables, long and short together. Manure for plowing and spading in should be looked out for, and all available materials, whether from the house, privies, stables, piggeries, or hen-houses, should be saved. Look round in the neighborhood for any mineral, animal, or vegetable material going to waste, that may be profitably secured as a fertilizer.

Seeds should be overhauled, and those of doubtful vitality rejected. If uncertain as to the value of a lot, plant a few in a saucer or other dish of earth; keep moist in a warm place. Order seeds early.

Tools should be looked over and repaired as needed. Paint all parts that need it, and supply deficiencies by purchase.

Scions may be cut whenever the wood is not frozen. Sawdust, or damp moss are better packing than sand, for the reason that they come out free from grit. The object should be to preserve the natural moisture, and not keep them any damper or dryer than they would be if left upon the tree.—*Amer. Agricult.*

EXPLODING KEROSENE LAMPS.

The frequently occurring accidents from the explosion of kerosene lamps have awakened an interest and anxiety in the public mind which seeks for the cause and cure of the evil.

It is claimed that the oil more recently furnished the trade is "wickedly impure," and that this impurity generates gas in the bowl of the lamp, which explodes when the flame is, by any means, communicated to it. It is not the oil that explodes, but the gas which sets fire to the oil and to all other combustible substances with which it comes in contact.

Now, it is evidently the duty of all to procure as pure an article as possible, and then to use all possible precaution to avoid accidents.

1st. Under no circumstances should a lamp be filled in the evening when a light is burning in the room. Serious accidents have resulted from this habit which might have been avoided.

2. The wick should completely fit and fill the tube in the lamp, because if there is an aperture through which the gas generated in the bowl of the lamp can escape, it may communicate at once with the flame and cause an explosion.

3. The lamp should never be burned more than one evening before it is refilled. The more space in the lamp not filled with oil, the more gas accumulates, and, of course, the greater the danger of explosion.

4. I will raise the question, how shall the light be extinguished to ensure safety? Two answers are given to this enquiry. Some say the wick should be "turned down;" others say that the light should be "blown out." I am inclined to adopt the views expressed by a writer in the *Lewiston* (Me.) *Journal*, in referring to a fatal accident which recently occurred there. I make the following extract:—

"The idea that blowing a kerosene lamp out is dangerous, is an error; also the idea that turning the wick down ensures safety, is also an error. In turning the wick down, unless it is precisely a fit for the tube, the gas escapes by the wick to the flame and explosion occurs. In blowing out a kerosene lamp there is no aperture through which the flame can pass into the bowl of the lamp, consequently more safety."

In speaking of Mrs. Berry, who was burned to death as intimated above, he says:—

"Mrs. B. was an extremely careful woman, but she had neglected to fill her lamp on that day. Of course, the lamp was less than half full of oil, consequently the more gas in the lamp and more liability to explosion."

I have said above that it is not the *oil* but the *gas generated by the burning lamp* that explodes. Hence, those merchants who claim to have the pure oil which does not explode when they set fire to it, deceive their customers. They may do it honestly, not knowing the fact, but the oil that will burn harmlessly on the counter, may generate gas and explode in the lamp. H.

CREAM IN COLD WEATHER.

For some reason not yet known, cream skimmed from milk in cold weather does not come to butter, when churned, so quickly as that from the same cow in warm weather. Perhaps the pellicles, which form the little sacks of butter in the cream, are thicker and tougher. There are two methods of obviating this trouble in a great degree. One is to set the pan of milk on the stove, or in some warm place, as soon as strained, and let it remain until quite warm—some say until a bubble or two rises, or until a skim of cream begins to form on the surface Another mode is to add a teaspoonful of salt to a quart of cream when it is skimmed. Cream thus prepared will generally come to butter in a few minutes when churned. It is thought the salt acts upon the coating of the butter globules, and makes them tender, so that they break rapidly when beaten by churning.—*New York Times.*

JUJUBE PASTE.

"What is it? Where does it come from? What is it made of?"

In reply to the question, What is jujube past made of? I have to reply, that three-fifths of all we buy and use as pure *jujube* is a compound of poor gum arabic, damaged flour and cheap sugar, tinted with some villainous chemical liquid.

The little pure jujube paste we get is made from the fruit of the *jujube* tree (*Rhamnus Zizyphus*), a common East Indian tree, or more generally a large shrub, growing also in the majority of the islands of Japan, and on the continent, hardy and abundantly fruitful in all the northern mountains of China, and north into Tartary, where the winter cold is so intense that no other fruit tree exists. The tree resembles most, in appearance and habits of growth, the honey locusts of the United States, while the fruit is very like, in size, shape, and color, our smaller purplish damson plums, with a pit something similar, only smaller in proportion, rounder and more pointed. Eaten when quite ripe, the fruit has a pleasant taste and slightly aromatic flavor. From the setting of the blossom to maturity, the fruit requires about three and one-half months, though two or three pretty sharp frosts, either on the flowers or ripe fruit, do not appear to injure it. The paste is easily made, exactly as the housewife manufactures marmalade from pears or other fruit, simply by stewing, straining, and boiling down at a very low heat.

There are few of the *jujube* trees growing and bearing fruit in the United States; but considering that it will thrive and bear fruit wherever the apple, peach, or pear will, and in some places where they will not, and considering also the very many purposes in confections and cookery to which it may be applied, as well as its valuable medicinal properties, a great many thousands of our people who have gardens ought to cultivate the *jujube* tree.—*The Guardian.*

HOW TO BURN COAL.

Never fill a stove more than half or two-thirds full of coal, even in the coldest weather. When the fire is low, never shake the grate or disturb the ashes; but add from ten to fifteen small lumps of coal, and set the draft open. When these are heated through, and somewhat ignited, add the amount necessary for a new fire, but do not disturb the ashes yet. Let the draft be open half an hour. Now shake out the ashes. The coal will be thoroughly ignited and will keep the stove at a high heat from six to twelve hours, according to the coldness of the weather. In very cold weather after the fire is made, add coal every hour. —*Albany Argus.*

A PERFECT ANTIDOTE FOR ALL POISONS.

A plain farmer says:—"It is now over twenty years since I learned that sweet oil would cure the bite of a rattlesnake, not knowing it would cure other kinds of poison. Practice, observation and experience have taught me that it will cure poison of any kind, both on man and beast. I think no farmer should be without a bottle of it in his house. The patient must take a spoonful of it internally and bathe the wound for a cure. To cure a horse, it requires eight times as much as it does for a man."

Scientific.

VENTILATION—ITS NECESSITY AND NEGLECT.

The last generation paid no attention to this matter, at least in this country. They had no need. Dwellings were sufficiently ventilated without resort to special appliances for that purpose. The fires generally used were of wood, or, if coal was employed, it was burned in an open grate. The houses were not hermetically-sealed boxes, with double windows, thick walls, and closely-fitting doors and window sashes. The old-fashioned fire-place, or even the Franklin grate, gave large egress to the vitiated air, while the numerous cracks around the doors and windows furnished sufficient pure air from the external atmosphere. Coal gradually usurped the place of wood for fuel, and compelled the introduction of stoves, furnaces and ranges, which gave out their heat, not only by imperfect radiation, but by the contact of hot iron plates with the air. This had the effect, in a close room, to destroy the natural humidity of the atmosphere, and for want of ventilation, a prejudice against stoves and coal was engendered, as productive of disease. Perfect ventilation will remove these causes of complaint. The heat generated by the combustion of coal, whether anthracite or bituminous, when burned in a close stove, is not necessarily deleterious.

Oxygen, from its quality of supporting combustion and sustaining life—itself a form of slow combustion—was formerly called the "vital fluid." The effect of a fire in a room is to use up and absorb the oxygen of the air, rendering it unfit for breathing. To sustain life, therefore, as well as combustion, a fresh and continual supply of oxygen is needed. Yet this gas alone, unmixed with hydrogen and nitrogen, is not fit for either purpose—life or combustion. In either case it destroys—acts too rapidly—in one instance producing fever, and in the other destroying the fuel too rapidly. Ventilation, therefore, is as necessary for the fire as for the lungs. The fire of a stove is not the only source of the deterioration of the air in our rooms. Gas-lights, lamps and candles absorb a large amount of the oxygen, and if the products of combustion are not visible in smoke or unconsumed carbon, we flatter ourselves that no deterioration of the atmosphere of the room is caused. There is no combustion without the generation of carbonic acid, a gas as fatal to animal organisms as any drug in the apothecary's collection. Because we do not see this in the form of a smoke or a noxious vapor, we provide no means for its escape, and no means for introducing pure air. For our ordinary fires we are compelled to do this, as the results of their combustion would soon render our rooms uninhabitable.

It is calculated that each person consumes, on an average, five cubic feet of air in an hour; or, rather, extracts from it that portion capable of supporting respiration. Put one hundred persons in a room, as a hall, containing 22,500 cubic feet of atmospheric air, a room thirty feet long, twenty-five wide, and thirty high, and in four and a half hours the air would be unfit to breathe. The increase of carbonic acid gas would soon prove deleterious. It is a beautiful provision of nature that this gas, ordinarily much heavier than atmospheric air, is, when first exhaled from the lungs, lighter than the surrounding air, and rises. In time, however, it cools, and decends to our level, when we are compelled to inhale it again. For this reason low studded rooms are not healthy.

But, if ventilation of rooms is necessary, it must not be supposed, what some have asserted and attempted to prove, that the proper ventilation of rooms adds nothing to the cost of heating in cold weather. If fresh supplies of air are introduced, these supplies must be heated to produce the requisite temperature, which necessitates an addititional consumption of fuel. The object sought is, however, well worth the increased expense entailed.

It is unfortunate that our houses, especially our dwellings, have not been constructed, heretofore, except in rare instances, with ventilation as one of the objects. We must, then, adopt temporary measures to insure a fresh supply. For this purpose, the opening of a window at the top and the admission of pure air by a door, or the lower portion of a window on the opposite side of a room, is the most feasible means for ventilation. Currents of air must be avoided, and this can be done, in a measure, by stretching across the aperture a screen of thin muslin, or, better, perforated thin plates of tin or other metal. To be sure, this is an imperfect and not altogether satisfactory method of reaching the object sought, but it is better than no ventilation.

This is a subject too important, and comprising too many conditions, to be justly considered in so brief an article as this. Our object is, however, to call attention to the necessity of proper ventilation, in the hope that it may awaken inquiry, and stimulate some exertion in the right direction. —*Scientific American.*

THE CANDLE FISH.

Mr. John Lord, an Englishman, who went to British Columbia as scientific member of the commission appointed to make the boundary line between British and United States territory, has published in London an account of his travels, in a volume entitled "The Naturalist in Vancouver Island and British Columbia." Among his stories is the following account of an extraordinary fish.

"I have never seen any fish half so fat and so good for Arctic winter food as the little candle-fish. It is next to impossible to broil or fry them, for they melt completely into oil. Some idea of their marvellous fatness may be gleaned from the fact that the natives use them as lamps for lighting their lodges. The fish, when dried, has a piece of rush-pith, or a strip from the inner bark of the cypress tree (*Thuja gigantea,*) drawn through it, a long round needle made of hard wood being used for the purpose; it is then lighted and burns steadily until consumed. I have read comfortably by its light; the candle-stick—literally a stick for the candle—consists of a bit of wood split at one end, and the fish inserted in the cleft. These ready-made sea-candles—little dips wanting only a wick that can be added in a minute—are easily transformed by heat and pressure into liquid. When the Indian drinks instead of burning them, he gets a fuel in the shape of oil, that keeps up the combustion within him, and which is burnt and consumed in the lungs, just as it was by the wick, but only gives heat. It is by no mere chance that myriads of small fish, in obedience to a wondrous instinct, annually visit the northern seas, containing within themselves all the elements necessary for supplying light, heat and life to the poor savage, who, but for this, must perish in the bitter cold of the long, dreary winter.

"As soon as the Indians have stored away the full supply of food for the winter, all the fish subsequently taken are converted into oil. If we stroll down to the lodges near the beach, we shall see for ourselves how they manage it. The fish reserved for oil-making have been piled in heaps until partly decomposed; five or six fires are blazing away, and in each fire are a number of large round pebbles to be made very hot. By each fire are four large square boxes, made from the trunk of a pine tree. A squaw carefully piles in each box a layer of fish about three deep, and covers them with cold water. She then puts five or six of the hot stones upon the layers of fish, and when the steam has cleared away, carefully lays small pieces of wood over the stones; then more fish, more water, more stones, more layers of wood, and so on, until the box is filled. The oil-maker now takes all the liquid from this box, and uses it over again instead of water in filling another box, and skims the oil off as it floats on the surface. A vast quantity of oil is thus obtained; often as much as seven hundred weight will be made by one small tribe.

"The refuse fish are not yet done with, more oil being extracted from them. Built against the pine tree is a small stage built of poles, very like a monster gridiron. The refuse of the boxes, having been sewn up in porous mats, is placed on the stage, to be rolled and pressed by the arms and chests of Indian women; and the oil thus squeezed out and collected in a box placed underneath. Not only has Nature, ever bountiful, sent an abundance of oil to the redskin, but she actually provides ready-made bottles to store it away in. The great seawrack, that grows to an immense size in those northern seas, and forms submarine forests, has a hollow stalk, expanded into a complete flask at the root-end. Cut into lengths of about three feet, these hollow stalks, with the bulb at the end, are collected and kept wet until required for use. As the oil is obtained it is stored away in these natural quart bottles, or rather larger bottles, for some of them hold three pints."

THE RAG TRADE.

It is very curious to observe how, by the aid of commerce, and for purposes of manufacture, insignificant articles assumes an importance which does not belong to them. Old rags have been a synonym for that which is worthless and vile, and yet they have become in modern times one of the most important in their relations to manufactures.

The dirtiest of linen or cotton rags, if cleansed or bleached, come out of the process of manufacture the purest of white writing paper. We are this moment, perhaps, writing on what was once the covering of some wretched lazzaroni of Naples; for Italy furnishes a large portion of the rags which enter into the paper stock of this and other countries. Few persons are aware of the quantity of rags which such a country supplies. One would suppose they must be entirely used up, so tenaciously do their owners hold on them; but even after they have been finally cast off, they are gathered together and form no insignificant item in the commerce of that sunny land. For ten years, commencing at 1846 and ending with 1855, the amount of rags imported into the United States was 209,383,718 pounds, or an annual average of 20,938,371, of which about three-quarters, or annual average of 14,830,015 pounds, were from Italy. Other countries on the Mediterranean furnish a large supply. The exportation of rags has been prohibited in some European countries, as in France and Belgium, on account of the scarcity of material for making paper. Nothing has yet been discovered which will fully answer as a substitute for rages, especially for linen, from which the finer and firmer qualities of paer are manufactured. The ingenuity of man has been severely taxed, and it is yet at work, to find some other material that will take its place; but rags still occupy the throne, and the discovery of a perfect substitute seems as far off as ever.

Woollen rags are becoming a more important article than formerly. Once they were chiefly used as manure, for which purpose they are very valuable, a large demand existing for them among the agriculturists of England; but since woollen fabrics have advanced so much in price, they have been extensively worked over, and during the war, have given rise to a term that will not very soon pass out of memory with the American people—Shoddy.—*N. Y. Journal of Commerce.*