Common-Sense Ice-House

Satisfactory and Economical Results Secured by a Tested Plan

An ice-house that will keep ice! And that is so reasonable in cost as to be within the means of tens of thousands who would put up ice if they only knew how to keep it into the summer months! Such an ice-house was designed some years ago by Dr. Edward Wheelock of Rochester, New York, and is now giving complete satisfaction on more than two hundred dairy farms around that city. It has, in addition, been thoroughly tested by the Health Department of the City of Rochester, New York. From an ice-house on the grounds of the Municipal Hospital ice was taken in August that had on it half-frozen snow, just as it was harvested in midwinter. In no case has an ice-house constructed as hereinafter described failed to keep ice through the season.

The plan of this ice-house is very much like that of the Irishman's overcoat, which he said would keep the cold out in winter and the warmth out in summer. In other words, non-conductivity of heat by the material in which the ice is packed is the essential feature in ice-keeping. The model ice-house will keep ice because it is so constructed that the sun and wind, playing over and around the ice-house, convert the outer layer of saw-dust in which the ice is packed into a dry non-conducting covering.

A house 12 x 20 x 12 feet will hold about seventy tons of ice and will carry it over the season with a loss in shrinkage not to exceed five per cent, if the ice, when packed, is not much less than ten inches thick. For an ice-house of these dimensions the lumber will cost approximately $65.00, nails $2.15, and spikes $1.50. A shingled instead of a battened roof would add about $2.00 to the cost.

High, well-drained ground should be selected as the site for the ice-house. If, however, the only available location should be on wet ground, trenches for the foundation may be dug, and a drain laid. The space about the foundation should then be filled in with broken stones and sand, so that warm air will be prevented from travelling along the drain and melting the ice. A further precaution might be added by protecting the outlet of the drain so as to prevent entirely the circulation of air in it. Whatever the condition of the soil may be, it is imperative that sun and wind shall have free access to the house. The more of each, the better. Both have drying power, and the ice keeps, as will be shown, because a dry, non-conducting layer of saw-dust is constantly between it and the outer atmosphere. Neither this nor any other house will keep ice if it is shaded and protected from the wind.

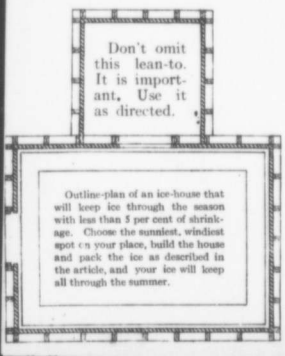
The foundation may be of brick, wood, or cement, provided it has good drainage. On the foundation erect 2 x 4-inch joists ten inches apart. On the *inside* of the joists nail six-inch hemlock boards laid horizontally, with half-inch cracks all around between the boards. The roof should be half-pitched and may be either battened or shingled. The gables should be left open wide enough to allow thorough circulation. If the roof overhangs enough to keep the rain out, the gables may be left entirely open. The house has no floor other than the soil or a layer of stones if it is desirable to improve the drainage. At one end of the house leave an opening for putting in the ice. This should extend from the ground to the level of the saddle. As the ice is put in, this opening is to be laid up with common hemlock boards.

At one side of the house build a lean-to approximately 6 x 8 x 6 feet, into which the sawdust may be thrown, to dry for future use. In the wall of the ice-house against which the lean-to is built leave an opening, so that the excess saw-dust may be shoveled into the lean-to as the ice is removed. Not more than two feet of sawdust should be on top of the ice at any time. In filling the house with ice this opening should be closed by boards in the same way as the opening where the ice is put in. This room for storing and drying sawdust is one of the most important features of the model ice-house.

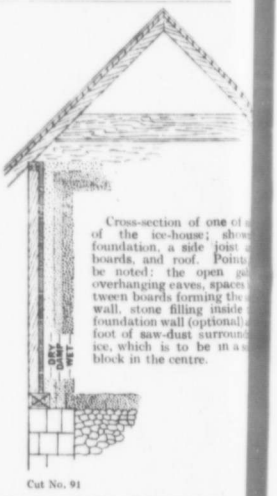
When ready to harvest the ice-crop, cover the bottom of the house with eighteen inches of clean litter or short shavings, similar to horse-bedding. Put the ice in, one layer at a time, taking care not to place one cake directly upon another; *the joints must be broken so that they do not come opposite each other*. The ice must be in a solid block, so that any tendency to melt will have no crevice to follow. Leave at least twelve inches of space all around between the block of ice and the walls of the ice-house. As each layer of ice is put down, fill this space with clean, dry sawdust, tightly rammed in. When the house is filled to within a foot of the saddle or hip, cover the whole mass of ice with two feet of sawdust. Do these things, and you will have ice on the hottest and latest day of summer—unless you use it up.

Summed up, the salient points in the construction of the model ice-house are as follows: It is cheap. It can be built by any one capable of handling tools. If the soil is wet, it must have a foundation, drained with loose stones into a blind drain. It must not have a drain-pipe opening into it, for then the warm air will pass up through the drain and melt the ice. The upper part of the house must be well ventilated. The crevices between the boards must be half an inch wide. The layer of sawdust between the ice and the walls of the ice-house must be at least twelve inches thick. The layer of sawdust next the ice will be wet, the middle layer damp, and the outer layer dry. By ventilating the upper part of the ice-house, draining the lower part, and drying the outer layer of sawdust through half-inch cracks in the boards, the ice is kept from melting.

Finally: do not build the ice-house in a sheltered place. Put it in the sun.—*George W. Goler, M.D., in Good Housekeeping for January*, 1915.



Outline-plan of an ice-house that will keep ice through the season with less than 5 per cent of shrinkage. Choose the sunniest, windiest spot on your place, build the house and pack the ice as described in the article, and your ice will keep all through the summer.



Cross-section of one of the ice-house; shows foundation, a side joist, boards, and roof. Points to be noted: the open gable overhanging eaves, spaces between boards forming the wall, stone filling inside foundation wall (optional), foot of saw-dust surrounding ice, which is to be in a solid block in the centre.

Cut No. 91

From Proceedings of Sixth Annual Meeting of the Commission of Conservation, held at Ottawa, January 19 and 20, 1915.

In speaking to a paper by Mr. Rhys D. Fairbairn, President of the Ontario Technical Education Association, Sir Clifford Sifton said in part:—"I do not hold with the idea of establishing grammar schools and collegiate institutes to teach boys to make critical examinations of Shakespeare's plays and Milton's poems when they know nothing about agricultural chemistry and have not the faintest idea of mechanics or other branches of technical education. As soon as these boys get through with their school course they are obliged to look all over the world for some place where they can get a job where they can make use of the education they have received. We have been doing that for two generations and the result is that our boys are all over the world except in Ontario, while we have natural resources here, illimitable in extent, requiring capacity and technical education to develop them; and Ontario is not producing one-half of what it could in agricultural products, if that industry had the intelligent attention of the men we have been educating and sending all over the world to work for other people. I regard this development which Mr. Fairbairn has indicated as one of the most valuable things that can be imagined and I am glad to see that we are getting back in Ontario to the place where we ought to have started about 40 years ago and I hope it will be followed in the other provinces."

Dr. C. C. James, Agricultural Commissioner for Canada, speaking of conditions in Alberta, said:—". . . . . He (Hon. Duncan Marshall) said: I want a man, a good Canadian, to put in charge of the Vermilion Agricultural school. I told him where there was a man in the United States, a Canadian. I said: 'You will have to pay money.' What we want is to get as many as possible of our educated Canadians into Canada, because we need them. We were exporting them for years. The State in whose employ this man was, raised his salary $200 or $300 but Mr. Marshall met every raise."

FIRE INSPECTION APPRECIATED

Commissioner Adamson, of the New York Fire Prevention Bureau, in speaking of the inspection work by uniformed firemen, said: "The important thing about these inspections is that they cover superficial and easily remedied conditions which, if left uncorrected, constitute our most fruitful causes of fires. The chief benefit is the great improvement in good housekeeping which they may cause. These inspections are not intended to harass property-owners and business men, but to assist them. I am glad to say that we are receiving the greatest co-operation from the public generally."