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APPARATUS FOR MAKING ICE

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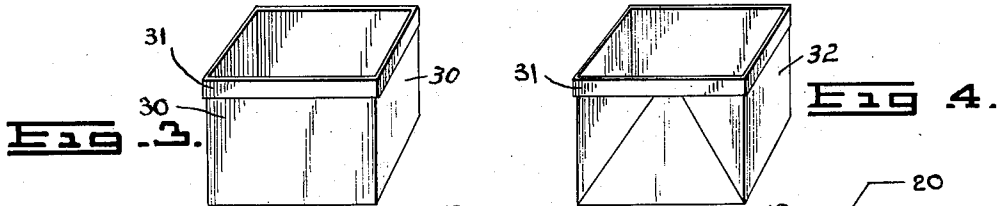
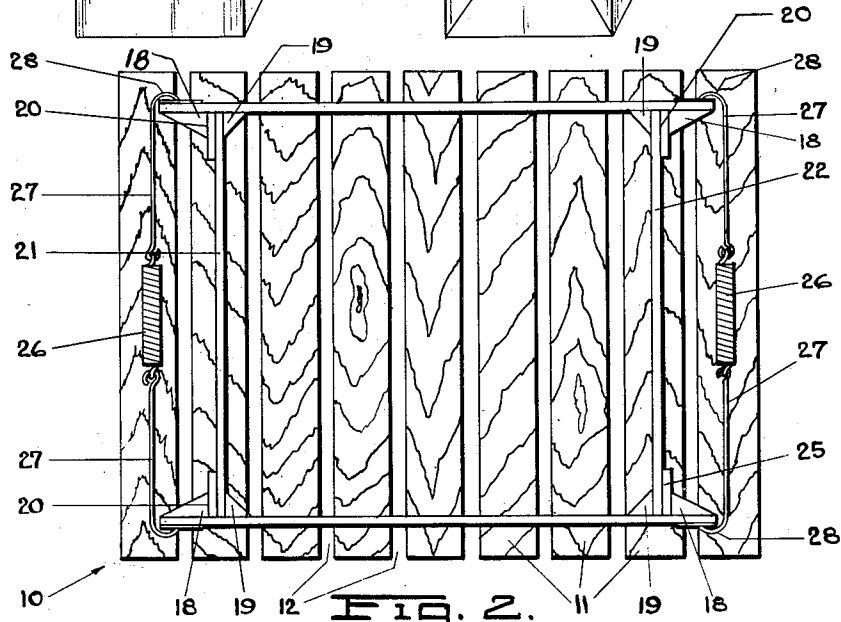
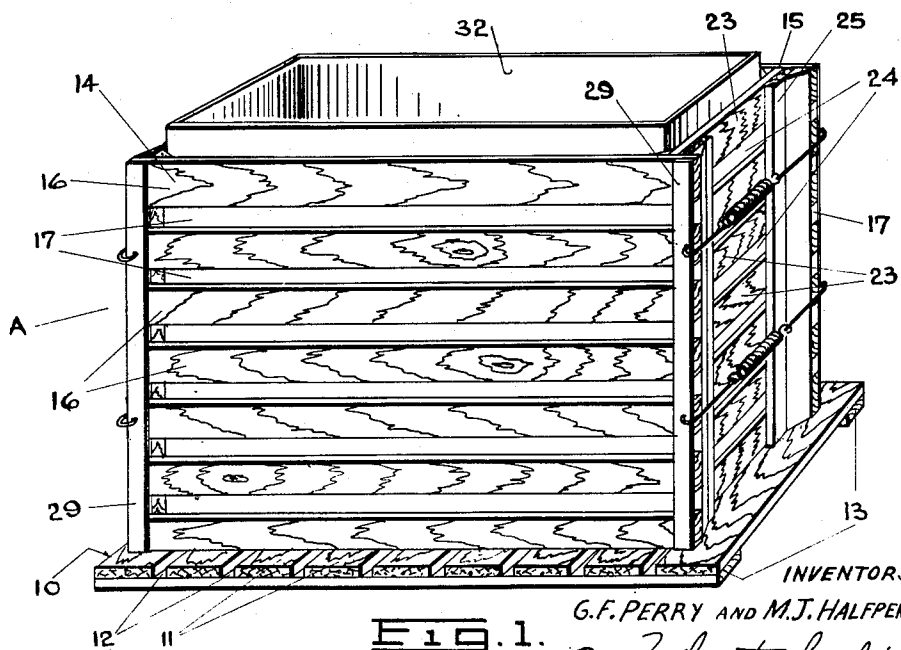


FIG. 1.

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APPARATUS FOR MAKING ICE

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2 Claims. (Cl. 62-110)

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This invention relates to an apparatus for making ice.

A further object of the invention is to provide a simple form of apparatus for forming blocks of ice.

A still further object of the invention is to provide an apparatus of this kind so formed as to permit substantial circulation of air around the ice blocks being formed.

A still further object of the invention is to provide an apparatus of this kind which will readily permit the expansion of the water during freezing and which is particularly simple to manipulate.

With these and other objects in view, the invention generally comprises a method which provides for quick formation of an outer wrapping container of light, flexible material, such as paper, its insertion within an ice mould, the freezing of the water within the mould including provision for and the ready removal of the frozen encased block of ice.

The apparatus generally comprises a form embodying a slatted base, and slatted sides and end walls spring held together and disposed to lie in bearing engagement on the slatted base.

The invention will be clearly understood by reference to the following detailed specification taken in conjunction with the accompanying drawings.

In the drawings:

Fig. 1 is a perspective view of the ice forming mould of the present invention showing the water-proof wrapping container disposed in position within it designed to receive a body of water to form the ice block.

Fig. 2 is a top plan view of the mould eliminating the wrapping container.

Fig. 3 is a miniature view of a form permitting ready construction of a paper container for use in the mould and showing a container within the form just after the container has been formed; and

Fig. 4 is a miniature perspective view of the folded container after it has been taken out of the form in Fig. 3, and ready for insertion in the mould.

Referring to the drawings, A indicates an ice mould as a whole according to the present invention which includes a base 10 larger than the area of the block to be formed and larger than the area of the mould. This base is formed as a framework including a plurality of slats 11 spaced apart to form therebetween air circulating passages 12 and secured as a unit by cross

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members 13 which, space the slats 12 vertically from a mounting, such as a floor, to permit air circulation underneath the base and in contact with the ice block being formed.

The body of the mould is made up of the side walls 14 and 15 comprised by a plurality of slats 16 spaced apart to form therebetween the air passages 17 and held together as a unit by means of the spaced apart pairs of cross members 18 and 19 which form the guide channels 20 therebetween for reception of the edges of the end walls 21 and 22 respectively. These end walls are formed similarly to the side walls including a plurality of spaced apart slats 23 having the air spaces 24 therebetween and including the cross members 25 to secure the slats together.

When the body of the mould is assembled, the marginal edges of the end walls 21 and 22 are disposed within the guide channels 20 provided at each end of the side walls 14 and 15 and the body is held together in an expansible manner by means of the spring securing unit which embodies the springs 26 and the hook-like shanks 27, the hooked portions 28 of which are designed to extend around the ends of the side walls 14 and 15 which, if desired, may be provided with a metal facing strip 29 against which the ends of the hooks 28 are caused to bear. Accordingly, therefore, it will be clear that the spring units hold the body in assembled position and will permit expansion of the side walls relatively to the end walls as required. The body likewise can, if necessary, shift upwardly as it lies freely upon the base 10, but expansion will usually take place in the transverse direction of the frame of the mould.

According to the method followed, a form made up only of side walls 30 and of any suitable light material is provided, the form coinciding with the size of the body of the mould. Into this a sheet of wrapping material is disposed which may conveniently be wax paper. This is quickly folded in a form to provide a container-like body so creased that it will expand both sidewise and endwise and the upper edges of the wrapping material may be folded, if necessary, back over the upper edges of the form 30, as indicated at 31, in effect to provide a stiffened upper edge. When the wrapping container is removed from the form 30, it will have the shape generally illustrated in miniature by the numeral 32 in Fig. 4, the folding being effected so as to provide a water-tight container. This, it will be appreciated, can be very rapidly produced from the form 30 and when each container is completed,

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it is inserted within the confines of a mould, such as has been illustrated in Fig. 1. As a result, therefore, when water is poured into the container to the required depth and the mould is subjected to reduced temperature, an ice block will be formed, which, during the expansion, will be accommodated by the relatively movable walls of the mould, whereas the wrapping container 32 which is loosely folded in the mould will likewise permit a reasonable expansion. Moreover, due to efficient air circulation around the contained body of water, the block of ice is rapidly formed and when completely frozen is readily removed by pulling apart the walls of the mould and sliding the block off the base 10. This results in a wrapped block of ice enclosed on five sides and the top surface may also be closed in if desired by leaving sufficient material in the flange 31 so that it can be caused to form a top covering for the ice.

In this way, blocks of ice may be rapidly formed and production of a desired order may be achieved depending upon the number of moulds employed and the capacity of the refrigerating equipment, since the wrapping containers are very rapidly formed with the aid of a simple mould 30, which if desired may be formed from heavy cardboard.

As a result of this construction and method, we are able to produce blocks of ice which will serve to provide the necessary demand particularly when the normal practice of ice cutting during the winter will not yield, due to conditions, a sufficient supply. In fact, the present invention is designed to eliminate the labour and time required for ice cutting and will provide clear blocks of ice free of any discoloration or impurities, which often results when river ice is cut and used.

What we claim as our invention is:

1. Apparatus for forming blocks of ice compris-

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ing an expansible mould including a base formed from a series of spaced apart slats to provide therebetween air passages, a mould body made up of side and end walls, each of the latter formed from a series of spaced apart slats providing air passages therebetween, means for resiliently connecting said walls to form an expansible body, said body being freely mounted on said base and an expansible liner of flexible material disposed within the body and designed to form a water container therewithin reinforced by the base and side walls of the mould, said container forming an encasing means for an ice block formed when said body of water within the container is frozen.

2. Apparatus as claimed in claim 1, in which one opposed pair of side walls is formed with a pair of channels at each end designed to freely receive the side edges of the other pair of walls, said resilient means including coil springs and clamping means, the latter being designed to engage the first mentioned walls to hold them in expansible engagement with the other pair of walls.

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