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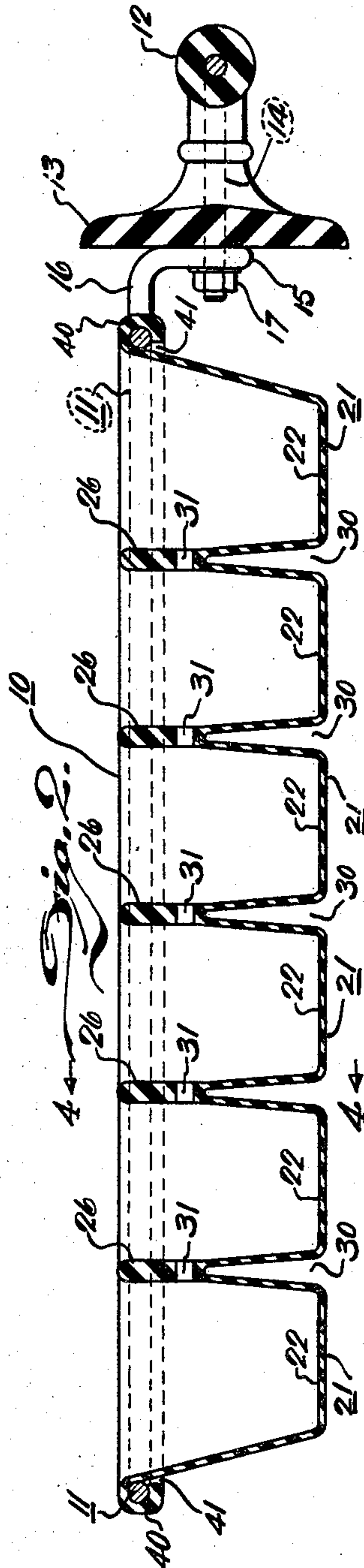
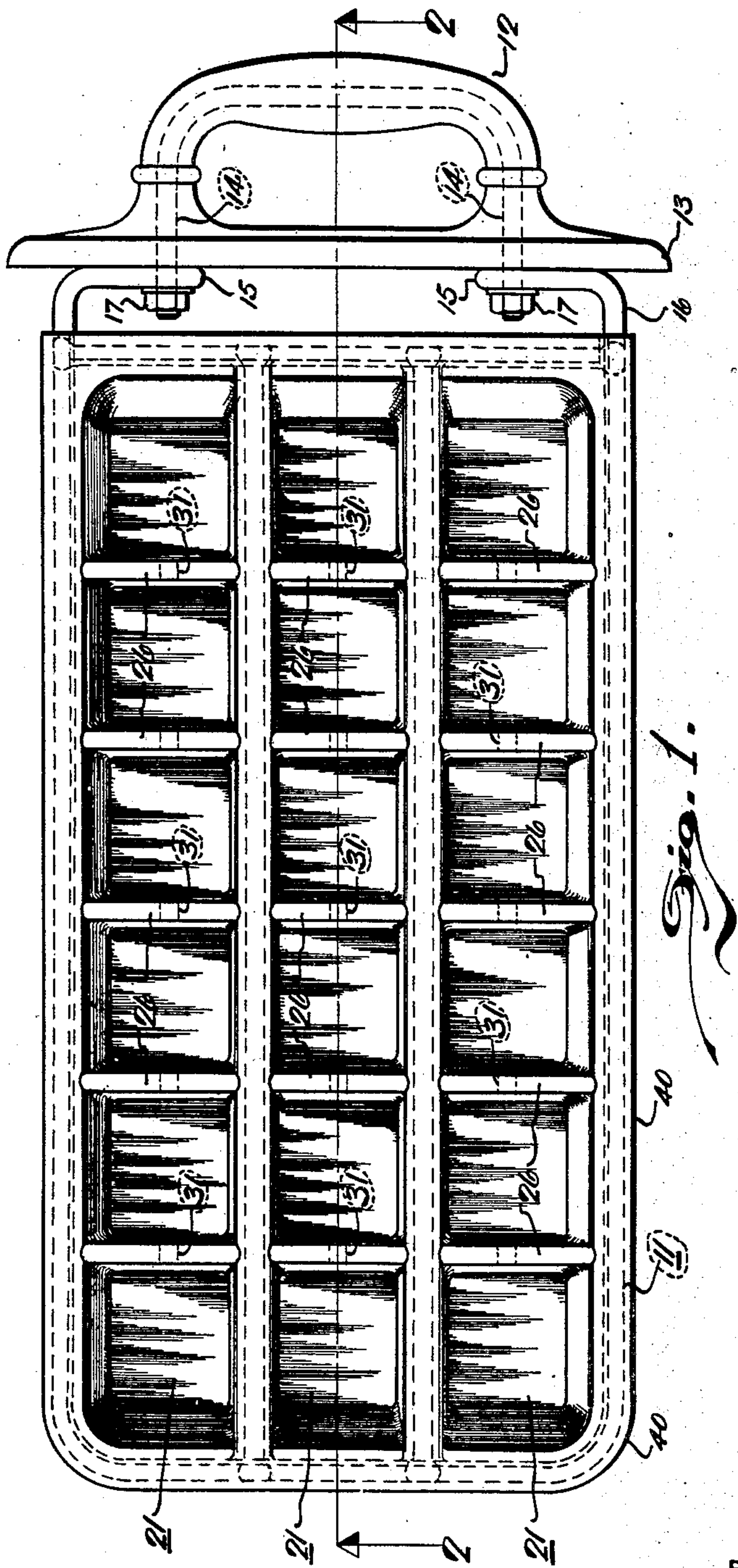
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FREEZING TRAY

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2 Sheets-Sheet 1



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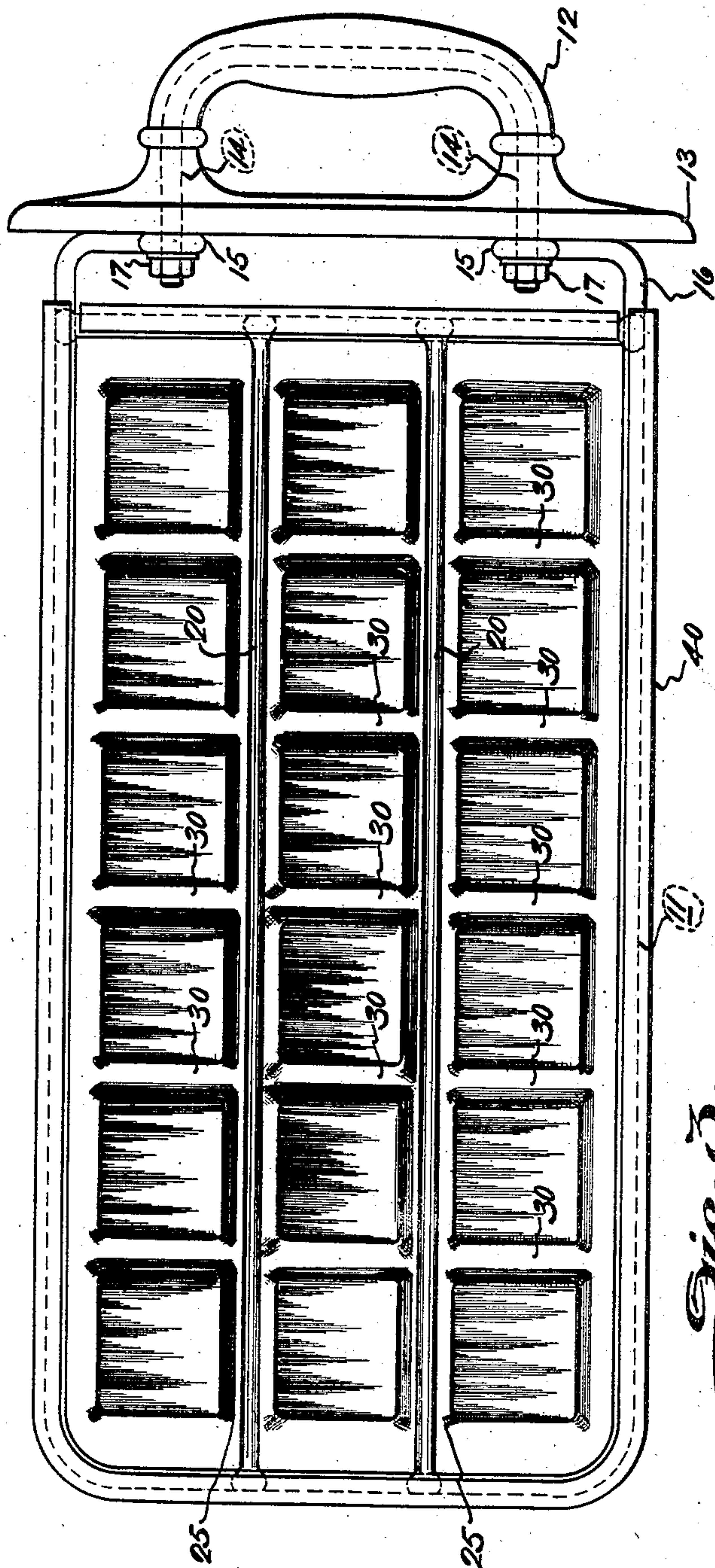


Fig. 3.

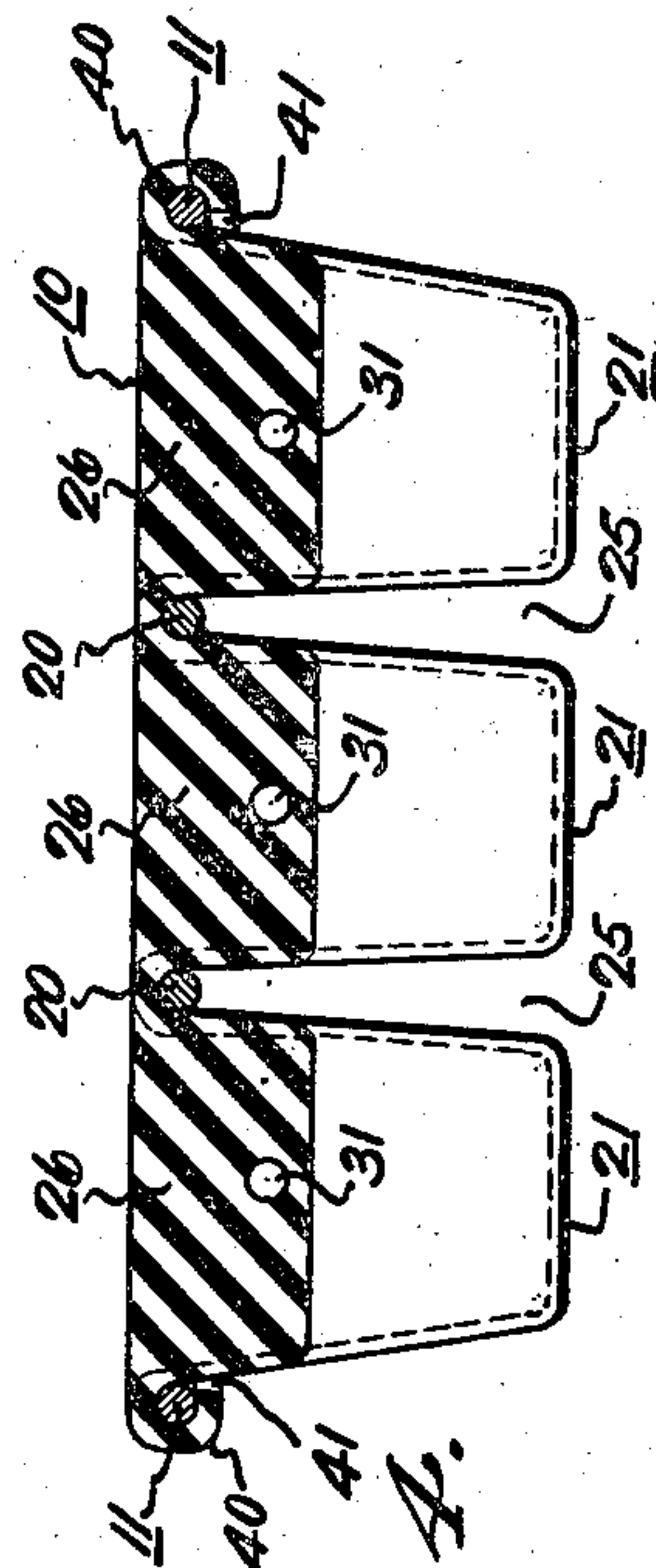


Fig. 4.

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UNITED STATES PATENT OFFICE

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FREEZING TRAY

Application filed May 29, 1930. Serial No. 457,077.

This invention relates to freezing trays adapted to be inserted by hand within the freezing compartment of domestic refrigerators.

5 An object of this invention is to provide various improvements in the freezing tray disclosed in application Serial Number 451,708, filed by Harvey D. Geyer on May 12, 1930.

10 A special object of this invention is to provide a non-metallic freezing container of the class described which will permit more rapid heat transfer from its contents to the surrounding cold air and hence will provide
15 more rapid freezing.

Another feature of the article of this invention is its economy of manufacture resulting from the fact that the molded flexible rubber container is molded without any
20 metal frame-work molded in situ therein; the molded container is easily snapped upon its supporting frame-work or removed therefrom for easy cleaning or for replacement after a period of use.

25 Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred embodiment of one form of the present invention is clearly shown.

In the drawings:

Fig. 1 is a plan view of a flexible rubber ice cube freezing tray which is adapted to be inserted as a sliding drawer into the
35 freezing compartment of a refrigerator.

Fig. 2 is a vertical section on line 2—2 of Fig. 1.

Fig. 3 is a bottom view of Fig. 1.

40 Fig. 4 is a vertical section on line 4—4 of Fig. 2.

Similar reference characters refer to similar parts throughout the several views.

The metal frame support for the flexible rubber container 10 is designated as a whole
45 by numeral 11. This frame 11 comprises a substantially rigid metal wire rectangular frame made preferably from steel wire about $\frac{3}{16}$ inch in diameter and plated with tin, nickel, or chromium for resisting corrosion and for appearance sake. Frame 11 is
50

shown as having a separately made handle 12 and a closure front 13 attached thereto by means of the threaded shanks 14 of handle 12 extending through eyes 15 turned up in the projecting end portions 16 of frame 11, and nuts 17 applied to the threaded shanks 14 to clamp the handle 12 and closure front 13 in place. Preferably the handle 12 and closure front 13 are integrally
55 molded from flexible rubber upon the U-shaped metal insert 14, however, said handle and front may be of any other suitable construction.

Wire frame 11 has two longitudinally extending metal cross members 20, preferably
60 steel wire electrically welded to the end members of frame 11, as shown. This forms a substantially rigid grid support for the flexible non-metallic container 10.

Container 10 is preferably molded in one
70 piece from a high grade flexible rubber to the form clearly illustrated in the drawings. In the form shown, it has three longitudinal rows 21 of ice pockets 22. The rows 21 are separated by the intervening longitudinally
75 extending air-circulating spaces 25 which extend vertically substantially the full depth of the container (see Fig. 4). Within each row 21 the individual ice pockets 22 are separated by cross partitions 26. Preferably
80 these cross partitions 26 are solid only at their upper portions whereby to form a stiffening bridge across said rows 21, while at their lower portions partitions 26 are double-walled with an intervening slightly
85 tapered air space 30 which permits cold air to circulate in between the individual pockets 22 in each row 21 (see Fig. 4). Thus it will be seen that cold air may circulate
90 freely around all four sides of the ice pockets 22 and thereby greatly increase the rapidity of freezing of the ice blocks contained therein. The cross partitions 26 being solid only a short distance below the normal water level in the pockets 22, it will
95 be clear that there will be only a very narrow area between adjacent ice blocks in a row 21 where there is no intervening air space. Preferably small holes 31 are provided in the solid portions of partitions 26
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just below the normal water level. By this means the water level in all the pockets in a single row 21 will be equalized and thus the proper filling of the container with water will be greatly facilitated. By providing holes 31 instead of slots which extend through to the upper edge of partitions 26, the stiffening or bridging effect of partitions 26 is fully retained. Holes 30 are preferably cut or punched rather than cored in the rubber due to the difficulty of coring such holes.

Container 10 preferably is molded with a marginal overhanging flange 40 having a groove 41 therein which is adapted to snap over and fit snugly upon the peripheral member of the metal frame 11, as clearly illustrated. This groove 41 may be readily cored in the flexible rubber since the flexibility of the rubber will permit the withdrawal of the core portion of the molding die through the narrow neck of the groove 41.

Now container 10 having been molded to the form as illustrated and described above, it may be easily inserted within the metal wire frame 11 simply by setting it upon the frame so that the cross members 20 fall within the air passages 25 and then snapping the overhanging lips 40 around the peripheral wire of frame 11 so that said peripheral wire is seated snugly up in the groove 41. When container 10 is then filled with water its periphery will be properly retained upon the peripheral wire against pulling out due to the weight of the water, and the cross wires 20 will support the weight at the central portion of said container in an obvious manner.

When the water-filled container is set within the freezing compartment it is obvious that cold air may freely circulate around all sides of each ice pocket 22 and thus rapid freezing may be had compared with the ordinary form of ice tray with solid partition walls.

Removal of the frozen ice blocks is attained simply by pressing upon the bottoms of the ice pockets 22 with the fingers, or by grasping the frame 11 with the hands and pressing the bottom of the entire container down upon a flat table or other surface if it is desired to empty the entire contents. During such removal the overhanging lips 40 are retained upon the metal wire 11 so that the container 10 may be turned partially inside out.

While the form of embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. A freezing tray adapted to be inserted

by hand within the freezing compartment of a domestic refrigerator comprising: a metal frame support and a one piece molded flexible rubber container having a marginal flange and groove therein, said container being insertable within said support and removably retained therein by a portion of said frame fitting within said groove.

2. A freezing tray adapted to be inserted by hand within the freezing compartment of a domestic refrigerator comprising: a metal frame support and a molded flexible rubber container having a plurality of rows of ice pockets, said rows having air circulating passages therebetween open from the bottom thereof, and said metal frame having cross members fitting snugly within the tops of said air passages and forming a support for said rubber container.

3. A freezing tray adapted to be inserted by hand within the freezing compartment of a domestic refrigerator comprising: a metal grid support, and an elongated molded flexible rubber container having a plurality of longitudinally extending rows of ice pockets, said rows having air circulating passages therebetween open from the bottom, said metal grid having cross members fitting within said air passages and supporting the connecting walls between said rows of pockets.

4. A molded flexible rubber freezing container adapted to be inserted by hand within a freezing compartment of a domestic refrigerator comprising: a plurality of rows of ice pockets having relatively narrow air circulating passages therebetween open from the bottom of said container, said rows having transverse partitions solid at the upper portion of their depth to a point below the water level, but having spaced double walls at the lower portion thereof to provide air circulation space therebetween.

In testimony whereof I hereto affix my signature.

RALPH H. CHILTON.