

(No Model.)

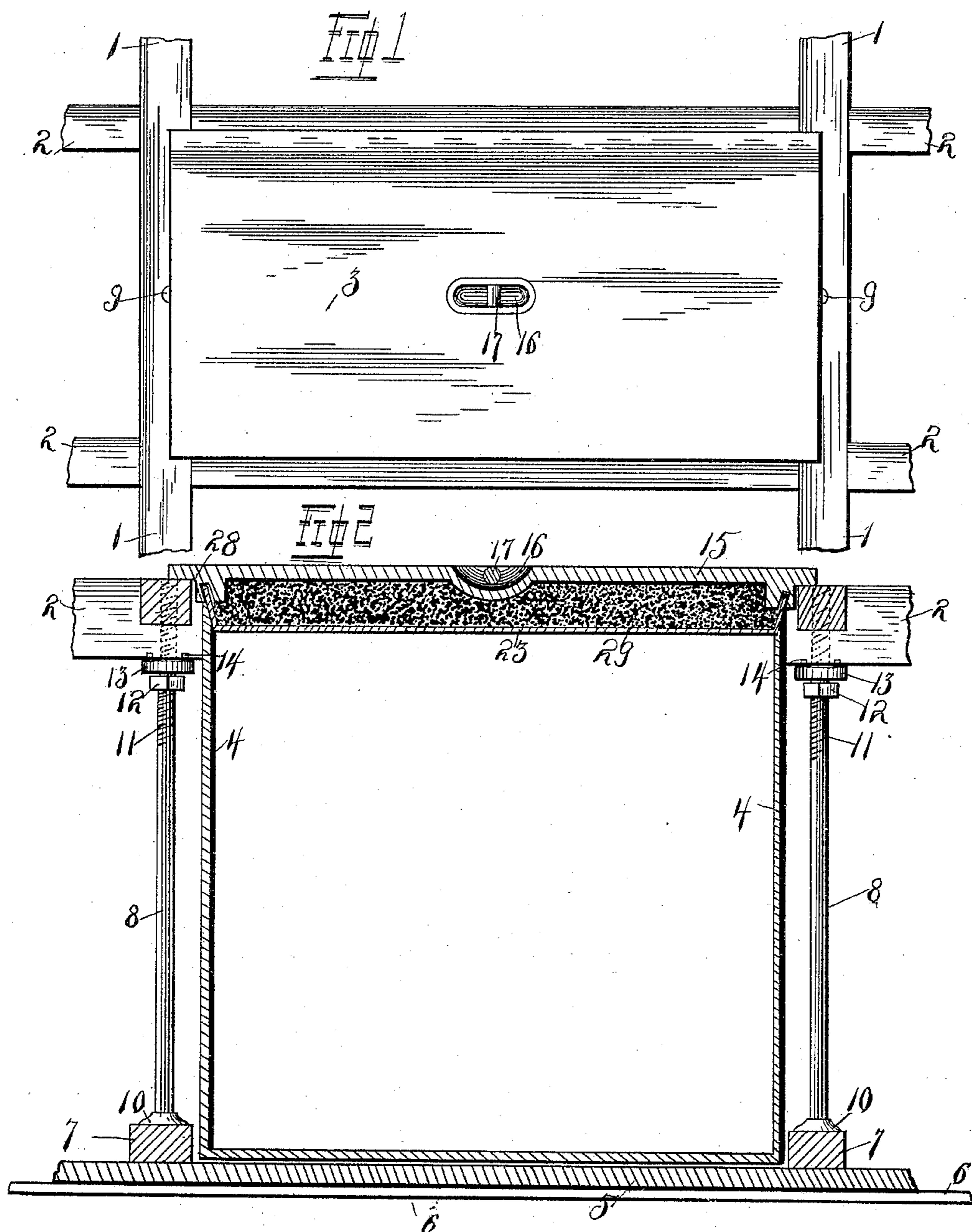
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W. H. GLOVER.

### LID AND SUPPORTING FRAME WORK FOR ICE CANS.

No. 467,406.

Patented Jan. 19, 1892.



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 & E. Longan

*INVENTOR*

W<sup>m</sup> H. Glover.

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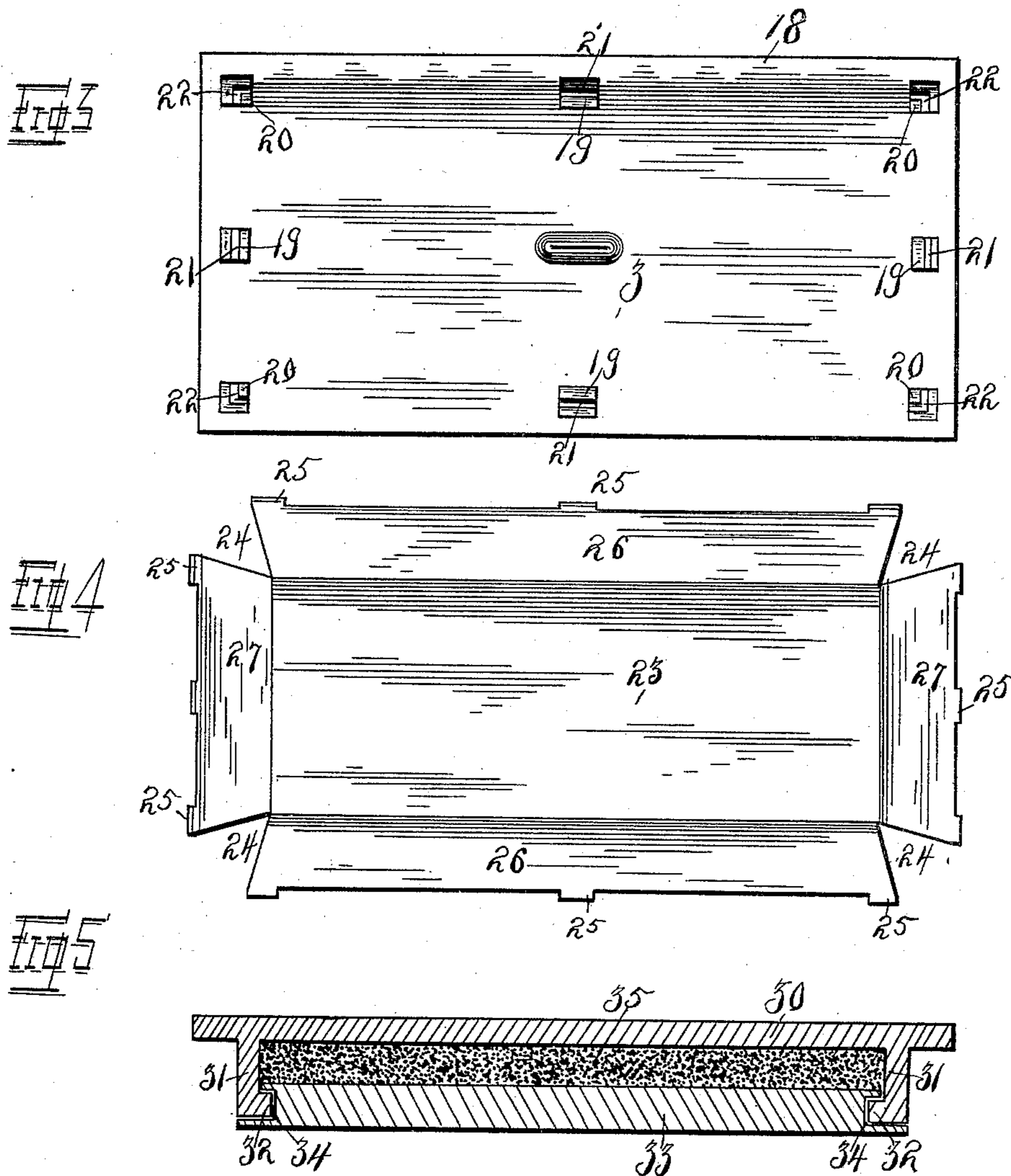
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# UNITED STATES PATENT OFFICE.

WILLIAM H. GLOVER, OF ST. LOUIS, MISSOURI.

## LID AND SUPPORTING FRAME-WORK FOR ICE-CANS.

SPECIFICATION forming part of Letters Patent No. 467,406, dated January 19, 1892.

Application filed August 19, 1891. Serial No. 403,111. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. GLOVER, of the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Lids and Supporting Frame-Work for Ice-Cans, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in lids and supporting frame-work for ice-cans, or cans used in the manufacture of ice; and it consists in the novel arrangement and combination of parts, as will be more fully herein-  
after described, and designated in the claims.

In the drawings, Figure 1 is a top plan view of my improved ice-can lid and its supporting frame-work. Fig. 2 is a vertical longitudinal section of said lid, the ice-can, a portion of the supporting frame-work, the metallic posts which support said frame-work, and the wooden bottom on which said can is adapted to be placed. Fig. 3 is a bottom plan view of the lid. Fig. 4 is a detail view of a sheet-iron plate out of which my lid is constructed, or, in other words, the complete lid is composed of cast-iron top plate, a sheet-iron bottom plate, as illustrated in Fig. 4, and a layer of non-heat-conducting material interposed between the same, as illustrated in Fig. 2; and Fig. 5 is a transverse section of the modification of the lid.

The object of my invention is to construct an ice-can lid through which only a small quantity of heat can pass and also construct an adjustable frame-work for supporting the series of ice-cans, and more especially the ice-can lids. It may be noted in this connection that my invention is especially confined to the above object, and in addition to a wooden surface on which the bottoms of the ice-cans may rest, so that the same may not come in contact with the metallic bottom of the exterior tank, in which the series of ice-cans are suspended.

Referring to the drawings, I will first proceed to describe the construction of the frame-work which supports the ice-can lids.

1 indicates joists, which pass completely across the exterior tank, (which is not illustrated,) in which the freezing medium is placed. Said joists 1 are parallel to each other. Lo-

cated under joists 1 are cross-timbers 2, which are also parallel to each other and pass transversely across the exterior tank. Said joists 1 and cross-timbers 2 answer as a support for the ice-can lid 3, as illustrated in Figs. 1 and 2. It may be noted in this connection that any suitable number of joists 1 may be used and placed at equal and predetermined distances apart in the exterior tank, and also that any number of cross-pieces 2 may be used and placed in said tank, thus forming a series of openings between their points of intersection, in which the freezing-can 4 may be suspended.

Although I have shown in the drawings only one ice-can and one opening between the joists 1 and cross-pieces 2 for suspending the same, I may extend the construction to accommodate a series of ice-cans. The joists 1 and cross-pieces 2 are mortised into each other at their points of intersection, so that their upper surfaces are flush with each other and rigidly secured together in any suitable and mechanical manner.

The ice-can 4 is placed on a wooden bottom or support 5. Said support 5 is placed on and supported by the metallic bottom 6 of the exterior tank. By this construction the bottom of the ice-can 4 cannot come in contact with the metallic bottom 6 of the exterior tank, and consequently is not subjected to any abrasion, which would necessarily wear a hole in the bottom of the ice-can. It may be noted in this connection that the metallic bottom 6 of the exterior tank may be supported by any suitable foundation construction.

7 indicates cross-timbers, which are placed on the wooden bottom 5 and extend throughout the entire length of the exterior tank. Said timbers 7 run parallel to the joists 1, and also parallel to each other. Located under the timbers 2 and supported on the timbers 7 are metallic posts 8, which are used for supporting the said cross-timbers 2, joists 1 and also the lid 3 of the ice-can, as illustrated in Fig. 2, wherein the supporting-posts 8 are shown as being placed under the cross-timbers 2, directly beneath the intersection of said cross-pieces 2 and the joists 1.

In place of locating the supporting-posts 8 as above described I may place the same under the joists 1, intermediately of the cross-

timbers 2, as illustrated in Fig. 1 by circles 9. The supporting-posts 8 are provided at their lower extremities with basic portions 10 and at their upper extremities with screw-threaded terminals 11, on which angular nuts 12 may be screwed. Mounted on said supporting-posts 8 are washers 13, which are interposed between the cross-timbers 2 and the angular nuts 12. Said washers 13 are provided with projections 14, which are embedded into cross-timbers 2 and prevent said washers from rotating on the supporting-posts 8. From this construction it can be readily perceived that the supporting frame-work for the ice-can lid 3 may be elevated or lowered by the proper operation of the angular nuts 12.

Having given a description of the supporting frame-work for the ice-can lid, I will now proceed to describe the construction of said lids in detail, and also the construction of the ice-can.

The ice-can 4 may be constructed of any suitable material and of any suitable form for the freezing of ice therein. Said ice-cans 4 are suspended in the openings formed between the joists 1 and cross-timbers 2 and are placed or located upon the wooden bottom 5.

I will now proceed to describe in detail the construction of the ice-can lid 3. Said lid 3 has a cast-iron plate 15, which is provided on its upper surface with a depression 16, and located therein and secured to said cast-iron plate is a pin 17, thus forming an eye in which a hook may be inserted for manipulating the lid. Said cast-iron plate 15 is provided on its lower surface with a peripheral flange 18, and cast integrally with said peripheral flange 18 and the bottom of said cast-iron plate are lugs 19 and 20. Said lugs or projections 19 are provided with recesses 21, which converge in passing from the cast-iron plate 15, or, in other words, they outwardly converge and inwardly diverge. The lugs or projections 20 are provided with right-angular recesses 22, which outwardly converge or inwardly diverge. The bottom plate 23 of said lid consists of a sheet-iron piece of metal, as illustrated in Fig. 4. Said sheet-iron piece 23 is provided at its corners with V-shaped recesses 24 and also with a series of small projections 25. Said recesses 24 and projections 25 are formed in the sheet-iron piece of metal 23 by any suitable machinery adapted for that purpose. When the recesses 24 are formed in said piece of metal, side flanges 26 and end flanges 27 are formed. Said sheet-iron bottom 23 is secured to the cast-iron plate 15 in the following-described manner: Sheet-iron piece 23 is first formed by any suitable machinery so as to embody a form as illustrated in Fig. 4. The operator or manufacturer should then bend the end flanges 27 and also the side flanges 26 at an obtuse angle, as illustrated in Fig. 2. It is then only necessary to insert

said flanges 26 and 27 in the recesses 21 and 22, formed in lugs 19 and 20. The cast-iron plate 15 is provided with a right-angular recess 28, which is adapted to fit over the corner of the supporting frame-work piece, as illustrated in Fig. 2. Interposed between the cast-iron plate 15 and the sheet-iron plate 22 is a non-heat-conducting material 29, which may consist of mineral wool, asbestos, or any other substance which precludes heat.

In Fig. 5 I show a modification of the lid, in which I show a cast-iron plate 30, provided with flanges 31, said flanges being provided with tongues 32. The bottom of said lid is composed of a wooden plate 33, the same being provided with grooves 34, in which the tongues 32 are adapted to slip. Interposed between said cast-iron plate 30 and wooden plates 32 is a non-heat-conducting material 35.

Having fully described my invention, what I claim is—

1. The herein-described adjustable supporting frame-work for ice-can lids, having intersecting joists and cross-timbers 1 and 2, respectively, on which the ice-can lids are supported, timbers 7, running parallel with each other and with said joists, supporting-posts 8, provided with basic portions 10, mounted on timbers 7, angular screw-threaded nuts mounted on the upper portions of said posts, and non-rotatable washers 14, interposed between said angular nuts 12 and the timbers to be supported, substantially as set forth.

2. The herein-described wooden structure and support for ice-can lids and ice-cans, having intersecting joists and cross-timbers 1 and 2, respectively, on which the ice-can lids are supported, timbers 7, running parallel with each other and with said joists, supporting-posts 8, provided with basic portions 10, mounted on timbers 7, angular screw-threaded nuts mounted on the upper portions of said posts, non-rotatable washers 14, interposed between said angular nuts 12 and the timbers to be supported, and a wooden bottom 5, placed on the metallic bottom 6 of the exterior tank, on which the ice-can 4 may be placed, thereby preventing the bottom of said can from being worn away by abrasion, substantially as set forth.

3. The herein-described removable ice-can lid, having a cast-iron plate 15, provided with a suitable flange 18 and with an eye in which a hook may be inserted for manipulating the same, a sheet-iron plate 23, secured to said cast-iron plate, and a layer or layers of non-heat-conducting material 29, interposed between said cast-iron plate 15 and sheet-iron plate 23, substantially as set forth.

4. The herein-described ice-can lid, having a cast-iron plate 15, the same being provided on its upper surface with an eye and on its lower surface with a peripheral flange 18, lugs 19 and 20, cast integrally with said cast-iron plate and peripheral flange 18, recesses 21, formed in lugs 19, right-angular recesses 22, formed in lugs 20, a sheet-iron plate 23,

provided at its corners with V-shaped recesses 24, thus forming in said sheet-iron plate flanges 26 and 27, the same adapted to be inserted in recesses 21 and 22, and a layer or layers of non-heat-conducting material 29, interposed between said cast-iron plate 15 and sheet-iron plate 23, substantially as set forth.

5. The herein-described ice-can lid, having a cast-iron plate 15, the same being provided on its upper surface with an eye and on its lower surface with a peripheral flange 18, lugs 19 and 20, cast integrally with said cast-iron plates and peripheral flange 18, outwardly-converging recesses 21, formed in lugs 19, outwardly-converging right-angular recesses 22, formed in lugs 20, a sheet-iron plate 23, provided at its corners with V-shaped recesses 24, thus forming in said sheet-iron plate flanges 26 and 27, the same adapted to be inserted in recesses 21 and 22, and a layer or layers of non-heat-conducting material 29, interposed between said cast-iron plate 15 and sheet-iron plate 23, substantially as set forth.

6. The herein-described ice-can lid, having a cast-iron plate 15, the same being provided on its upper surface with an eye and on its lower surface with a peripheral flange 18, lugs 19 and 20, cast integrally with said cast-iron plate and peripheral flange 18, outwardly-converging recesses 21, formed in lugs 19, outwardly-converging right-angular recesses 22,

formed in lugs 20, a sheet-iron plate 23, provided at its corners with V-shaped recesses 24, thus forming in said sheet-iron plate flanges 26 and 27, the same adapted to be inserted in recesses 21 and 22, and a layer or layers of non-heat-conducting mineral wool, such as 29, interposed between said cast-iron plate 15 and sheet-iron plate 23, substantially as set forth.

7. The herein-described ice-can lid, having a cast-iron plate 15, the same being provided on its upper surface with an eye and on its lower surface with a peripheral flange 18, lugs 19 and 20, cast integrally with said cast-iron plate and peripheral flange 18, outwardly-converging recesses 21, formed in lugs 19, outwardly-converging right-angular recesses 22, formed in lugs 20, a sheet-iron plate 23, provided at its corners with V-shaped recesses 24 and with small projections 25, said recesses forming in said sheet-iron plate flanges 26 and 27, the same adapted to be inserted in recesses 21 and 22, and a layer or layers of mineral wool, such as 29, interposed between said cast-iron plate 15 and sheet-iron plate 23, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. GLOVER.

Witnesses:

ED. E. LONGAN,  
ALFRED A. EICKS.