Z. U. DODGE.

KNOCKDOWN REFRIGERATING BOX.

APPLICATION FILED FEB. 28, 1921.

1,397,269. **Patented Nov. 15, 1921.**

2 SHEETS—SHEET 1.

Fig. 1.

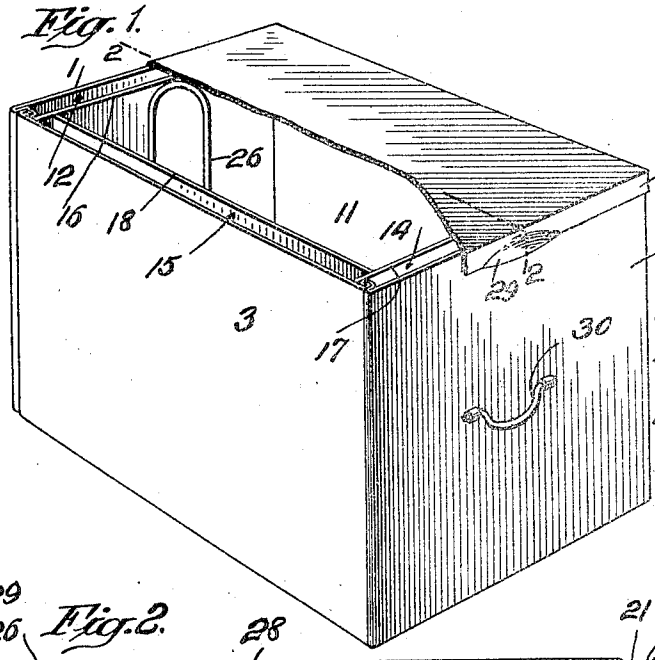


Fig. 6.

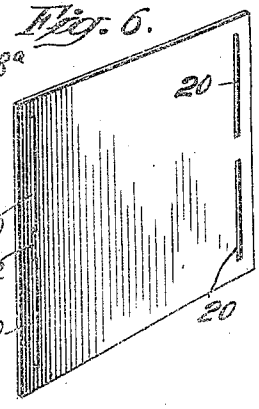


Fig. 2.

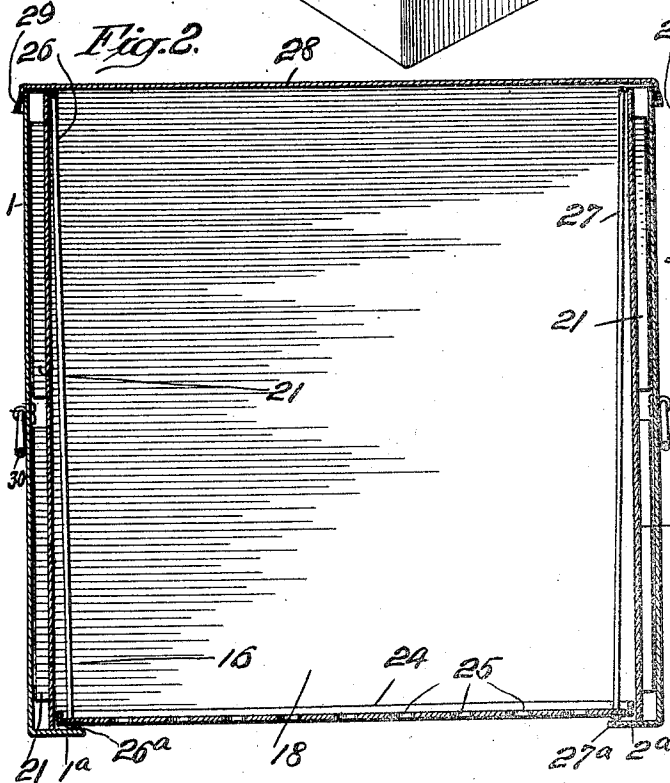
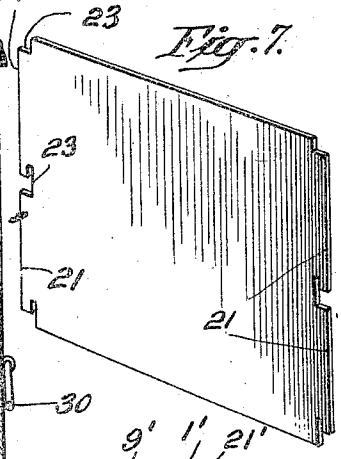


Fig. 7.



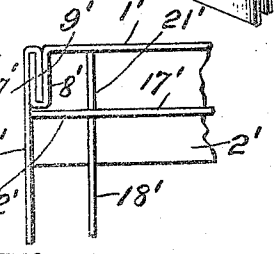


Fig. 10.

Inventor

Zinas U. Dodge

By his Attorney

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Z. U. DODGE.

KNOCKDOWN REFRIGERATING BOX.

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2 SHEETS—SHEET 2.

Fig. 3.

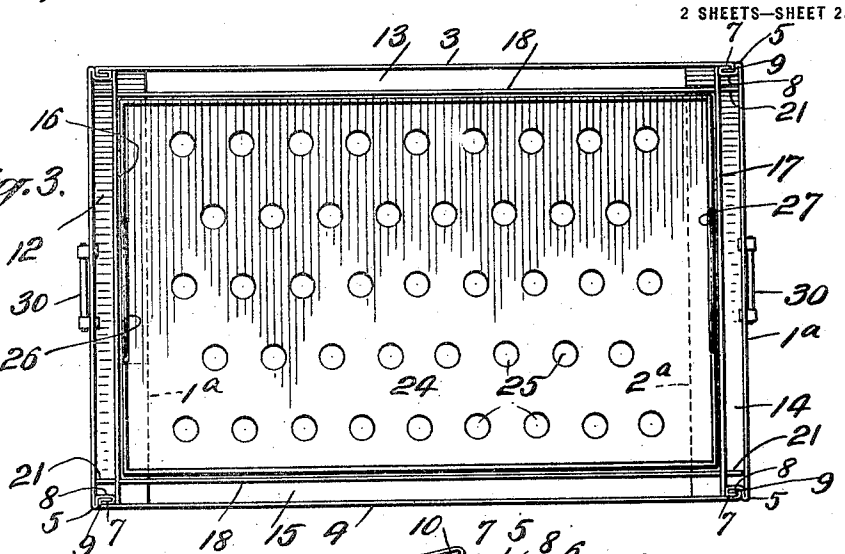


Fig. 4.

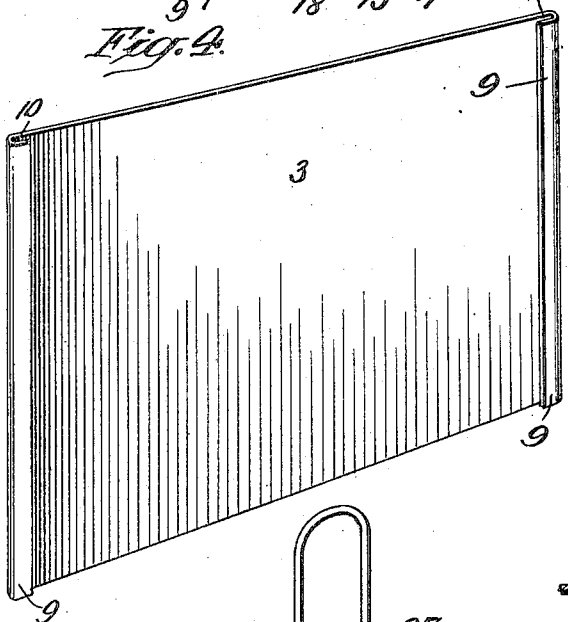
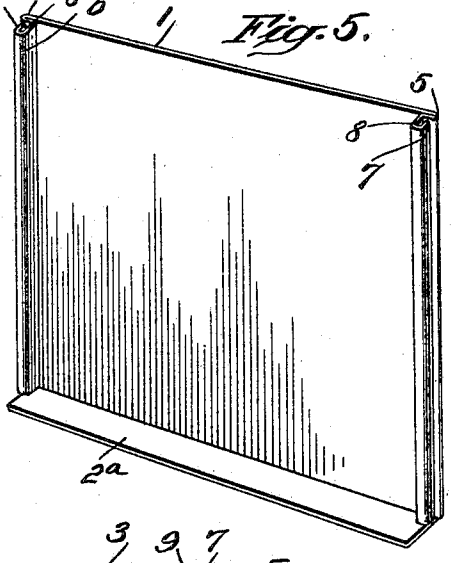


Fig. 5.



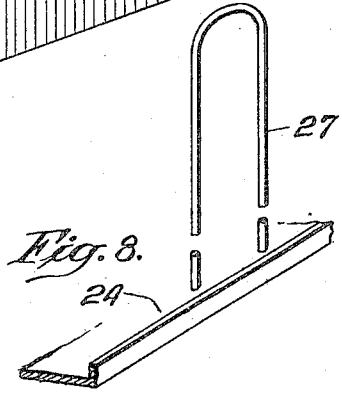


Fig. 8.

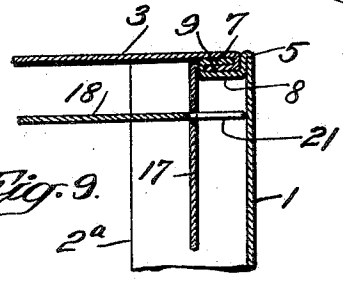


Fig. 9.

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UNITED STATES PATENT OFFICE.

ZENAS U. DODGE, OF NEW YORK, N. Y.

KNOCKDOWN REFRIGERATING-BOX.

1,397,269. Specification of Letters Patent. Patented Nov. 15, 1921.

Application filed February 28, 1921. Serial No. 448,546.

To all whom it may concern:

Be it known that I, ZENAS U. DODGE, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Knockdown Refrigerating-Boxes, of which the following is a specification.

This invention relates to improvements in knockdown refrigerating boxes.

One of the objects of this invention is to produce a knock-down construction of refrigerating box which may be packed in substantially flat condition in cartons and may be readily and easily erected and assembled by the user, and which when so assembled will provide a rigid, strong and durable container capable of holding a piece of ice.

Another object of my invention is to enable the provision in such a knock-down refrigerating box, of simple means for forming a lining for the box and spacing means between such lining and the outer box, whereby air spaces on all sides of the containing compartment or chamber will be formed.

Another object of my invention is the provision of a simple form of ice carrier, which may be inserted within the container compartment of the box so as to form bottom therefor, and may be lifted out of the box to provide a carrier for ice, in the operation of filling the container.

With these and other objects in view, the invention comprises the combination of members and arrangement of parts so combined as to co-act and coöperate with each other in the performance of the functions and the accomplishment of the results herein contemplated, and comprises in one of its adaptations the species or preferred form illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a box embodying my invention with a part of the cover broken away;

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

Fig. 3 is a horizontal section on the line 3—3 of Fig. 2 looking in the direction of the arrow;

Fig. 4 is a perspective view of one of the side members embodied in my improved knock-down refrigerator box construction;

Fig. 5 is a perspective view of one of the end members of said box;

Fig. 6 is a perspective of one of the end members of the lining box;

Fig. 7 is a perspective of one of the side members of such lining box;

Fig. 8 is a detail view in perspective of the connection of a bail at one end to the ice-carrying bottom of said box;

Fig. 9 is a detail of the corner connection between the side and end members of the outer box and also showing the lining box members connected together and inserted in the outer box, and

Fig. 10 is a similar view of a modification.

Referring now to these drawings, 1 and 2 indicate end-members which are connected with side members 3 and 4 to form the outer box body or shell of my knock-down construction. The end members 1 and 2, as shown, are provided with bottom flanges 1^a—2^a extending inwardly toward each other to form bases or feet so that they may stand in upright position and be spaced from each other to permit the fastening thereto of side members 3 and 4 respectively. The end and side members are respectively provided with interlocking flanges which when inter-connected produce an interlocking joint at the interior side of each of the corners of the box.

As illustrated, each of the said end members 1 and 2 is provided at each edge with a return bend 5; an intermediate flange 6 extending perpendicular to the surface of the end members and a marginal return flange 7 spaced from the intermediate perpendicular flange 6 to provide a channel 8 into which is adapted to be inserted marginal return flanges 9 which are likewise formed at each end of each side member and are slightly spaced from the inner surface of such side member so as to form a channel 10 for the reception of the flange 7 of the end member and to produce an interlocking rigid connection between the flanges 7—9 in which the flange 7 will be seated in the channel 10 between the flange 9 and the inner surface of the side members and the flange 9 will be seated in the channel 8. The interconnection of the end and side members may be accomplished by positioning the end members in upright position and sliding the flanges 9 of the side members into the chan-

nel 8 formed between the flanges 6 and 7 of the end members. When both side members are thus connected, a bottomless and coverless box body will be formed from substantially flat side and end members which may be placed in a carton in flat condition and when assembled will be securely locked together at the corners of said box-body.

My improved knock-down refrigerator box is provided with a knock-down lining-box also preferably comprising flat members interlocked with each other and provided with exterior interlocking connections which are adapted to space the lining-box, when assembled, from the outer box body so as to provide an ice-containing chamber 11 and air spaces 12—13—14 and 15 surrounding the same. As illustrated, the lining-box is formed of two end-members 16 and 17 and side members 18 and 19. Each of the end members 16 and 17 is, as illustrated, provided, adjacent to and parallel with the opposite edges thereof, with keying slots 20 preferably comprising angular disposed communicating slot sections and the side members are provided with outwardly projecting flanges 21 adapted to fit into and extend through the keying slots 20 and interlock therewith by a sliding movement to connect such members together and form a lining box. The keying slots 20 are so positioned, parallel to the edges of the end members, as to provide outwardly projecting marginal flanges 22 at their opposite edges and the side members are provided with cut out portions 23 adapted to abut against the inner surface of the end members and to permit the flanges 21 to extend outwardly through the slots a sufficient distance to produce an interlocking connection and to provide spacing means for the end members while the exterior flanges 22 will provide spacing means for the side members. When a lining box of this character with exteriorly connected flanges is inserted in the outer box body it will provide the said air spaces 12—13—14 and 15 surrounding the inner chamber and moreover if fitted closely will assist in strengthening and making more rigid the refrigerator box construction.

A perforated floor is preferably provided within the ice-containing chamber 11 which preferably comprises a flat metal sheet 24 provided with drain apertures or perforations 25. The floor sheet 24 is preferably made readily removable and is also preferably provided at opposite ends with foldable bails 26 and 27 composed of flexible wire. When the floor sheet 24 is so provided with bails, an ice carrier is produced which may be employed in the filling operation of the box. The upper end portions of such bails are preferably adapted to extend upwardly adjacent to the upper edge of the box. A solid and simple ice carrier is thus produced which will enable the easy transfer of a piece of ice from one place to another and also will enable the lowering of such piece of ice into the ice chamber 11.

It will be seen that the flanges 1^a—2^a form projections on which the floor sheet is adapted to seat, and when seated upon these foot portions of the outer shell said floor sheet will be slightly spaced from any surface upon which the box may be supported. This will permit a draining of the ice in the container through the apertures 25.

A suitable cover 28 is provided for the box which is preferably stamped up from a single piece of sheet metal and is provided with downwardly-extending perimetal flanges 28^a which flanges are at each end bulged out between the corners to form oppositely-disposed handles 29.

The box body is also preferably provided with handles 30 of any suitable form.

The erection of a box made in accordance with my invention from its constituent members as well as the filling operation thereof will be apparent from the foregoing description.

In the modification shown in Fig. 10 the interlocking flanges 7^a—9^a at the corners of the respective side and end members may be interconnected by simply hooking such side and end members together instead of sliding the flanges 7 in the channel 10 as shown in the construction hereinabove described. In other respects this modified construction is similar to the construction hereinabove specified.

Having described my invention, I claim:—

1. A knock-down refrigerating box composed of sheet metal and comprising a rectangular outer box body formed of substantially flat side and end members each provided with coöperating interlocking flanges; a rectangular lining body also comprising substantially flat side and end members adapted to provide an ice-containing chamber; a removable bottom seated in said ice-containing chamber and adapted to form an ice carrier and a cover for said outer box body.

2. A knock-down refrigerating box composed of sheet metal and comprising a rectangular outer box body formed of substantially flat side and end members each provided with interior coöperating interlocking flanges; a rectangular lining body also comprising substantially flat side and end members having exterior spacing flanges adapted to provide air spaces between the outer box body and lining body and also adapted to provide an ice-containing chamber; a removable bottom seated in said ice-containing chamber and adapted to form an ice carrier and a cover for said outer box body.

3. A knock-down refrigerating box composed of sheet metal and comprising a rec-

tangular outer box body formed of substantially flat side and end members each provided with interior coöperating interlocking flanges and also foot flanges at their lower ends; a rectangular lining body also comprising substantially flat side and end members having exterior spacing flanges adapted to provide air spaces between the outer box body and the lining body and also adapted when erected to rest upon said foot flanges and to provide an ice containing chamber; a removable bottom seated in said ice containing chamber and adapted to form an ice carrier and a cover for said outer box body.

4. A knock-down refrigerating box composed of sheet metal and comprising a rectangular outer box body formed of substantially flat side and end members each provided with interior coöperating interlocking flanges and also foot flanges at their lower ends; a rectangular lining body also comprising substantially flat side and end members having exterior spacing flanges adapted to provide air spaces between the outer box body and the lining body and also adapted when erected to rest upon said foot flanges and to provide an ice containing chamber; a removable bottom seated in said ice containing chamber and adapted to form an ice carrier comprising a perforated metal sheet having bails at opposite ends extending upwardly adjacent to the upper edges of the box and a cover for said outer box body.

5. A knock-down refrigerating box composed of sheet metal and comprising a rectangular outer box body formed of substantially flat side and end members each provided with interior coöperating interlocking flanges and also foot flanges at their lower ends; a rectangular lining body also comprising substantially flat side and end members having exterior spacing flanges adapted to provide air spaces between the outer box body and the lining body and also adapted when erected to rest upon said foot flanges and to provide an ice containing chamber; a removable bottom seated in said ice containing chamber and adapted to form an ice carrier comprising a perforated metal sheet having bails at opposite ends extending upwardly adjacent to the upper edges of the box and formed of flexible wire adapted to be connected to the removable bottom and a cover for said outer box body.

6. A knock-down refrigerating box composed of sheet metal and comprising a rectangular outer box body formed of substantially flat side and end members each provided with coöperating interlocking flanges; a rectangular lining body also comprising substantially flat side and end members adapted to provide an ice-containing chamber; a removable bottom seated in said ice-containing chamber and adapted to form an ice carrier, a cover for said outer box body and having perimetal flanges and handles formed by bulging outwardly portions of such perimetal flanges at the opposite ends of the box.

7. A knock-down refrigerating box composed of sheet metal and comprising an outer box body formed of substantially flat side and end members provided with coöperating interlocking flanges, and having perimetral bottom flanges extending inwardly along the bottom of such members to produce an open bottom, and a base for a lining, a lining arranged within said box body adapted to surround an ice chamber and to provide an air space between the outer body and said chamber, and an ice carrier seated on said perimetal flanges.

In witness whereof, I have signed my name to the foregoing specification.

ZENAS U. DODGE.