

E. E. FLORA.
SHIPPING REFRIGERATOR.
APPLICATION FILED MAY 7, 1910.

996,917.

Patented July 4, 1911.

3 SHEETS—SHEET 1.

Fig. 1.

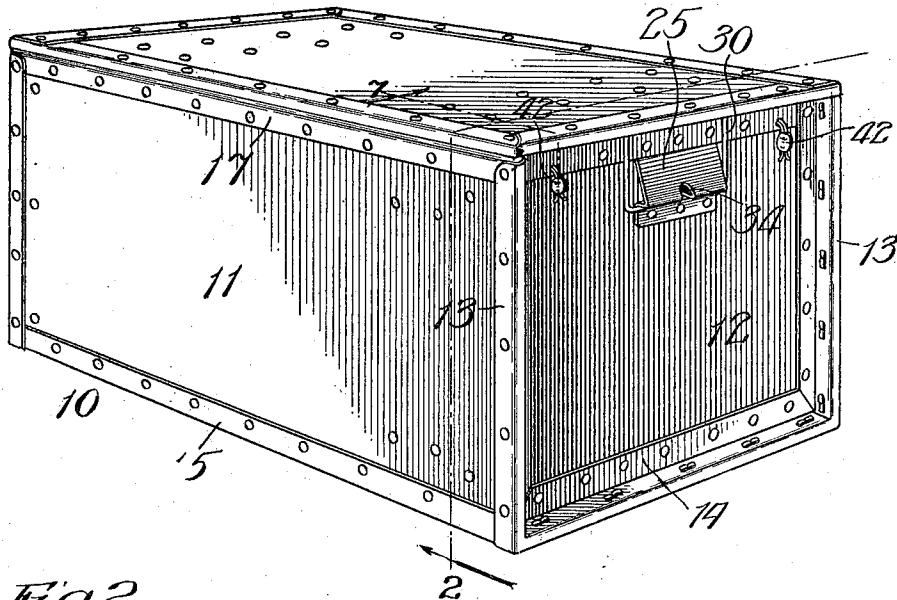
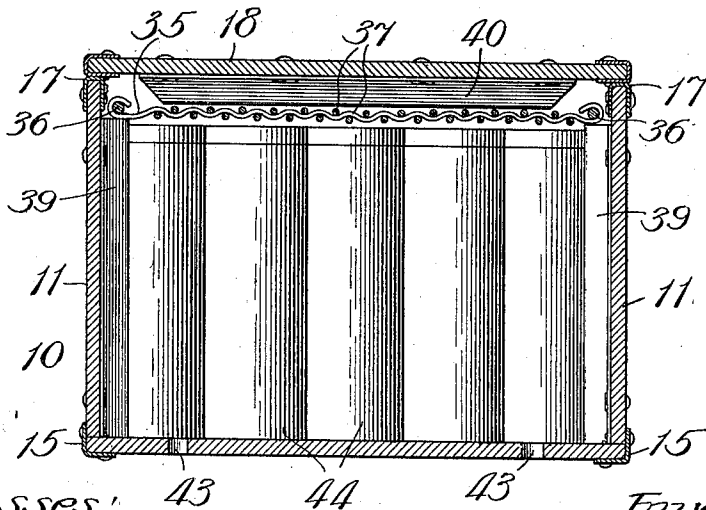


Fig. 2.



Witnesses:
E. E. Flora,
Chas. H. Buell.

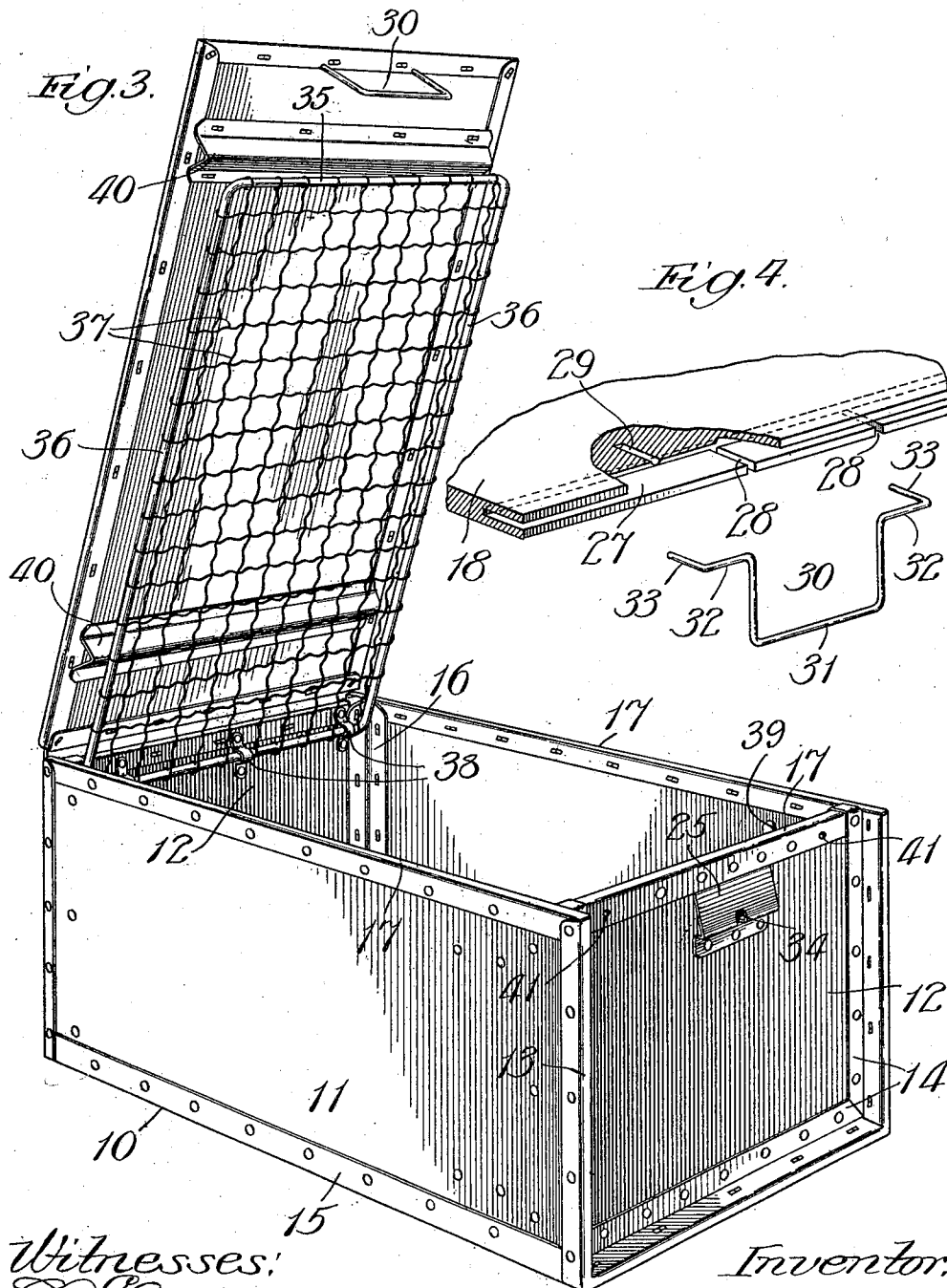
Inventor:
Ellsworth E. Flora,
By Dyrenforth, Lee, Christon & Wiles
Attys.

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3 SHEETS—SHEET 2.



Witnesses:
Ed. Chyld.
Chas. H. Bull

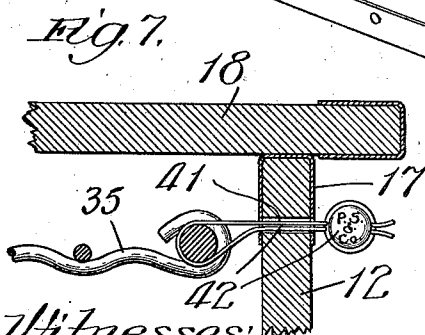
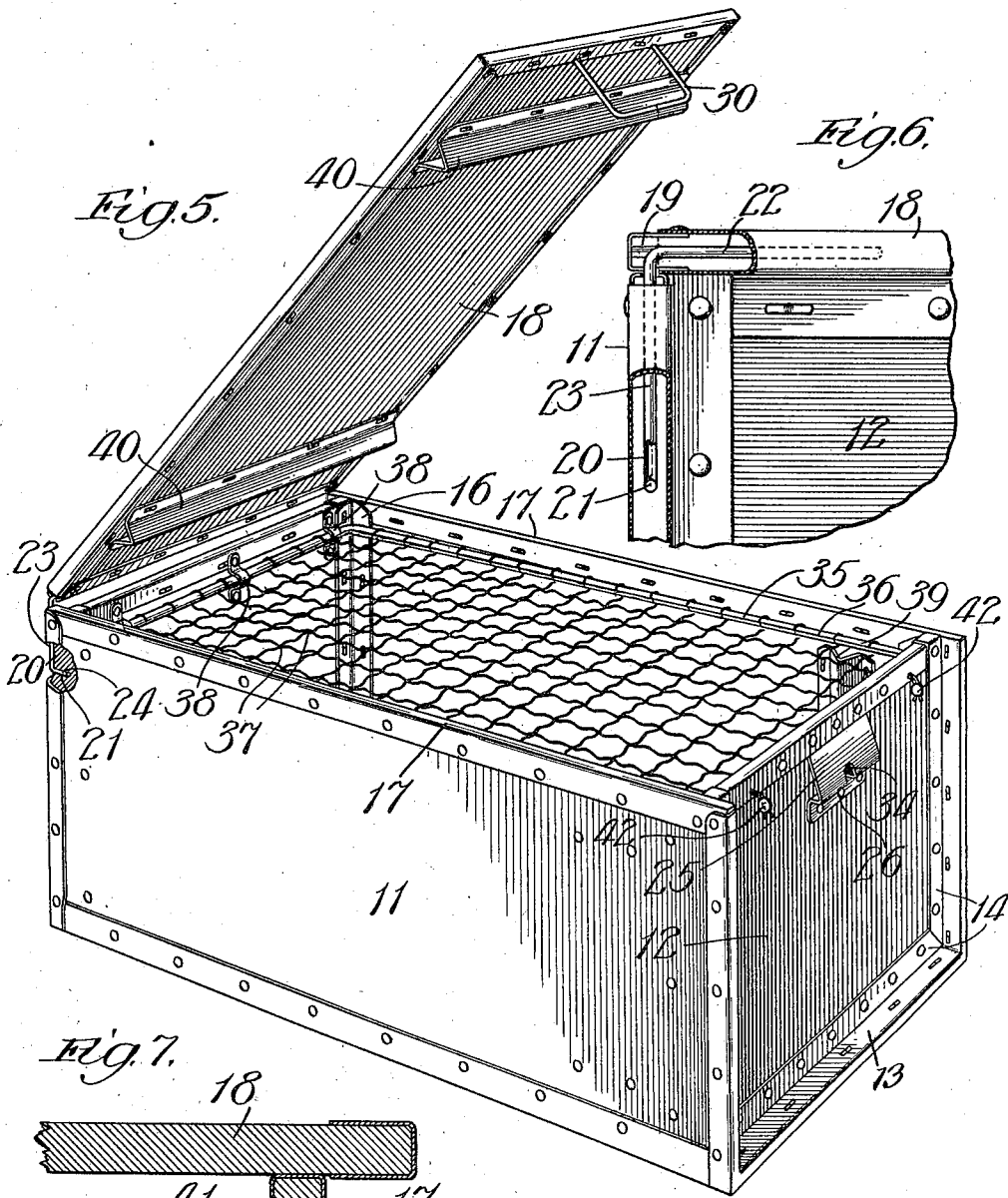
Inventor:
Ellsworth E. Flora,
By *Dyrenforth & Co., Attorneys*

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3 SHEETS—SHEET 3.



Witnesses:
Chas. H. Bull.

Inventor:
Ellsworth E. Flora,
By Dyrenforth Lee, Carlton & Wilco,
ATTYS.

UNITED STATES PATENT OFFICE.

ELLSWORTH E. FLORA, OF CHICAGO, ILLINOIS, ASSIGNOR TO SIMPLEX METAL BOUND BOX COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

SHIPPING-REFRIGERATOR.

996,917.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed May 7, 1910. Serial No. 559,910.

To all whom it may concern:

Be it known that I, ELLSWORTH E. FLORA, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Shipping-Refrigerators, of which the following is a specification.

This invention relates to an improvement in shipping refrigerators and, more especially, those of the metal-bound type.

My object is to provide an improved shipping refrigerator of particularly strong and durable construction, especially adapted for the shipment of certain kinds of merchandise, and which may be readily opened and closed to permit inspection of the contents, when necessary, or the icing thereof in transit, while at the same time safeguarding the contents against abstraction by unauthorized persons.

The refrigerator illustrated in the accompanying drawings is intended for use, more especially, in the shipment of oysters, or the like perishable goods, contained in small packages, which have to be iced in transit; the particular features of novelty residing in the means provided for preventing unauthorized tampering with the contents.

Referring to the drawings—Figure 1 is a perspective view of the refrigerator in closed and sealed condition ready for shipment; Fig. 2, a section on line 2 in Fig. 1; Fig. 3, a perspective view of the refrigerator open for packing; Fig. 4, a broken view of the free-edge portion of the swinging cover with the metal-binding removed and showing a latch and the manner in which the same is to be fastened to the cover; Fig. 5, a perspective view of the refrigerator with the cover open and a perforate diaphragm, or icing-tray, closed and sealed; Fig. 6, an enlarged broken view of one corner portion of the refrigerator and cover, illustrating the way the hinges are applied; and Fig. 7, an enlarged broken section on line 7 in Fig. 1.

The metal-bound refrigerator body 10 is constructed substantially as shown and described in Reissue Letters Patent No. 12,800, granted May 26, 1908. The sides 11 and ends 12 of the refrigerator are of wood, fiber, or the like, and secured together by means of sheet-metal binding-strips formed with single trough-shaped sections 13, in which the edge-portions of the sheet-material are contained and secured, and flanges

14 projecting from the inner edges of said trough-sections and forming refrigerator-end abutments. The binding-strips described are secured in place in any suitable manner as, for example, by means of rivets or staples passing through the sheet-material. The present refrigerator is further reinforced at its base by means of outside corner-enveloping strips 15 and inside corner-bracing strips 16 also fastened in place with rivets or the like. The upper edges of the sides and ends are enveloped in sheet-metal strips 17 fastened in place as shown. The rivets I prefer to employ have heads and bifurcated shanks, the latter being spread at their inner ends when driven, as indicated.

The cover 18 is metal-bound by means of strips enveloping its edges and riveted in place. The cover is pivoted at the opposite corners of one edge to the ends of the refrigerator sides, the said edge being grooved, as indicated at 19, in Fig. 6. The adjacent vertical edges of the refrigerator-sides are also provided with grooves 20 at the lower ends of which are sockets 21, at right angles to the grooves 20. The hinges which fasten the cover pivotally to the refrigerator are at opposite sides of the cover and are formed of horizontal sections 22 extending in the grooves 19, vertical sections 23 extending in the grooves 20 and terminal sections 24 at an angle to the sections 23 extending into the sockets 21. The hinges are thus incased in the grooves within the metal binding-strips, the cover swinging upon the sections 22. Fastened by rivets, as indicated, to the opposite refrigerator-end 12, in the position shown, is a stationary catch 25 of sheet-metal having an outwardly-inclined surface terminating in a shoulder 26. In the free edge of the cover 18 is a groove 27, vertical slits 28 extending from the groove through the under side of the cover, and sockets 29 at opposite sides of the pair of slits 28. is a spring-latch formed of heavy spring-wire bent to present the stirrup-portion 31 adapted to engage the catch described, sections 32 lying within the groove 27 of the cover and end-sections 33 extending into the sockets 29. To unlatch the cover a suitable tool is passed under the latch through a socket 34 in the catch and the latch sprung outward to free it from the shoulder 26.

35 is a foraminous or perforated diaphragm, or tray, somewhat smaller in di-

mensions than the interior of the refrigerator. It is formed preferably of a heavy surrounding rod, or frame, 36 crossed by wires 37 forming a coarse screen. The frame is
 5 pivoted at one edge in loop-pieces 38 and is adapted to rest toward its free end on vertical metal strips 39 riveted in place. When the diaphragm is down, or closed, it extends, in practice, about two inches below the cover
 10 when the latter is closed, giving space for icing when desired. On the under side of the cover are cross-extending V-shaped metal-strips, or spacers, 40 which bear against the diaphragm to clamp the latter
 15 firmly against the strips, or supports, 39. Below the free edge of the cover, when closed, are openings 41 through the front end 12 in the plane of the diaphragm for seals 42, which may be applied as indicated
 20 in Fig. 7. When the refrigerator is to be employed for shipment of goods that require to be iced, openings 43 are provided in the bottom of the refrigerator.

In Fig. 2 the refrigerator is shown to be
 25 filled with cylindrical oyster-packages 44. When they are placed in the refrigerator the diaphragm is closed and sealed. Whenever it is desired to ice the refrigerator-contents the cover may be readily raised and
 30 cracked ice sprinkled over the diaphragm, but the latter cannot be raised to permit access to the refrigerator-contents without breaking the seals and thus exposing the fact that the goods have been tampered
 35 with.

My improved refrigerator may be found desirable in many cases where shipments are made with the privilege of inspection of the packages of goods before acknowledgment of
 40 receipt is required. The refrigerator is intended for repeated use and for that purpose the present construction makes it particularly strong and durable. The hinges are so constructed that besides contributing the neces-
 45 sary strength they cannot be tampered with without indicating the fact. The latch-mechanism for the cover is also particularly strong and desirable in the present connection.

50 While I prefer to construct my improvements throughout as shown and described,

they may be variously modified in the matter of details without departing from the spirit of my invention as defined by the claims.

What I claim as new and desire to secure by Letters Patent is—

1. In a shipping refrigerator, the combination with the body-portion and cover, of a foraminous opening and closing diaphragm supported within the upper part
 60 of the refrigerator beneath and separate from the cover, and means for locking the diaphragm to the body of the refrigerator, independently of the cover, in closed position.

2. In a shipping refrigerator, the combination with the body-portion and cover, of a foraminous swinging, opening and closing diaphragm hinged to the body portion at the upper part thereof, beneath and
 70 separate from the cover, and means for locking the diaphragm to the body portion of the refrigerator, independently of the cover, in closed position.

3. In a shipping refrigerator, the combination with the body-portion, of a cover hinged at one edge to swing between opened and closed positions, means for fastening
 80 the cover in closed position, a foraminous opening and closing diaphragm supported within the upper part of the refrigerator beneath and separate from the cover, and means for locking the diaphragm to the body portion of the refrigerator, independently
 85 of the cover, in closed position.

4. In a shipping refrigerator, the combination with the body-portion and cover, of a foraminous opening and closing diaphragm hinged at one edge to the said body-
 90 portion in the upper part of the refrigerator beneath and separate from the cover, supporting means for the diaphragm toward its free end, spacing means on the cover for engaging and holding down the diaphragm,
 95 and means for locking the diaphragm to the body-portion of the refrigerator, independently of the cover, in closed position.

ELLSWORTH E. FLORA.

In presence of—

R. A. RAYMOND,
 J. G. ANDERSON.