2 Sheets--Sheet 1.

B. A. STEVENS.

Refrigerator.

No. 167,706. Patented Sept. 14, 1875.

Fig: 1.

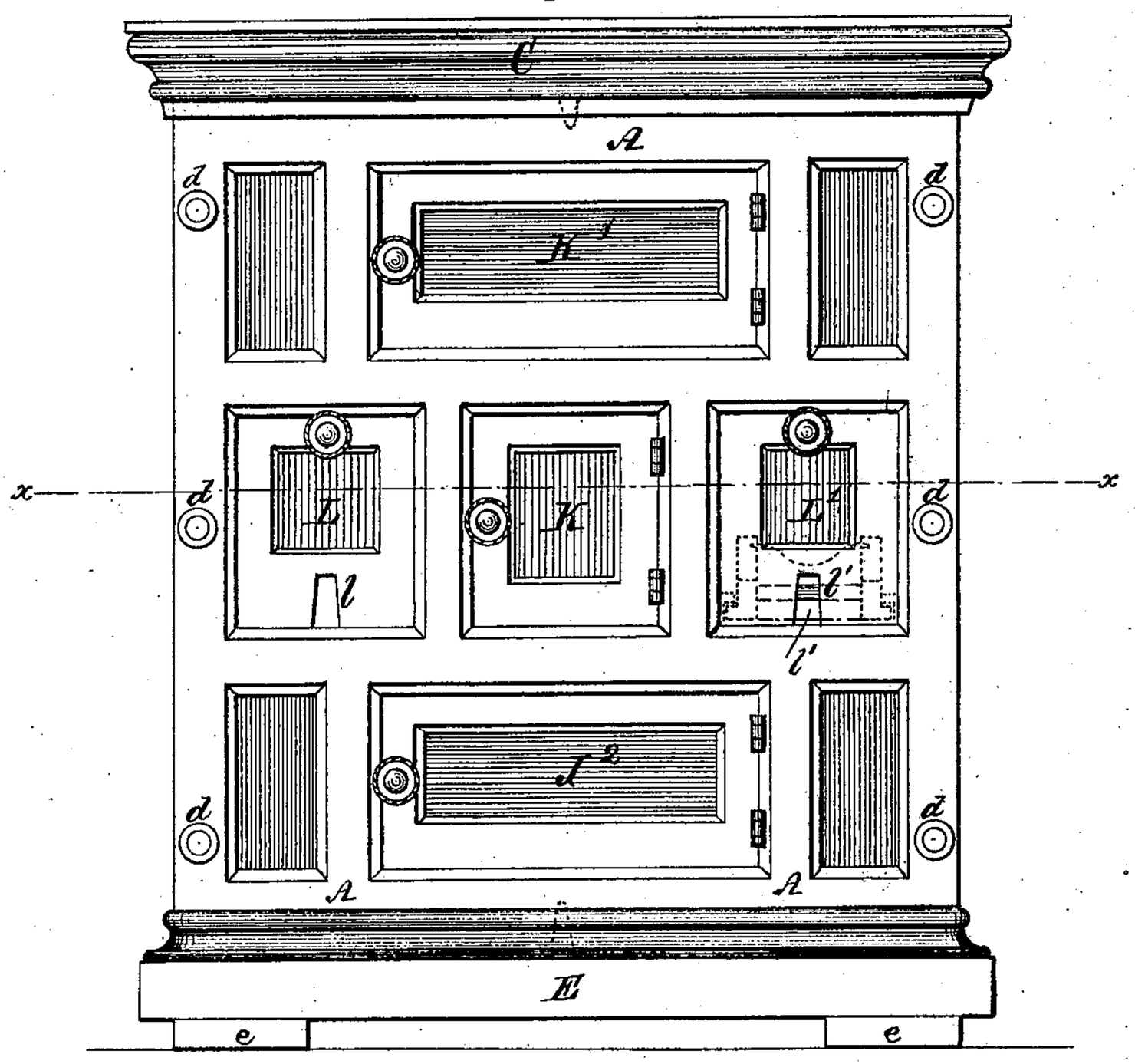
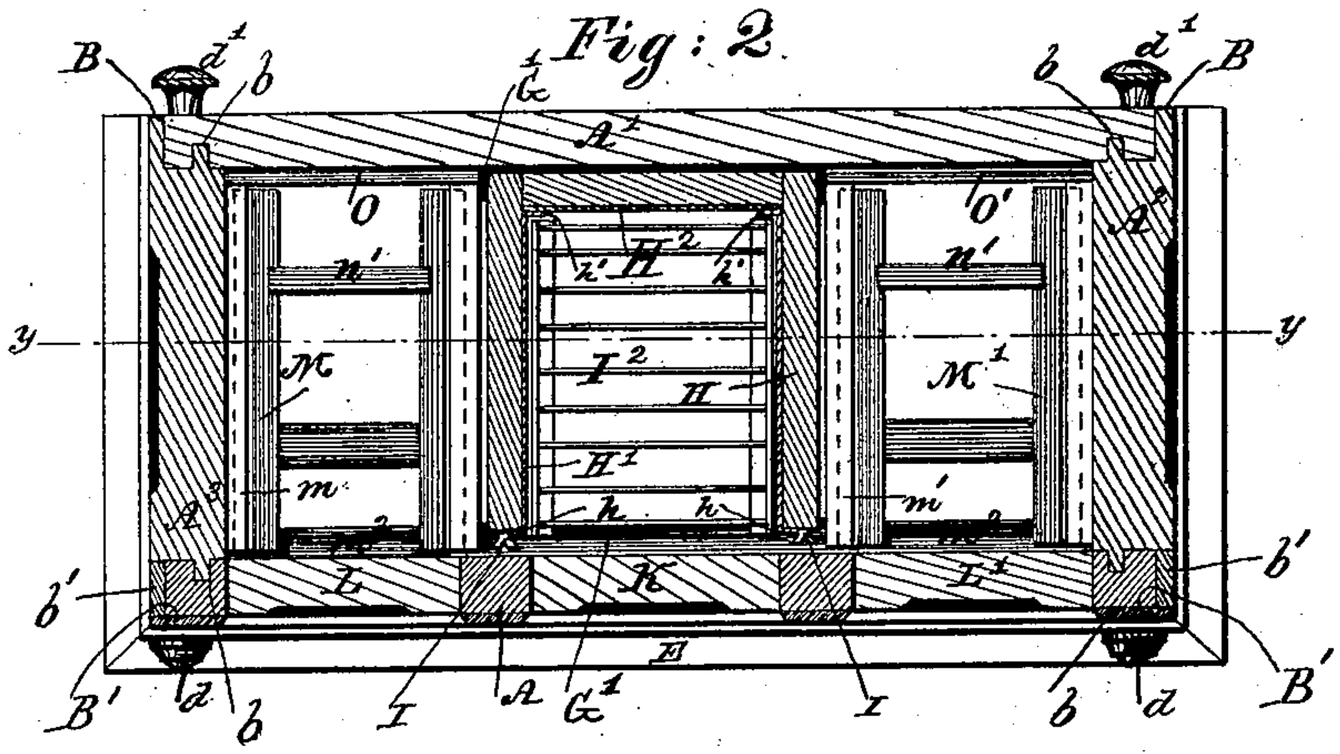


Fig: 2.



WITNESSES

H. H. Young DEL

Baltes & Long.

B. A. Stevens INVENTOR

By his Attorney

Wm. Baldwin

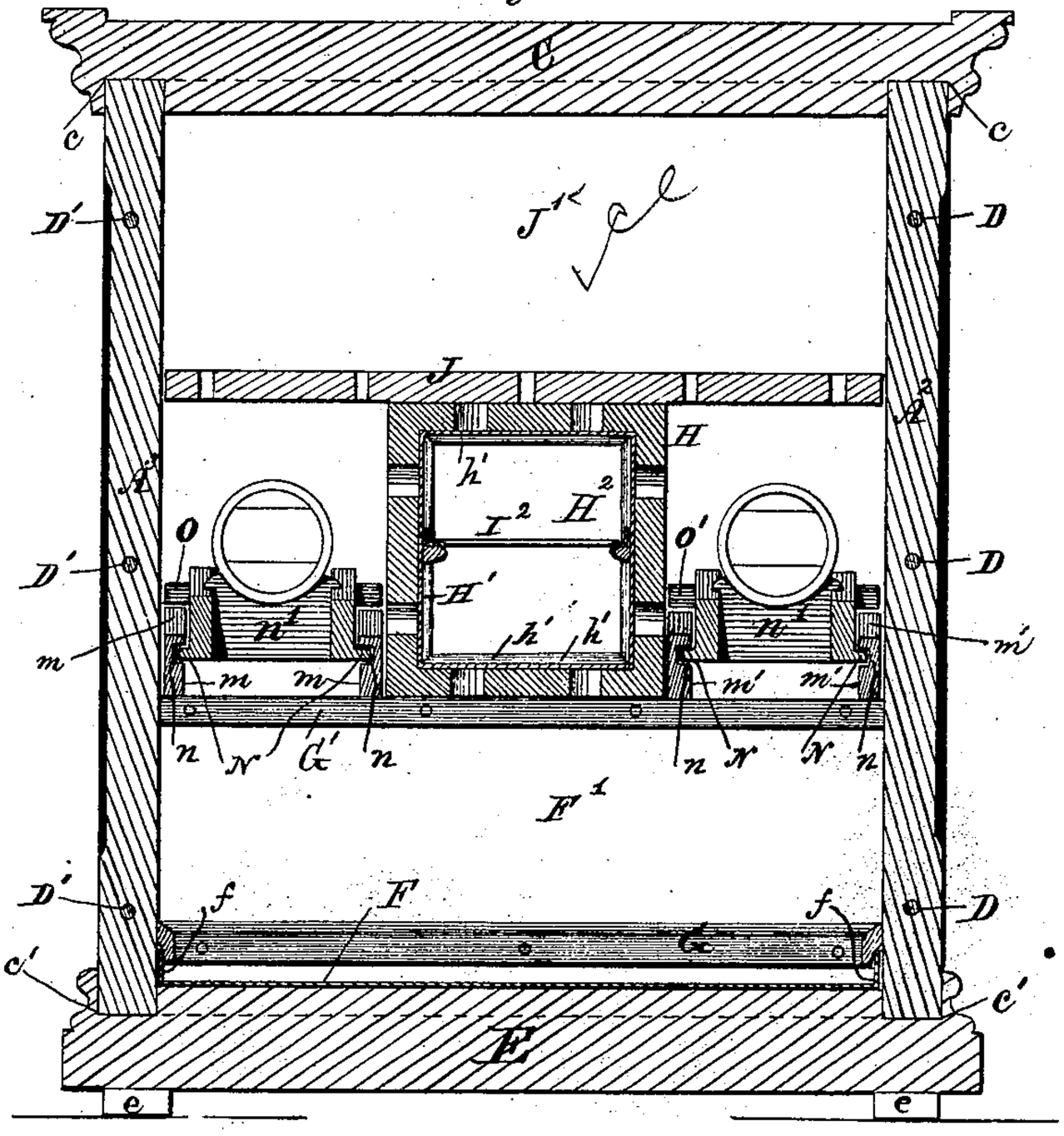
2 Sheets--Sheet 2.

B. A. STEVENS.

Refrigerator.

No. 167,706. Patented Sept. 14, 1875.

Fig: 3.



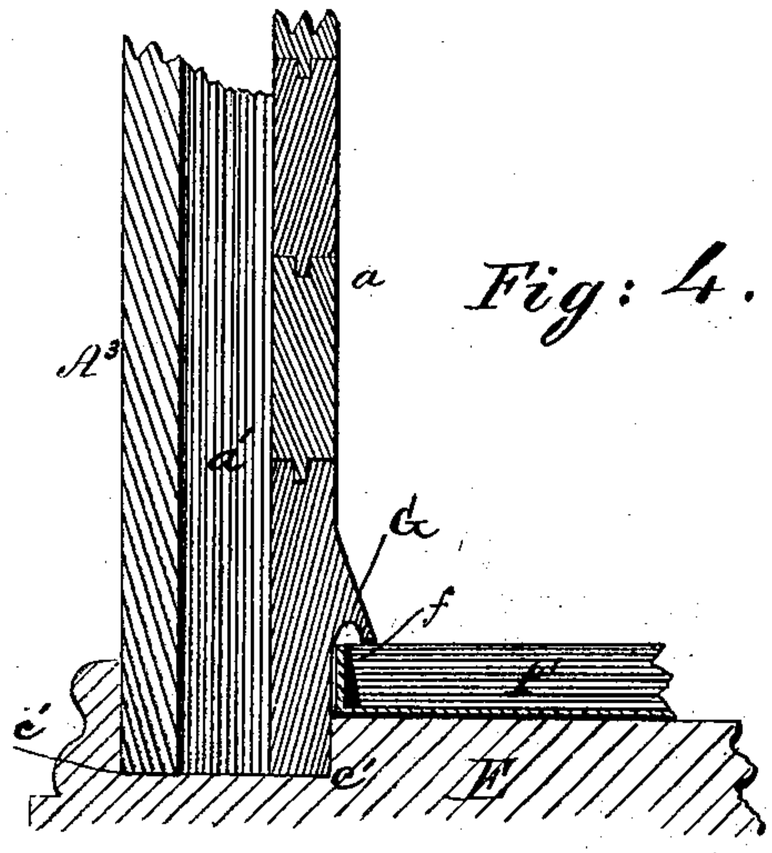


Fig: 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

BENJAMIN A. STEVENS, OF TOLEDO, OHIO.

IMPROVEMENT IN REFRIGERATORS.

Specification forming part of Letters Patent No. **167,706**, dated September 14, 1875; application filed April 1, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN A. STEVENS, of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Refrigerators, of which the following is a specification:

My invention, while relating more especially to improvements in refrigerators of that class in which provision is made for cooling ale or beer in kegs or barrels, pertains, also, to those used for ordinary household and other purposes; and my objects are, mainly, so to construct a refrigerator in sections, close-fitting and interlocking, that it may readily be put together or taken apart, to facilitate handling and moving, and to firmly and expeditiously secure the parts when united.

The subject-matter claimed will hereinafter specifically be designated.

In the accompanying drawings all my improvements are shown as adapted to an ale or beer cooler, provided with a chamber for cooling or preserving articles which may be placed therein. Obviously, however, some of my improvements may be used without the others.

Figure 1 is a front elevation, Fig. 2 a horizontal section on the line *x x* of Fig. 1, Fig. 3 a vertical section on the line *y y* of Fig. 2, and Fig. 4 a vertical section through a portion of the side and bottom, of a refrigerator of preferred construction.

The shell or side and end walls A A^1 A^2 A^3 of the refrigerator are each constructed separately, either of a single thickness of material, as shown in Figs. 2 and 3, or double, with an air-space or non-conducting packing, *a'*, between the inner and outer walls, as shown in Fig. 4. When the double walls are employed, I prefer to make the inner one, *a*, of tongued and grooved stuff, as shown; and the inner and outer walls of each section may be secured the desired distance apart, and caused mutually to support each other in any suitable way. The side and end sections are constructed so as to interlock and form close joints when placed together. In this instance the rear and front vertical edges of the ends A^2 A^3 are formed each with a tongue, *b*, while flanges or projections B are provided, one at the rear edge of either end piece, flush with its outer surface, the side pieces A A^1 being provided with grooves in their inner surfaces, into which the tongues *b* fit snugly, while the flanges B overlap the edges of the rear side piece, and terminate flush with its rear surface, leaving an unbroken, smooth finish at the sides, and making the joint in the rear or back A^1. The front side piece A is formed or provided with flanges B', one at either vertical edge, (like those B on the rear edges of the end pieces,) to overlap the edges of the end pieces and make a smooth finish, without break or joint, in front at the corners. Each end piece may be provided with a flange, *b'*, at its front edge, either formed with it, (like the rear flange B,) or composed of a separate piece. The box-like frame or shell, with open top and open bottom, thus formed by snugly jointing the interlocking side and end sections A A^1 A^2 A^3 is firmly secured together by detachable fastenings, consisting, in this instance, of through-bolts D D', passing through the ends, and resting with their ornamental heads *d* against the front piece, their opposite ends being threaded and provided with nuts *d'*, by which they are caused tightly to clamp the frame together; or, if preferred, the bolts may pass only through the front and back pieces and inside of the ends, or through the air-space or packing. In this manner I secure a close, strong connection of the sections, which admits of their being quickly separated by detaching the fastenings, and readily put together again.

A top, C, and a bottom, E, are formed so as to fit and interlock with the box or shell, and be readily detachable therefrom. In this instance the top is made with a groove or channel, *c*, Fig. 3, in its under surface, near its end and front edges, to fit snugly and closely upon the box or shell, (the sections A, A^2, and A^3 projecting into said groove,) and is guided in place by a dowel-pin (shown in dotted lines) fitting in a socket in the front side A of the box. The bottom is likewise formed with a groove, *c'*, and secured in place like the top. Feet *e* may be made to support the refrigerator at any desired distance from the floor. The top and bottom may be formed at their rear sides in the same manner as at their fronts and ends, and the grooves *c c'* made continuous; and when so made it will be seen

that the interlocking walls of the refrigerator may be held together by the top and bottom, as well as by the bolts and nuts before described.

The bottom E is provided with a zinc or other suitable lining, F, turned up vertically for a short distance at its edges against the sides and ends of the shell or walls of the refrigerator, as at *f*, Figs. 3 and 4.

To prevent water from getting between the upturned edges of the lining by running down the inner surface of the walls or shell of the refrigerator, a suitable cut-away or grooved ledge or lap-flange, G, may be either secured to the walls or form part of the inner shell, (see Figs. 3 and 4,) and when the bottom is in place fits over the edges of the lining. In this way not only is leakage between the lining and refrigerator-walls prevented, but the necessity of tightly fastening or sealing the lining is obviated; and the lining may be removably secured to the bottom, so that it may be detached for cleaning, if desired. The waste water may be drawn off by a faucet in the usual manner.

Upon the inner surfaces of the front and rear sides or sections A A^1 of the refrigerator supporting-strips G′ G′ are attached to sustain a removable cooling-box or refrigerating-chamber, H. This chamber is placed in position and removed through the top of the refrigerator, and is preferably composed of a wooden box, perforated as shown in Fig. 3, open at the front, and provided with a removable zinc lining, which is, in this instance, made in two sections, the open-ended or box-formed part H^1 having its front edges *h* turned outward to bear against the edges of the refrigerator-chamber in front, and its rear edges *h′* turned inward, the other part of the lining consisting simply of a plate or sheet, H^2, resting loosely against the back of the chamber, where it is held by the main section H^1, the inwardly-turned edges of which, when in place, bear against the plate. The lining may be retained in position by means of screws I I^1 or other removable fastenings in the front edges of the chamber H, bearing against the flanged edges *h*. By removing the fastenings the lining may readily be detached for cleaning or repairing. One or more skeleton shelves, I^2, rest in the lining on ribs thereon.

A grating or perforated partition, J, above the refrigerating-chamber, supports the ice, the water from which, as well as the cool air, descends around the chamber.

Doors K K′ afford access to the refrigerating-box H and ice-chamber J^1, and a door, J^2, opens to the bottom chamber F′, which may be used for keeping vegetables, bottled liquors, &c.

Removable doors L L′ suitably secured, when in position and formed with slots *l l′*, as shown in Letters Patent of the United States granted me March 16, 1875, for ale or beer coolers, afford access to the barrels or kegs of ale or beer, supported on removable holders M M′, which rest and slide in racks *m* m^1, sustained, in this instance, by the bearing-strips G G′, which support the cooling-box H. The racks are placed in position through the top of the refrigerator, and their lateral displacement may be prevented by means of a piece, m^2, extending between the front ends of the opposite side pieces of each rack. The supports are provided with the usual cross-bars to hold the barrels or kegs, and with guide-flanges N N, which move in and out in guide-ways *n n* in the sides of the racks. In this manner the supports can be slid out through the doors, the vessels placed upon them, and then pushed in place; and as the grooves *n n* in which the supports work are horizontal, no stops or chucks are required to prevent the sliding of the supports; the desired inclination is given to the vessels by the raised rear cross-bar *n′ n′* of the supports. Accidental vertical displacement of the racks is prevented by cleats O O′ secured against the side of the refrigerator.

By my improvements I am enabled to build refrigerators of large size, and transport them with slight trouble to any desired place, where they may be set up in a short time with little labor, so as to form tight interlocking or lap joints, while dispensing with packing, and again taken apart and moved, if desired, and thus avoid the inconveniences caused by constructing large refrigerators, such as commonly used in hotels, restaurants, and by butchers in the places they are to occupy, because of the impossibility of getting them in through the doors and about the premises to the desired location.

I do not broadly claim, however, a sectional refrigerator, as that is old.

I claim as my invention—

1. The combination, substantially as hereinbefore set forth, of the removable bottom, its lining provided with upturned edges, the detachable sections and the flanges secured thereto and overlapping the edges of the lining, for the purpose specified.

2. The combination, with the refrigerator-chamber, of a removable sectional lining, one section of which holds the other in place, substantially as set forth.

3. The lining for the refrigerating-chamber, constructed as described, with turned front and back edges, and a separate back plate, for the purposes specified.

4. The combination, substantially as hereinbefore set forth, of the removable rack secured in the refrigerator, and the removable barrel-holder or support sliding in the rack through the refrigerator-door.

In testimony whereof I have hereunto subscribed my name.

BENJ. A. STEVENS.

Witnesses:

WM. H. TUCKER,

L. W. WALDRON.