

J. Gravenstine - Impts. in Corpse Preserving Cases & Refrigerators.

117407

FIG. 4.

PATENTED JUL 25 1871

FIG. 8.

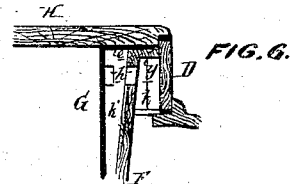
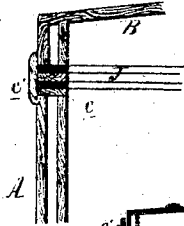


FIG. 1.

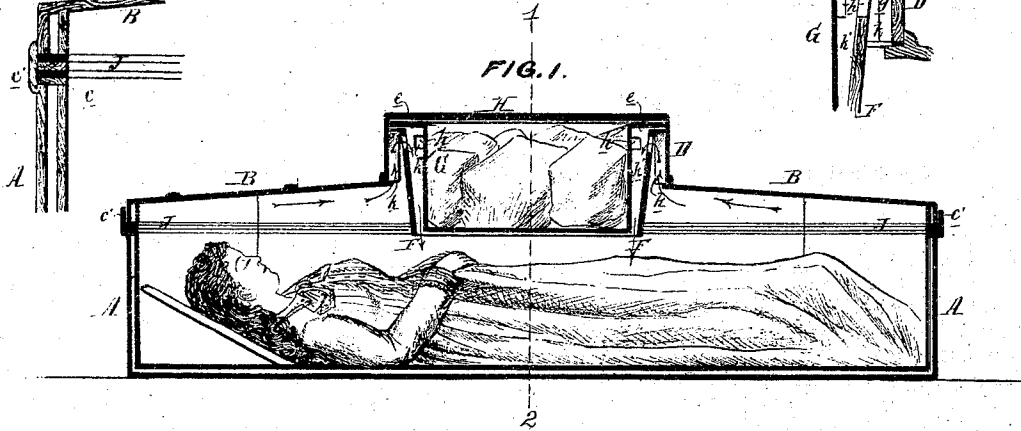


FIG. 3.

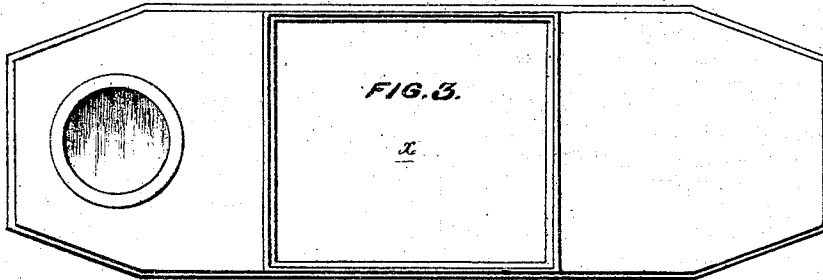


FIG. 2.

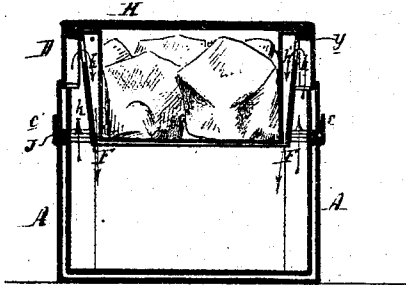


FIG. 7.

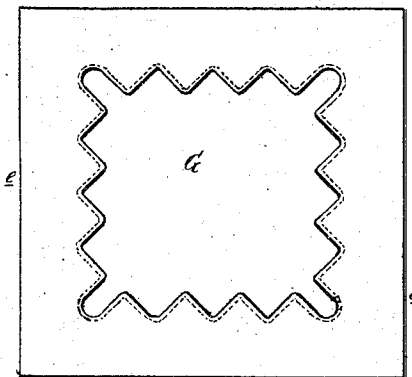
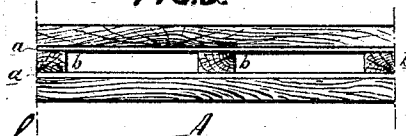


FIG. 5.



Witnesses { *Wm. A. Steel*
John Parker

John Gravenstine,
by his attys,
Howson & Son

UNITED STATES PATENT OFFICE.

JOHN GRAVENSTINE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CORPSE-PRESERVING CASES.

Specification forming part of Letters Patent No. 117,407, dated July 25, 1871.

To all whom it may concern:

Be it known that I, JOHN GRAVENSTINE, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain Improvements in Corpse-Preserving Cases and Refrigerators, of which the following is a specification:

My invention relates to certain improvements in corpse-preserving cases, in which a low temperature is preserved by means of a freezing-mixture employed in connection with certain casings and chambers in a manner, which forms the subject of a separate application for Letters Patent for a refrigerator; and my invention consists—first, in an arrangement, fully described hereafter, whereby the ice-chamber and casings may be efficiently applied to and employed with the case so as to be readily detached therefrom when required; and, secondly, in the combination, with the case and lid, of a packed strip adapted to both the casing and lid, so that the latter can be elevated without creating any joint for the passage of air or gas.

Figure 1 is a longitudinal section of a corpse-preserving case with my improvement; Fig. 2, a transverse section on the line 1 2, Fig. 1; Fig. 3, a plan view; Fig. 4, a perspective view of part of the case; and Figs. 5, 6, 7, and 8, detached views drawn to an enlarged scale.

The main features of my invention are applicable to refrigerators, but are represented in the present instance as applied to a corpse-preserving case, as I will now proceed to describe.

A represents the body of the case made double throughout, the inner and outer shells being lined with paper or other non-conducting material, *a*, as shown in Fig. 6, and being secured together at intervals by strips *b*. At the top of the body of the case is formed a shoulder, *c*, on which rests an elastic packing, and above this shoulder extends an outer flange, *c'*, the lid B of the case resting upon this shoulder and being held in position by the flange. At or about the center of the lid is formed a large flanged opening, *x*, Fig. 3, from which extends upward a detachable casing, D, which rests on an elastic packing, and is open at both top and bottom. In the casing is a ledge, shoulder, or projection, *y*, Fig. 6, on which bears a flange at the top of a detachable casing, F, of non-conducting material, which is suspended within the casing D, and extends downward through and below the latter

and into the case, as best observed in Figs. 1 and 2. A detachable air-tight ice-box, G, having no outlet, is suspended within the casing F, and is supported in the same manner as the latter by a flange, *e*, at its upper end, and the whole is surmounted by a close-fitting lid or cap, H, which rests upon the flanged top of the ice-box and upon the upper edge of the outer casing D. In the casing F, close to the top of the same, is a number of slits or openings, *h*, which afford a free communication for currents of air between chambers or passages *k* and *k'* formed between the casings D and F and between the latter and the ice-box. Both of these air-chambers communicate also at the bottom with the interior of the case, the mouth of the chamber *k* being level with, and the mouth of the chamber *k'* being below the top of the case, and both chambers are, in the present instance, of a tapering shape, owing to the inclination of the sides of the casing F.

A mixture of ice and salt is placed in the box G. The film of air in the chamber *k'* immediately surrounding the ice-box will become quickly cooled and descend into the case, while the warm air from the latter cannot pass into the contracted mouth of the inner chamber, but will rise to the top of the case and will be directed into the chamber *k* and pass thence through the openings *h* of the casing F into the chamber *k'*, to be in turn cooled by contact with the surface of the ice-box, from which it will descend into the case. In this way a constant current in the direction of the arrows, Figs. 1 and 2, is maintained, the cool air descending into the case and the hot air rising from the same until the temperature is reduced to an exceedingly low point.

The ice-box is constructed, as before stated, with tight bottom and sides, so that it will retain the water resulting from the melting of the combined ice and salt, as I have ascertained that, by retaining this water instead of permitting it to drip off, as usual, the temperature can be reduced to and maintained at a much lower point than has heretofore been deemed possible.

The special advantage of employing a close ice-box with a corpse-preserver is that the box can be quickly removed and replaced with another filled with ice when the ice in the first is melted, which could not be done if the box were provided with the usual draw-off pipe extending

through the side of the casing. It is desirable that the ice-box should extend low down into the case, so as to be almost in contact with the corpse; but where the latter is of large size the lid of the case, and with it the ice-box, may be raised so as to increase the capacity of the case, by introducing between the latter and the lid, and upon the shoulder *c*, a plate or extension-piece, *J*, (see Figs. 4 and 8,) to the upper side of which is secured a packing. Inasmuch as the casings *D* and *F* and the ice-box are all detachable from the case and from each other, they can be removed from the lid and stored in the case for convenience in transportation, while the lid *H* of the casing *D* can be applied directly as a cover for the opening *x*. The removal of these parts is also important, especially when the casing is filled with ice, when the case has to be carried through narrow halls or up and down narrow stair-ways. By the use of the plate *J* and intermediate packings the lid *B* and its appurtenances can be elevated without creating the slightest joint for the passage of air or gases.

I do not claim in this application the arrange-

ment of the closed ice-box, casings *F* and *D*, and intermediate chambers, as they form the subject of another application for Letters Patent for a refrigerator; the object of my present invention being mainly to render this mode of preserving a low temperature practically available in connection with a corpse-preserving case.

I claim—

1. The combination, with the detachable lid *B* having an opening *x*, of a detachable casing, *D*, detachable closed ice-box, perforated casing or partition *F*, and the cover *H* adapted to both the casing *D* and the opening *x*, as set forth.

2. The combination of the above, the case *A* with its shoulder *c* and gasket, and the plate *J* having a packing at its upper side, and constructed as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN GRAVENSTINE.

Witnesses:

WM. A. STEEL,
FRANK B. RICHARDS.