

D. L. HOLDEN.

Improvement in Body Preservers.

No. 123,697.

Patented Feb. 13, 1872.

Fig.1.

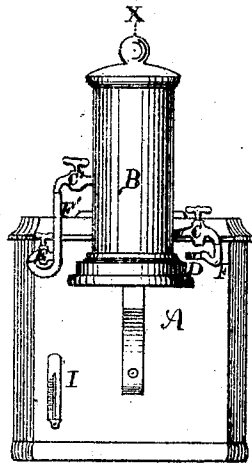


Fig.2.

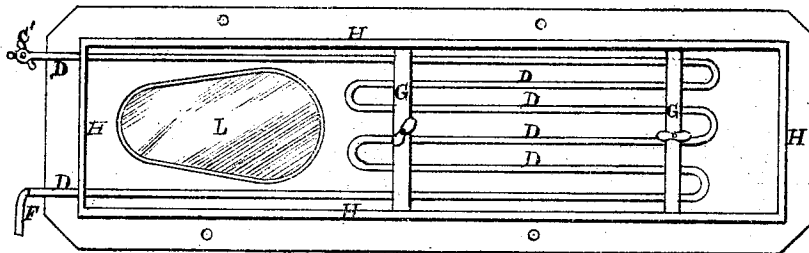


Fig.4.

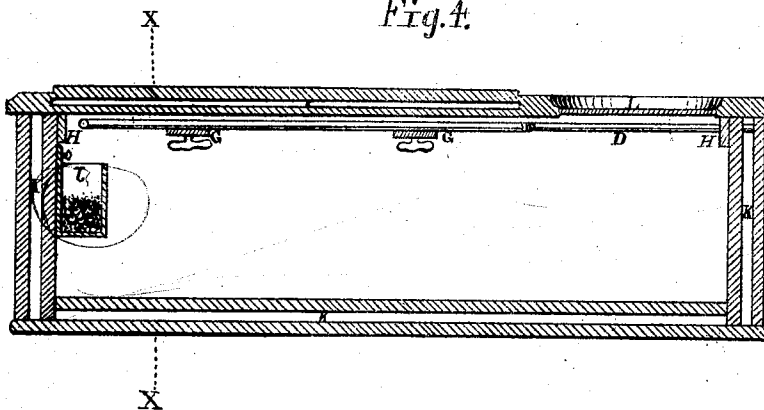
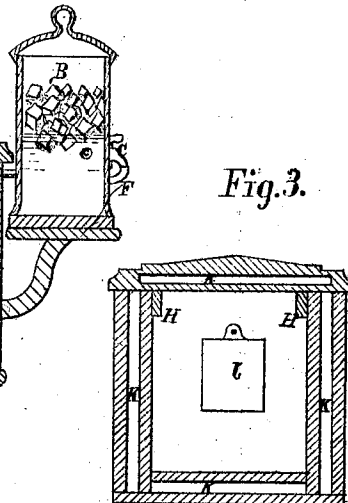


Fig.3.



Witnesses.

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DANIEL L. HOLDEN, OF COVINGTON, KENTUCKY.

IMPROVEMENT IN BODY-PRESERVERS.

Specification forming part of Letters Patent No. 123,697, dated February 13, 1872.

I, D. L. HOLDEN, of the city of Covington, in the county of Kenton and State of Kentucky, have invented a certain new and useful Body-Preserver, of which the following is a specification:

The usual modes of preserving bodies of deceased persons by actual contact with ice, or by the application of breast-pans filled with ice, are expensive in the waste of ice; are troublesome by rendering it necessary to reinvest the body before burial; and as by these processes the ice can be applied only to certain parts of the body, the preservation is very imperfect.

My invention consists in an air-tight double-walled wooden box, into which the body may be placed in readiness for burial; and by the use of an absorbent, and the circulation of a constant stream of intensely-cold liquid through pipes or other conduits, which traverse the box within and connect with an outside cooling-reservoir filled with ice and salt or other refrigerants, the body can be kept in a perfect state of preservation for any desired length of time.

In the accompanying drawing, forming part of this specification, Figure I is an end elevation of the box, showing the cooler and its connections with the pipes traversing the box within. Fig. II is a bottom view of the lid, showing one manner of locating the pipes within the box. Fig. III is a vertical cross-section of the preserver through the plane indicated by lines X X of Fig. IV, showing spaces between the double walls of the sides, lid, and bottom of the box. Fig. IV is a vertical longitudinal section of the preserver through the plane indicated by lines X X of Fig. III.

General Description.

A is the box, which, as before stated, is double walled, having the intervening space filled with charcoal, shavings, or any good non-conductor. B is the cooler, which supplies the liquid, and, for the preservation of adult bodies, should contain about eight gallons, while for children it may be reduced to a three-gallon size. Three sizes—the above extremes and one intermediate size—would best answer all ordinary purposes. C is the discharge-cock, located at the bottom of the cooler, for the flow of the liquid into the inner pipes D D D, &c., through a hose

or adjustable tube, F, which fits over the end of the pipe D and cock C, so as to be detached whenever it is desirable to remove the lid or the cooler from the box. E is a cock at the other end of the pipes D D D, &c., connecting also with the cooler by an adjustable hose, F', but at a point just below the surface of the liquid instead of at the bottom of the cooler where the discharge-cock is located. G and G' are adjustable transverse bars to hold the pipes in place, and also to permit of their removal for cleansing from any infection. Upon the bottom of the lid are the flanges H H H, &c., which fit into the opening in the box, and, while they hold the lid firmly in its proper place, serve to render the box tighter. On the outside of the box, with its bulb stationed in the interior of the box and its index upon the exterior, is a thermometer, I, to indicate the temperature of the corpse, which should not be higher than 40°, where it would decay, and not lower than 32°, the freezing point. Suspended at one or more convenient points within the box is a small vessel, J, containing pumice-stone, coke, or any porous substance, which has been immersed in sulphuric acid. This absorbs whatever aqueous vapors may arise within the box, which would otherwise accumulate and freeze upon the pipes, thus coating them with ice, which would not only neutralize the effect of the pipes—ice being a non-conductor—but would soon melt and drip upon the corpse. K K K, &c., are the intervening spaces between the double walls of the box, which, as above stated, are filled with some good non-conductor.

To operate my invention, the reservoir, which may be entirely detached from the box, is filled with a mixture of ice and salt in such proportions as to cause a rapid liquefaction of the ice. The chemical result of combining ice and salt is an intensely-cold liquid, ranging from 30° to 32° below the freezing point. The corpse being shut within the box, a communication between the cooler and the inside pipes is formed by means of the adjustable hose F and F'. The cocks c, c', and E are then opened, whereupon the liquid flowing through cock c and tube F circulates through the pipes within the box, and, absorbing the heat of the corpse, its temperature is raised accordingly, so that by the time it has reached the other end of the pipes its temperature is considerably higher, and as

a consequence its specific gravity is materially lighter than when it left the cooler; hence it rises up through the hose F' and re-enters the cooler in a constant stream at a higher point than where it left. This stream will continue until the liquid within the cooler has assumed about an even temperature with the corpse. It is then time to replenish the ice; but if the thermometer indicates a temperature within the box of 40° or lower it is unnecessary to add the salt, as its only function is to produce a more intense degree of cold by producing a more rapid liquefaction of the ice. When necessary to draw off the liquid, it may best be done through cock E and hose F by severing their connection with cock c', it having first been closed.

I am aware that a similar process of cooling has been applied to beer-vats and refrigerators; but

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

1. A body-preserver, through which a current of cold liquid is conducted by means of a

cooler and system of pipes, arranged substantially as described.

2. The application to body-preservers of pumice-stone, coke, or any porous substance, which has been previously immersed in sulphuric acid, soda, potash, or compounds thereof, substantially as and for the purpose specified.

3. The adjustable cross-bars G and G' in connection with pipes D D D, &c., in a body-preserver, substantially as and for the purpose specified.

4. The hose or flexible tubing, when used as an adjustable conduit between the cooler and interior pipes of a body-preserver, substantially as and for the purpose specified.

5. The combination of discharge-cock c, cock c', and cock E, when applied to a body-preserver, substantially as and for the purpose specified.

D. L. HOLDEN.

Witnesses:

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