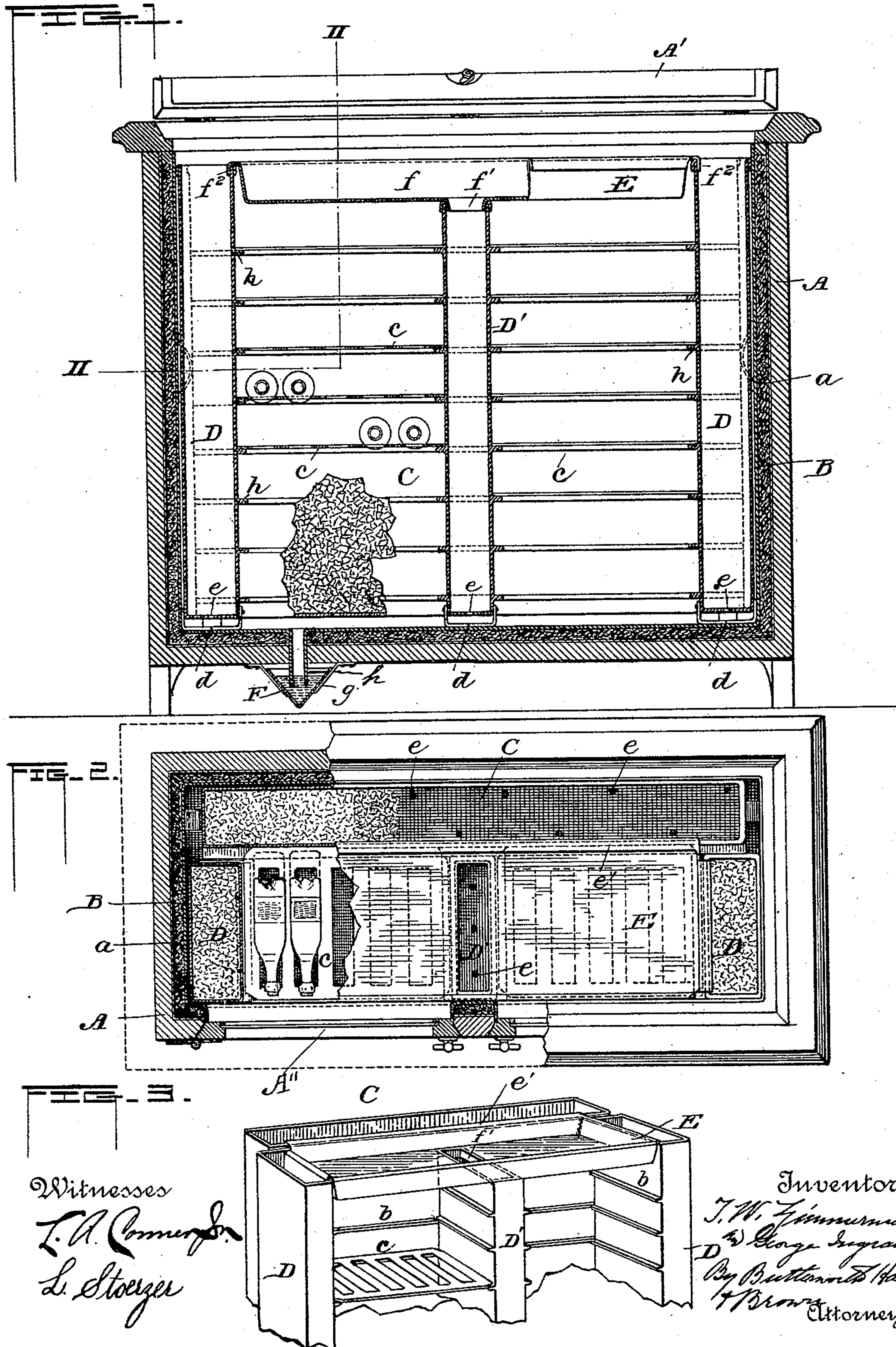


(No Model.)

T. W. ZIMMERMAN & G. INGRAM.
APPARATUS FOR COOLING WINE, &c.

No. 459,327.

Patented Sept. 8, 1891.



UNITED STATES PATENT OFFICE.

THOMAS W. ZIMMERMAN AND GEORGE INGRAM, OF CINCINNATI, OHIO.

APPARATUS FOR COOLING WINE, &c.

SPECIFICATION forming part of Letters Patent No. 459,327, dated September 8, 1891.

Application filed February 12, 1891. Serial No. 381,254. (No model.)

To all whom it may concern:

Be it known that we, THOMAS W. ZIMMERMAN and GEORGE INGRAM, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Apparatus for Cooling Wine, Champagne, &c.; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in apparatus for cooling wine, champagne, &c.; and the object of the invention is to provide an improved apparatus particularly designed for such purposes, but which may also be used for the purpose of preserving meats, poultry, game, fish, &c.; and to this end the invention consists in the improved construction and arrangement of parts, all as hereinafter described, and particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, to which reference is made as a part hereof, Figure 1 represents a vertical longitudinal section of our improved apparatus with the lid or cover raised. Fig. 2 is a plan of the same, partly in section, on the line II II of Fig. 1. Fig. 3 is a perspective view showing the reservoirs which contain the cooling-mixtures removed from the ice-chest, the lower portions thereof being broken away.

Like letters of reference are used to designate like parts in each of the several views.

A represents an outer casing of wood, having a suitably-hinged cover A', and within which is placed a reservoir B, which latter is filled with charcoal or other material which is a good non-conductor of heat, as indicated at *a*. This reservoir B may consist of a suitably-shaped vessel composed of galvanized iron placed within the casing or box A, or the said box may be recessed and provided with a suitable zinc lining, between which and the inner wall of the box a suitable space may be left to form a reservoir for containing the charcoal. The box A is also provided with hinged doors A'', which may be constructed on the same principle as the zinc casing, or which may consist of several thicknesses of spaced glass.

C represents an elongated receptacle or reservoir constructed of galvanized iron and placed within the reservoir B at the back thereof, so as to extend from end to end of the same, as shown in Fig. 2.

D D represent similar but smaller-sized reservoirs or receptacles placed within the reservoir B one at each end thereof, and D' represents an intermediate reservoir which terminates at its upper end a short distance below the upper ends of the reservoirs D D.

The several reservoirs C, D, D, and D' are each provided with ribs or flanges *b*, adapted to support the shelves *c*, these shelves being adapted to hold the bottles or other liquid or food receptacles to be placed thereon for cooling or preserving purposes. The several reservoirs for the cooling-mixtures are preferably arranged, as indicated in the drawings, with their lower ends fixed to suitable supports *d*, whereby they are raised above the bottom of the containing-reservoir B, so as to permit of the free circulation of air, the bottoms of the reservoirs being perforated, as shown at *e e*, to permit the air to circulate through the same.

E represents a pan which is preferably composed of galvanized iron, provided with a flange *e'* at its rear side and with flanges *f*² at its ends, which flanges rest upon and overhang the upper inner edges of the reservoirs C D D. This pan is provided with a central opening *f*, which may be formed by cutting the bottom of the pan at this point and bending the cut portions downward so as to form depending flanges *f'*, as shown in Fig. 1, the said flanges *f'* being adapted to enter the upper end of the reservoir D' and hold the same against endwise movement, while the upper ends of the reservoirs D are similarly supported between the ends of the pan and the overhanging flanges *f*² thereof.

F represents a liquid seal placed at the bottom of the ice chest or box A, and this seal may consist of a conical or other suitably shaped vessel *g*, which is attached to the bottom of the box A by suitable brackets so as to leave a space between the upper edge thereof and the bottom of the box for the overflow of the liquid, and a metallic tube *h*, extending through the bottom of the reservoir B into the vessel *g*, whereby when the liquid in the vessel *g* is above the lower end of the

tube *h* said tube will be sealed against the admission of air from without, while at the same time the drippings from within may pass freely through said tube into the vessel *g*, and escape therefrom by overflowing the same.

In practice the several reservoirs C D D' are filled with a mixture of crushed ice and salt in a well-known manner; but preferably we use with every two thousand one hundred and fifty cubic inches of ice two hundred and sixty-eight cubic inches of salt.

It will thus be seen that with an apparatus constructed as above described the air within the containing-reservoir has a perfect circulation and may pass from or into either of the reservoirs, up or down, and into another of said reservoirs, circulating freely between the same and passing through the perforations in the bottoms thereof, while the water seal prevents air from the outside from passing into the chest. With the described arrangement the several reservoirs are also supported in position and braced against displacement by the flanged trough or pan E without the necessity of providing additional braces or supports to hold the same in position, the shelves also serving as braces to hold the reservoirs in proper position, and the several parts are adapted to be readily removed and replaced in case any one of the parts becomes worn by use.

It will of course be understood that the chest and the several reservoirs may be made of any suitable size or shape and that the described arrangement of the reservoirs may be modified without departing from the spirit of our invention, and hence we do not desire to be limited to the specific arrangement herein described and shown.

The shelves to receive the bottles are preferably made of galvanized iron and placed four inches apart.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A cooling and preserving apparatus comprising a suitable casing, a metallic reservoir containing a non-heat-conducting material, such as charcoal, arranged within said casing so as to form the end and rear inner walls of the apparatus, a series of narrow vertically-disposed receptacles for cooling-mixtures placed in said metallic reservoir and provided with perforated bottoms and open tops, a pan supported above said receptacles provided with bottom opening registering with the open top of the central receptacle, and shelving extending between the receptacles and supported thereby, the bottoms of said receptacles being raised above the bottom of said reservoir, whereby the air within the apparatus may be permitted to circulate freely between the several recepta-

cles around and about the articles resting on said shelving and through the receptacles and the cooling-mixtures therein, substantially as described.

2. In combination with the inclosing casing and reservoir containing non-heat-conducting material, a series of narrow vertically-disposed receptacles for cooling-mixtures arranged within said reservoir with their bottoms supported above the bottom of the latter, a pan supported upon and connecting the tops of said receptacles, and a series of shelves supported upon ribs or flanges projecting from the sides of the receptacles, whereby the several receptacles are supported in a vertical position and braced against lateral displacement by said pan and shelves, substantially as described.

3. In combination with the casing or chest, the elongated reservoir or receptacle extending within the chest from end to end thereof at the back, the reservoirs or receptacles placed at the ends of the chest with their upper ends flush with the top of the elongated reservoir, the intermediate reservoir or receptacle whose upper end terminates below the tops of the end reservoirs, and the pan provided with side flanges which rest upon the inner edges of the elongated and end reservoirs and with a central opening arranged over the intermediate reservoir, substantially as described.

4. In combination with the casing or chest, the elongated reservoir arranged within the same, the reservoirs at the ends of the chest, the intermediate reservoir, and the pan having a central opening formed with depending flanges arranged over the intermediate reservoir and side flanges which rest upon the edges of the elongated and end reservoirs, substantially as described.

5. In combination with the chest or casing, the metallic reservoir within the same containing charcoal or similar non-heat-conducting material, the elongated receptacle within said reservoir at the back thereof, the vertically-elongated receptacles at the ends of the chest, the intermediate receptacle, the pan supported upon the several receptacles and provided with a central opening having depending flanges arranged over said intermediate receptacle and with side flanges which rest upon the edges of the receptacles at the back and ends of the chest, and the shelves supported between the receptacles, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS W. ZIMMERMAN.
GEORGE INGRAM.

Witnesses:

T. TRUXTON McCANDLESS,
JAS. J. MUIR.