April 15, 1930. P. L. BILHAM ET AL 1,755,147

COOLING CABINET FOR ICE CREAM AND SIMILAR SUBSTANCES

Filed Dec. 9, 1926 2 Sheets-Sheet 1

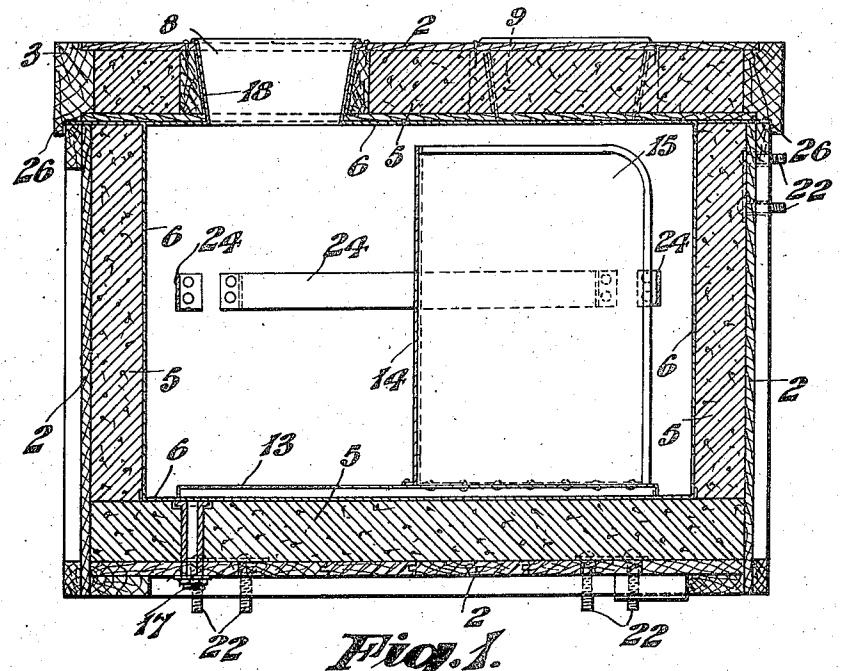


Fig. 1.

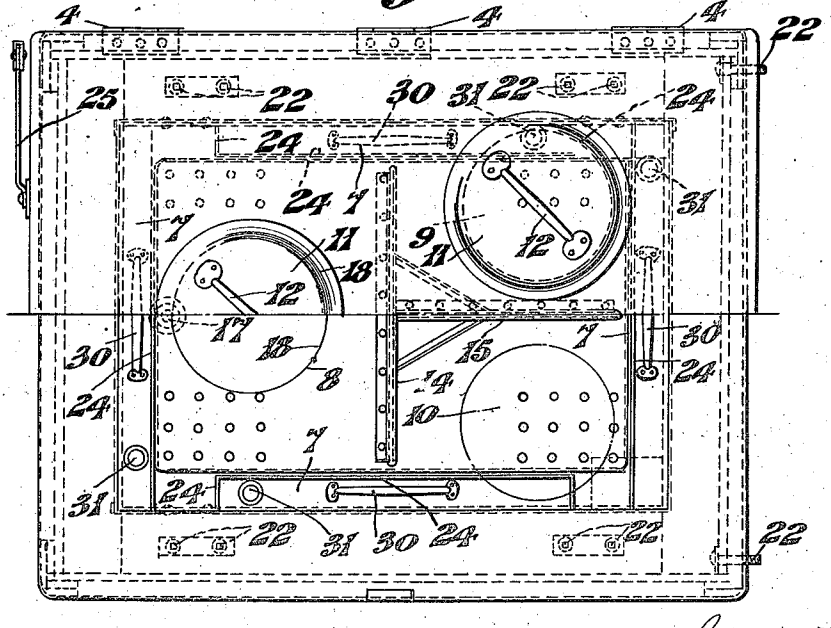


Fig. 2.

Inventors
Philip Leo Bilham
James Woodrow Smith
By D. Singer, Atty

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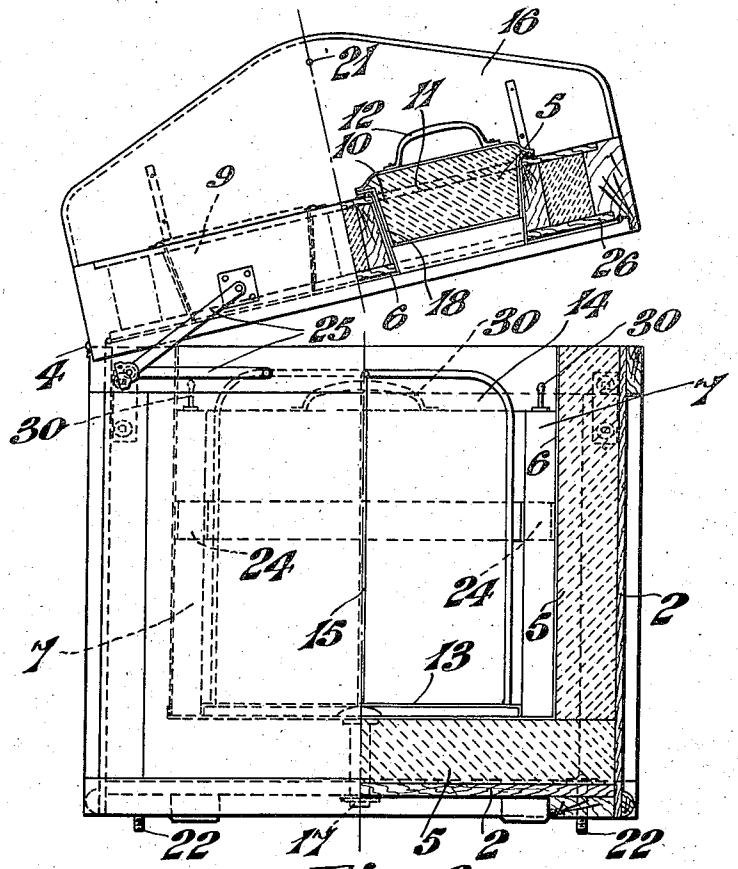
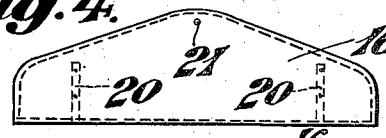


Fig. 3.

Fig. 4.



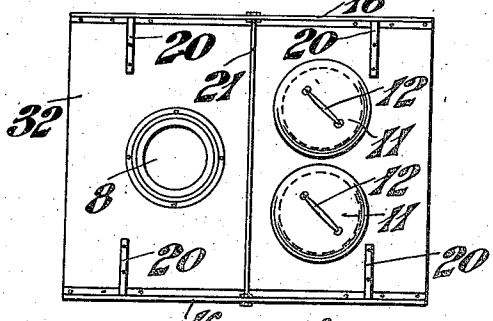


Fig. 5.

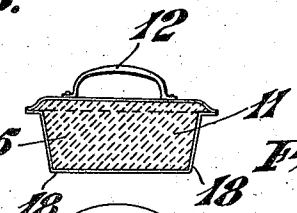


Fig. 6.

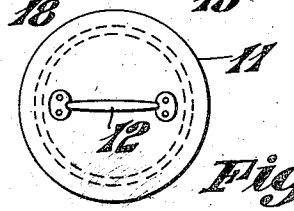


Fig. 7.

Inventors
Philip Leo Bilham
and James Woodrow
Smith
By B. Singer, atty.

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UNITED STATES PATENT OFFICE

PHILIP LEO BILHAM, OF BALHAM, LONDON, AND JAMES WOODROW SMITH, OF BARONS COURT, LONDON, ENGLAND, ASSIGNORS TO J. LYONS AND COMPANY, LIMITED, OF LONDON, ENGLAND

COOLING CABINET FOR ICE CREAM AND SIMILAR SUBSTANCES

Application filed December 9, 1926, Serial No. 153,686, and in Great Britain January 22, 1926.

This invention relates to cabinets or other containers for ice cream or other substances of which it is desired to lower or maintain the orignal temperature for considerable periods, the cabinets or other containers being more particularly of the kind transportable by means of a tricycle, or other vehicle or manually.

The present invention comprises an ice cream or similar cabinet having walls or a jacket of heat insulating material and adapted to receive articles or substances or vessels containing the same, characterized by the provision in such cabinets between its insulating jacket or walls and the contained articles or substances, of one or more removable refrigerators in the form of a hollow liner made of one or more units each refrigerator containing a charge of refrigerating substance or eutectic mixture the characteristic of the eutectic being that it will maintain the contents at the melting point of the eutectic until all such eutectic is melted which refrigerating substance or eutectic mixture may be renewed and recharged when required after the unit containing the same is removed from the cabinet, or each removed unit may be replaced by a previously charged one.

A manner of carrying out the invention is illustrated by the accompanying drawings, wherein Figure 1 is a sectional elevation of a cabinet made in accordance with the present invention, Figure 2 is a plan thereof the lower half of this plan being shown with the cover removed, Figure 3 is a side elevation half of which is in section, Figure 4 is an elevation of a screen, Figure 5 is a plan view of a refrigerator case showing the application of our screen, Figure 6 is a sectional view and Figure 7 a plan of an insulated cover for the openings in the lid or cover of the cabinet.

In these drawings the cabinet is constructed as a rectangular box of which the outer walls 2 are made of wood, the cover of the box is built up on a wooden frame 3 hinged at 4 to the back wall of the cabinet, both the cover and the walls of the box have a thick insulating lining 5 of cork or other suitable heat insulating material which is covered on the inside with zinc or other suitable sheeting 6.

In the present example the refrigerator liner units consist of flat rectangular boxes 7 containing a refrigerating substance or eutectic mixture. These units fit in pockets or loops 24 fixed to the zinc sheeting 6, and are removable therefrom by handles 30 provided in the tops of the units. In the tops of each unit is also provided a sealed opening 31 which may be of the kind consisting of a hole covered by a disc sealed thereon by solder, the disc being readily removable by melting the solder.

The cover of the cabinet is provided with conical openings 8, 9 and 10 extending through the insulating material 5 and lined with sheet metal 18. These openings are for the purpose of enabling the articles to be withdrawn without lifting the whole of the cover. Each of the openings 8, 9 and 10 is provided with a correspondingly shaped cover 11 of insulating material covered with sheet metal 18 and provided with a handle 12. These conical covers are of such a depth that when in position in their opening the inside surface of the cabinet will be continuous.

At the bottom of the inside of the cabinet is provided a raised platform or stand 13 of perforated metal sheet on which the articles or vessels containing them are supported.

The inside of the cabinet is divided into sections by thin partitions 14 and 15 the openings 8, 9 and 10 in the hinged cover being arranged immediately above each section.

On the outside of the top of the cabinet is provided a screen 16 consisting of two triangular end sheets 16 of suitable material connected together by a tie rod 21 and se-

cured by brackets 20 to a base 32 adapted to fit on the top of the cover of the cabinet. At the bottom of the cabinet is provided an outlet 17 for draining purposes.

The cabinet may be secured to the frame of a tricycle or other suitable vehicle in any suitable manner such as by screws 22.

The hinged cover is provided with links 25 of the kind which when opened out form a strut for holding the cover in the open position when required.

The freezing mixture is preferably of the kind known as an eutectic mixture and non-poisonous and innocuous and having a melting point which for use in ice cream cabinets should be about 5° F.

A cabinet made in accordance with the present invention is safe and sanitary, and in an example constructed for use on a tricycle, a temperature of below 10° F. has been maintained for a period of 12 hours.

In using the apparatus the refrigerator units 7 are cooled before being placed in position in the cabinet.

What we claim and desire to secure by Letters Patent is:—

1. A transportable refrigerating cabinet having walls of heat insulating material and adapted to receive articles, comprising in combination an insulated top continuous with the walls of insulating material and provided with openings having insulated removable covers, a plurality of removable narrow receptacles containing refrigerating substance or eutectic mixture, means for holding them against all the vertical walls of the cabinet and means for screening the cabinet while the covers are removed from the openings.

2. A transportable cabinet having upper and lower and side walls of heat insulating material and adapted to receive articles, comprising in combination a plurality of removable narrow receptacles each containing a charge of refrigerating substance or eutectic mixture, openings in the top wall of the receptacle provided with removable covers of the same material, means for screening the cabinet from hot air while the articles are being extracted or inserted, and means for holding the refrigerant containing receptacles against all the vertical walls of heat insulating material so as to form a vertical lining for the cabinet.

3. A transportable refrigerating cabinet having walls of heat insulating material and adapted to receive articles, comprising in combination a plurality of removable narrow receptacles each containing a removable charge of refrigerating substance or eutetic mixture, two removable covers, a thin vertical partition, loops fixed to the inner surface of the insulating walls of the cabinet at positions enabling the refrigerating receptacles to form an inner lining to all the vertical walls of the cabinet, and a raised perforated platform secured inside the cabinet to the base thereof for the reception of the articles, the partition extending across the inside of the cabinet between the refrigerators on opposite sides and being secured at its base only to the platform, and means for screening the cabinet while the covers are removed.

In witness whereof we affix our signatures.

PHILIP LEO BILHAM.
JAMES WOODROW SMITH.