Oct. 8, 1935. E. PUTNAM 2,016,514

LIQUID COOLING DEVICE

Filed Aug. 12, 1933 2 Sheets-Sheet 1

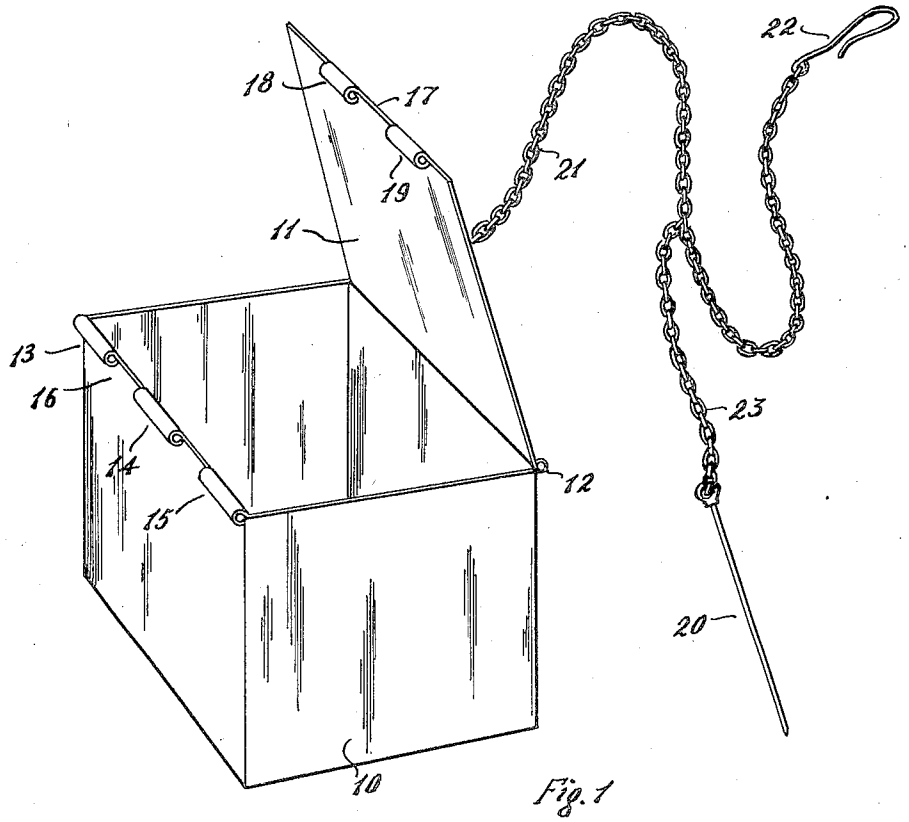


Fig. 1

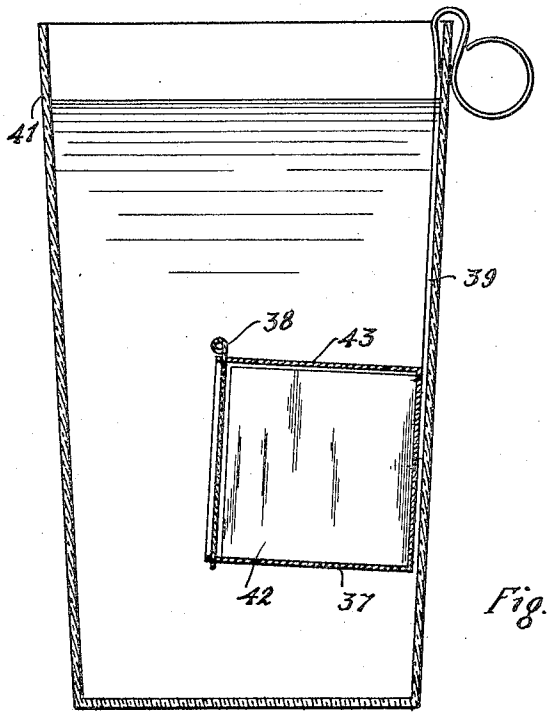


Fig. 5

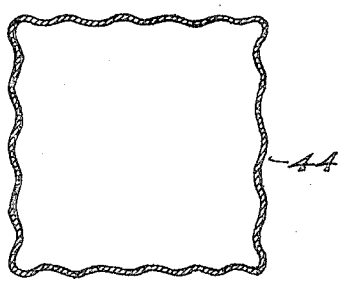


Fig. 6.

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LIQUID COOLING DEVICE

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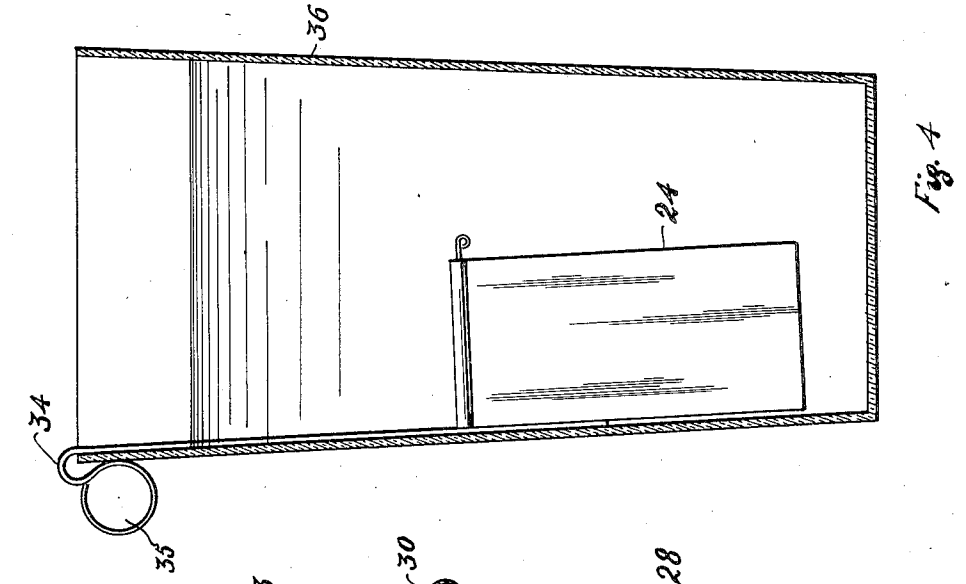


Fig. 4

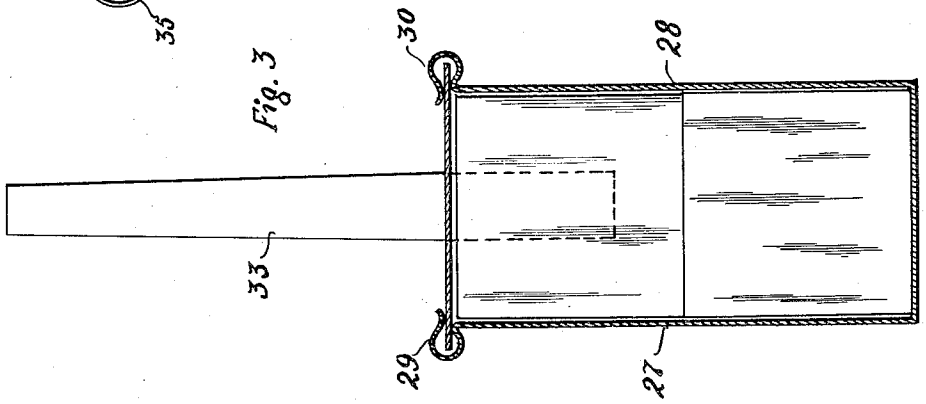


Fig. 3

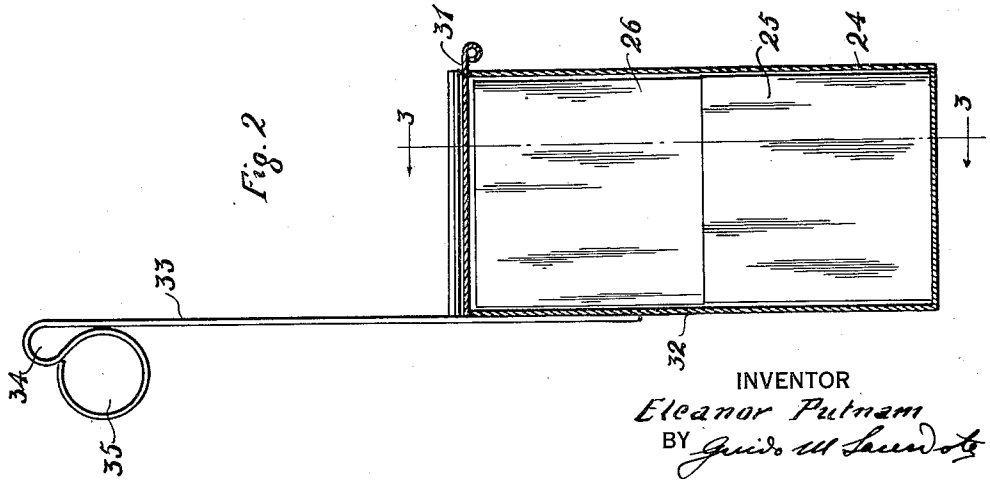


Fig. 2

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UNITED STATES PATENT OFFICE

2,016,514

LIQUID COOLING DEVICE

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5 Claims. (Cl. 62—142)

This invention relates to household devices and more particularly refers to improvements in devices for cooling liquids in glasses or similar containers.

The method of serving cold drinks most generally used is to place ice in the glasses or other containers holding the drinks, allowing the ice to melt and to become mixed with the liquid cooled thereby. In a great many instances while a drink should be served ice cold, it is desirable to prevent its dilution, in order to retain its full flavor and strength; in certain cases, for instance, with beer, the addition of ice is to be strictly avoided in order not to altogether destroy the character and the taste of the beverage.

On the other hand, it is not always possible to cool drinks by keeping the container in the cold atmosphere of a refrigerator or by surrounding the container with ice, while preventing the ice from coming into contact with the liquid. It is, therefore, desirable to provide means whereby ice can be placed within a liquid container without the possibility of its dissolving in and becoming mixed with the liquid itself. It is also desirable to provide means whereby, even if the ice is allowed to dissolve in the liquid within the container, the ice would be so held within the container that it will be prevented from rising to the surface of the liquid and to interfere with the drinking or pouring of the contents thereof.

The presence of floating pieces of ice in a container or in a drinking glass is especially objectionable when the ice is in pieces of sizable dimensions, instead of being crushed; a case in point being the ice cubes, such as are made available by the average domestic refrigerator.

The primary object of my invention is accordingly to provide a novel and improved type of ice holder, especially adapted for use in connection with a liquid container, said ice holder being particularly designed for holding one or more ice cubes in a way insuring a rapid cooling action through the walls of the device.

Another object is to provide an ice holder, particularly designed for use in connection with liquid containers, said holder being adapted to prevent the ice contained therein from becoming dissolved in the liquid surrounding the device and being also adapted to prevent the ice, or the part of the device containing it, from rising to the surface of the liquid.

A further object is to provide a device of the character specified, adapted to rapidly and efficiently cool the liquid in a container by means of ice cubes, such as ordinarily produced in domestic refrigerators, said device being of a pleasing design and compact construction, and being adapted to either permit or prevent the ice contained therein from coming into contact with the liquid in the container.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

My invention is illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view in perspective of an ice holder in the form of a substantially cubical receptacle, adapted to hermetically enclose an ice cube of ordinary domestic refrigerator size, said receptacle being adapted to be placed in an ordinary drinking glass and to be suspended from the rim thereof by means of a chain;

Fig. 2 is a side vertical section of an ice holder for ice cubes, adapted to be clamped on and suspended from the rim of a drinking glass or other container, by means of a rigid extension positively holding the receptacle at a certain distance from the top of the glass or container;

Fig. 3 is a vertical section through line 3—3 of Fig. 2;

Fig. 4 is a vertical section of a drinking glass showing the device of Figs. 2 and 3 in position;

Fig. 5 is a vertical section of a drinking glass, showing an ice holder secured in position in a manner similar to that illustrated in Figs. 2 to 4, said ice holder being so designed that the ice contained therein will be prevented from rising to the surface of the liquid, even if allowed to dissolve therein; and

Fig. 6 is a cross section of a holder, adapted to hold ice cubes, said holder having corrugated surfaces, so as to provide a greater heat transmission efficiency.

The device shown in Fig. 1 essentially consists of a cubical metal box 10, having a cover 11, hinged thereto along one of its edges as shown at 12, the dimensions of said box substantially corresponding to the size of an ice cube, such as are ordinarily produced in a domestic refrigerator. The edge of the box opposite the hinge 12 is formed with two or more spaced coaxial curled sections, such as 13, 14, 15, separated by spaces such as 16, and the corresponding edge 17 of the cover is formed with similar curled sections, such as 18, 19, adapted to register with spaces 16, so as to be coaxial with curled sections 13, 14, 15, when the cover is closed. A bolt 20 can then be inserted through the series of curled sections so as to securely retain the cover in its closed posi-

tion. For the sake of convenience, the device can be inserted in a liquid container by means of a chain 21, attached to cover 11, and provided with a hook 22, bolt 20 being attached to said chain by means of another chain 23.

It will be observed that due to the shape and size of the box, the surface of the ice cube will be in close proximity of the walls of the box on all sides, so that rapid transmission of heat will take place through said walls. The box is preferably made of good heat conducting material, such as silver or aluminum, for instance, and is preferably made heavy enough to insure its remaining at the bottom of the glass when said box has been filled with an ice cube.

Ordinarily it is desirable to use more than one ice cube in a drinking glass or other container, therefore, the box or ice holder can be made of a section corresponding to the size of an ice cube and of a depth sufficient to accommodate two or more ice cubes.

For instance, in Figs. 2 to 4, I illustrate an ice holder comprising a box 24, adapted to hold two superimposed ice cubes 25, 26, the upper edges of two opposite sides 27, 28, of said box being turned outwardly and downwardly and then being curled inwardly, as shown at 29, 30, so as to provide a spring clamping action for a sliding cover 31, securely holding said cover against the top of the box. The rear wall 32 of the box is provided with an upwardly extending tongue 33, the upper end of which is bent downwardly so as to form a spring clamp 34, insertable over the edge of a glass or other container. Said end is furthermore preferably curled to form an eye-portion 35, adapted for the insertion of a finger for holding the device as it is inserted in or removed from position.

By virtue of this construction, the device can be inserted within the glass or container 36 and clamped onto the edge thereof, as shown in Fig. 4, so that it will be held stationary by the rigid tongue 33, so as not to interfere either with the free drinking or the pouring of the contents of the glass or container.

Should it be preferable to allow the ice to dissolve in the liquid, it is, of course, entirely possible to leave cover 31 partly open, so as to permit the ice to come into contact with the liquid, yet preventing its rising to the surface.

The ice can more easily dissolve in the liquid if the box is open at one side instead of the top. In Fig. 5 I, accordingly, illustrate another type of holder, comprising an open side box 37, provided with a cover 38 and held in position by means of a rigid upwardly extending tongue 39, the upper end of which is bent outwardly and downwardly to form a spring clamp 40, adapted to be inserted over the edge of a glass or other container 41. It is obvious that if cover 38 is removed one side of the ice cube 42, contained in the box, will remain entirely exposed and the ice will more easily dissolve in the liquid, while the top 43 of the box prevents the ice cube from rising to the surface.

If desired, the sides of the box can be corrugated, as shown at 44 in Fig. 6, so as to improve the appearance of the device, at the same time increasing its capacity for heat transmission.

It is, of course, within the scope of my invention to provide a holder having a greater capacity than those shown, for use in connection with a pitcher or a bowl. When the ice is not sufficient to completely fill the ice chamber, the same should be filled with water in order to improve heat transmission conditions.

It is obvious that the constructional details of my invention may vary from those shown without departing from the inventive idea; the drawings will, therefore, be understood as being intended for illustrative purposes only and not in a limiting sense. I, accordingly, reserve the right to carry my invention into practice in all those ways and manners which may enter, fairly, into the scope of the appended claims.

I claim:

1. In a device for cooling liquids, a metallic holder adapted to contain a refrigerant, insertable within a liquid container, and rigid means for securing said holder onto the edge of said container so as to maintain it in a fixed position within said container.

2. In a device for cooling liquids, a metallic holder adapted to contain a refrigerant, insertable within a liquid container, and a rigid member, upwardly extending from said holder, and formed with a spring clip at its upper end, for securing the device onto the edge of said container so as to maintain said holder at a predetermined depth within said container.

3. In a device for cooling liquids, a metallic holder adapted to receive a piece of ice of substantially cubical shape, said holder having a four-sided section but slightly larger than the sectional outline of the piece of ice to be inserted therein, and rigid means for securing said holder onto the edge of a liquid container, so as to maintain it in a fixed position within said container.

4. In a device for cooling liquids, a metallic holder adapted to receive a plurality of pieces of ice of substantially cubical shape, arranged in vertical series, said holder having a four-sided section but slightly larger than the sectional outline of the pieces of ice to be inserted therein, and a rigid member, upwardly extending from said holder, and formed with a spring clip at its upper end, for securing the device onto the edge of a liquid container, so as to maintain said holder at a predetermined depth within said container.

5. In a device for cooling liquids, a metallic holder adapted to receive a plurality of pieces of ice of substantially cubical shape, arranged in vertical series, said holder having a four-sided section but slightly larger than the sectional outline of the pieces of ice to be inserted therein, a rigid member, upwardly extending from said holder, and formed with a spring clip at its upper end, for securing the device onto the edge of a liquid container, so as to maintain said holder at a predetermined depth within said container and a removable cover adapted to seal said holder so as to prevent direct contact between the ice therein contained and the liquid surrounding it.

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