B. A. BAER.

WATER COOLER.

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1,250,941.

Patented Dec. 25, 1917.

Fig. 1.

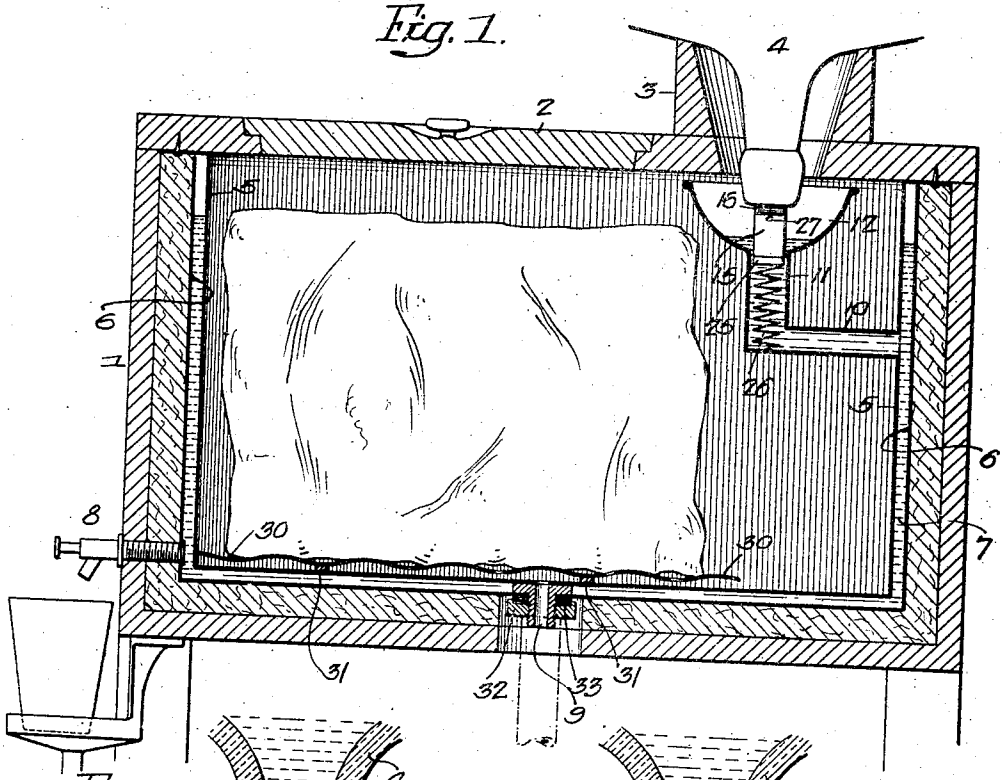


Fig. 2.

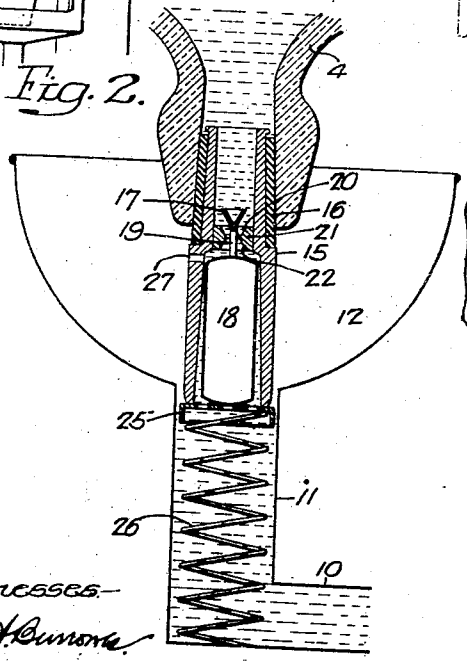
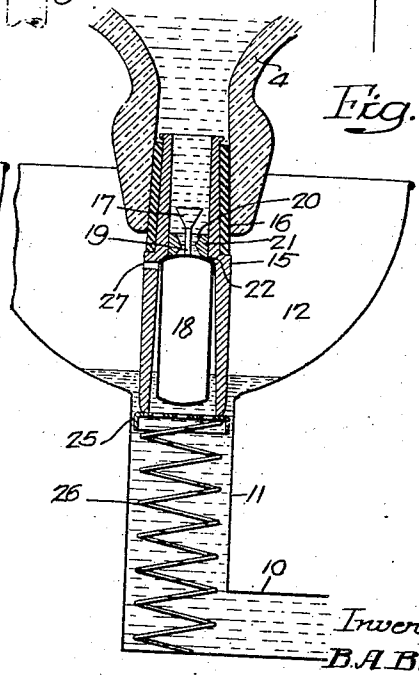


Fig. 3.



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UNITED STATES PATENT OFFICE.

BERTHOLD A. BAER, OF PHILADELPHIA, PENNSYLVANIA.

WATER-COOLER.

1,250,941. Specification of Letters Patent. Patented Dec. 25, 1917.

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To all whom it may concern:

Be it known that I, BERTHOLD A. BAER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Water-Coolers, of which the following is a specification.

My invention relates to means for cooling and dispensing liquids, more particularly bottled water; and the object of my invention is to provide an improved form of water cooler in which I may employ an inverted bottle as the reservoir for the water to be cooled and from which such water may be fed to a suitable outlet conduit, without the necessity of sealing the bulk of water in the bottle by a body of water in the outlet conduit as is common with coolers having bottle reservoirs delivering their contents under what is known as a "barometric feed."

In my improved structure I employ a valved stopper for controlling the delivery of water from the reservoir, which stopper also serves to prevent undue leakage when the bottle or other reservoir is inverted for disposal in its support. In my improved cooler the contents of the bottle pass to a narrow chamber surrounding the ice receptacle, such chamber forming a conduit in which the water is cooled prior to discharge.

These and other features of my invention are more fully described hereinafter, reference being had to the accompanying drawings, in which:

Figure 1, is a sectional view of a complete cooler having and containing the features of my invention and showing a reservoir in the form of an inverted bottle mounted thereon;

Fig. 2, is an enlarged sectional view of the valved delivery tube carried by the bottle or other reservoir, showing the valve in position to permit discharge of the contents of the bottle, and

Fig. 3, is a view similar to Fig. 2, showing the valve in position to seal the bottle against discharge.

In the drawings, 1 represents a suitable receptacle for the reception of ice or other cooling agent, having a cover 2; said receptacle having an annular support 3 for an inverted bottle 4 serving as a reservoir for the water to be dispensed. The receptacle 1 is a double-walled structure, and the cooling means proper for the water delivered comprise an inner shell 5 receiving the ice or other cooling agent, and an outer shell 6 spaced from said inner shell and forming with the latter a narrow chamber 7 around the sides and bottom of said receptacle 1. This chamber receives a thin-walled body or film of water from the main supply within the bottle 4, which may be delivered by a suitable faucet 8, connected to this water chamber. The receptacle 1 is preferably designed to receive a block of ice, as illustrated, or it may receive broken ice, if desired, and is provided with a suitable drainage pipe 9.

Communicating with the chamber 7 formed between the walls of the cooling receptacle is a pipe 10 having a vertical extension 11 axially disposed below the support for the bottle 4, and having by preference a shallow cup 12 at its upper end into which a tubular delivery member carried by the bottle projects.

By preference, the bottle carries a tubular extension or delivery member, comprising a shell 15 having exterior of the same at one end a compressible sleeve or gasket 16 whereby a tight fit with the wall of a bottle neck may be provided; such structure carrying a valve 17 having a float 18 below the same connected thereto by a stem 19; a seat 20 being provided within said shell 15 for engagement by said valve. This seat is preferably formed in a ring 21, which may be detachably mounted in the shell 15, the under side of which ring forms a seat 22 for engagement by the upper end of the float 18. When the bottle is inverted in order that it may set in place on the cooler, the valve will engage the seat 20 and serve to prevent discharge or leakage of the contents.

Within the vertical extension 11 of the pipe 10 disposed within the cooling chamber which serves as a part of the conduit conveying the water to the space between the walls of the cooler, I provide a perforated plate 25 supported by a spring 26, with which plate the end of the shell 15 contacts when the bottle is mounted on the cooler; such plate also engaging the float 18 carrying the valve 17 and serving to keep the latter from its seat to permit the flow of water into said shell 15, and thence to the chamber 7 for delivery when the faucet 8 is opened.

When the faucet is closed and sufficient water has entered the stem 15 and the cup 12 to raise the float, the upper end of the latter will come to rest against the seat 22 on the under side of the ring 20 and will close the opening therein, preventing further discharge of water from the bottle until the

water supporting the float has been drawn away from the same by the opening of the faucet 8; such action permitting the float to lower so that the water may flow from the bottle. The shell 15 is provided with an apperture 27 above the level of water supporting the float so that air may pass to the interior of the bottle when the float lowers to permit withdrawal of water therefrom.

The ice is preferably mounted upon a plate 30, which may be corrugated, as shown, and held above the bottom of the cooling chamber by support 31. Any water from the melting ice may drain through the pipe 9 which is carried by the inner shell 5 and passes through an opening in the outer shell 6 to which it is secured by a nut 32; a washer 33 being interposed between the outer shell 6 and said nut to avoid all danger of leakage. This nut also serves to hold the sections together and when it is removed the inner section may be lifted out of the outer section for cleaning purposes. To assist in this operation, the inner shell is preferably connected to the top of the cooler as shown; being removable therewith.

While I have shown the mount for the bottle carried by the top of the cooler body and the tubular connection 11 and cup 12 within the same, it will be understood that such support and the cup and tubular connection might be otherwise disposed with respect to the cooler body with proper connection leading to the water space 7, without departing from my invention. It will also be understood that the cooler body may be of any shape desired.

I claim:

1. The combination, in a water cooling device, of a supporting member, a water receptacle carried thereby, an open conduit in communication with said water receptacle, cooling means for said conduit, a tubular shell detachably fitting the discharge outlet of the water receptacle and having a plurality of seats, and a float valve carried by said tubular shell and adapted to engage the respective seats when the water receptacle is in different positions and serving to cut off drainage from the water receptacle when the latter is in communication with the conduit.

2. The combination, in a water cooling device, of a body portion for the reception of a cooling medium, a water receptacle with a bottom outlet carried by said body portion, a conduit in communication with said water receptacle and surrounding the body portion, a tubular shell carried by the water receptacle, a float valve carried by said tubular shell and serving to cut off discharge from the water receptacle, and means within the conduit for displacing said float valve.

3. A water cooler comprising a body portion to receive the ice, a cover having an opening to receive the neck of a bottle, a water receiver within the body portion and in communication with said cover opening, a bottle having its neck passing through said cover opening and into the water receiver, said water receiver having a water outlet passing through said body portion, a detachable hollow shell fitting the mouth of said bottle, and a float valve carried by said shell and serving to seal the bottle; the body of water in the inlet portion of the receiver serving to raise said valve.

4. A water cooler comprising a body portion to receive the ice, a cover having an opening to receive the neck of a bottle, a water receiver surrounding the body portion and in communication with said cover opening, a bottle having its neck passing through said cover opening, said water receiver having a water outlet passing through said body portion, a detachable tubular shell carried by the neck of the bottle and entering the water receiver, a float valve carried by said tubular shell and serving to prevent flow of water from the bottle; the body of water in the inlet portion of the receiver serving to raise said valve, and means in the inlet portion of the receiver for keeping said valve from its seat when water is flowing from the receiver.

5. The combination with a water cooler comprising a casing providing a chamber to receive ice, a cover for said chamber having an opening to receive the neck of a bottle, a water receiver within said casing independent of the ice chamber and in communication with said cover opening, a bottle having its neck passing through said cover opening and into the water receiver, of a tubular shell detachably carried by the neck of said bottle, a pair of seats disposed within said shell, a double-acting float-valve carried by said tubular shell and adapted to engage the respective seats, and means within the water receiver for engagement with said float valve whereby it is normally displaced from one of its seats to permit flow from the bottle, said valve rising under pressure of the water within the receptacle when flow is cut off, and said tubular shell having an air inlet below the valve seat.

6. The combination, in a water cooler comprising a body portion to receive the ice, a cover having an opening to receive the neck of a bottle, a water receiver within the body portion and in communication with said cover opening, and a bottle having its neck passing through said cover opening, of a tubular shell fitting the neck of said bottle, a float valve mounted within said tubular shell, and a spring-supported platform within the water receiver for engagement with said float valve to permit discharge from the bottle.

7. The combination, in a water cooler com-

prising a body portion to receive the ice, a cover having an opening to receive the neck of a bottle, a water receiver within the body portion and in communication with said cover opening, and a bottle having its neck passing through said cover opening, of a tubular shell carried by said bottle and entering the water receiver, a plurality of oppositely disposed seats within said shell, a float valve for engagement with said seats, and a spring-supported platform within the water receiver for engagement by said tubular shell, said platform serving to hold the valve out of engagement with one of its seats.

8. The combination, in a water cooler comprising a main body portion adapted to receive a cooling medium, a cover for said body portion having an opening to receive a bottle or other reservoir, a conduit for the water having a discharge outlet passing through the wall of the body portion, said conduit having a receiving portion axially disposed below the bottle, a spring-supported platform within said receiving portion, a tubular shell carried by the bottle, said shell having a plurality of seats oppositely disposed, a float valve disposed in said shell, said valve having portions for engagement with the respective seats, and an aperture in said tubular shell for the passage of air to the bottle to permit discharge of water therefrom.

9. The combination, in a water dispensing device, of a removable water receptacle, a conduit in communication with said water receptacle, a detachable shell carried by said water receptacle, a float valve carried by the shell of the water receptacle and serving to cut off discharge from the same, and a spring supported member within the conduit for displacing said float valve.

10. The combination, in a water dispensing device, of a removable water receptacle, a conduit with which said water receptacle is in open communication, said conduit having a valved outlet, a tubular shell detachably carried in the mouth of the water receptacle and dipping into the receiving end of said conduit, a float valve carried by said tubular shell, the latter having a plurality of seats and said valve being movable in two directions to cut off discharge from the water receptacle, and cushion means within the conduit for maintaining said valve displaced in one direction to permit flow from the water receptacle when the valved outlet of the conduit is opened, such action normally unseating the float valve when the structure is in use.

11. A water cooler comprising a body portion having a chamber to receive ice, a cover for said body portion having an opening to receive the neck of a bottle, a water receiver surrounding the ice receiving chamber and having an inlet registering with but below said cover opening, a bottle having its neck passing through said cover opening and into the inlet of the water receiver, the latter having an outlet passing through said body portion of the water cooler, a valve for said outlet, a tubular shell detachably carried in the neck of the bottle and adapted to enter the water receiver, and a float valve carried by said tubular shell, the latter having a plurality of seats for said valve, the body of water in the inlet portion of the receiver serving to raise said valve when flow from the water receiver stops, and said tubular shell having an aperture for the passage of air disposed below the valve seats thereof.

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

BERTHOLD A. BAER.

Witnesses:
MURRAY C. BOYER,
WM. A. BARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."