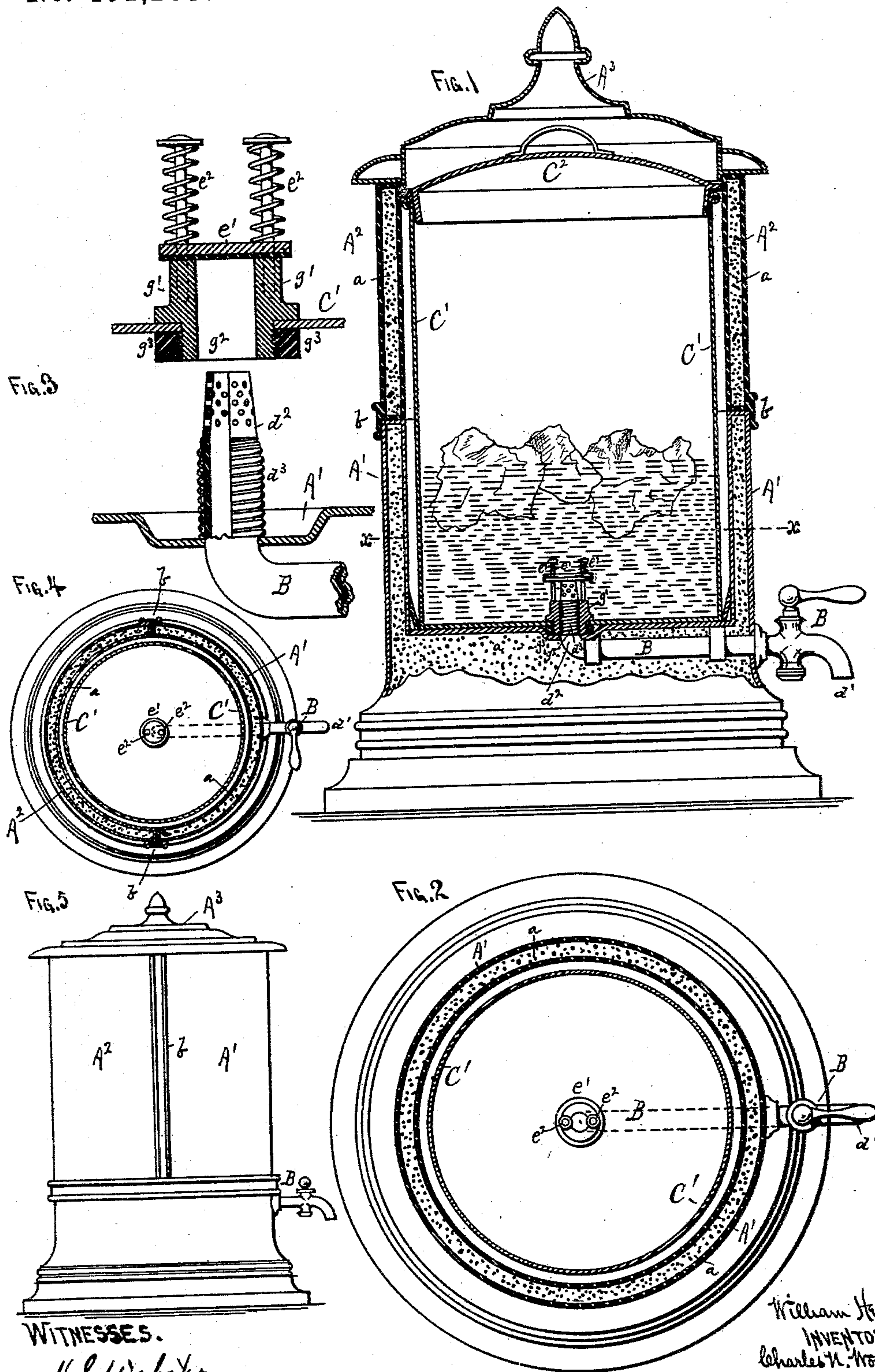


(No Model.)

W. H. FRUEN.
WATER COOLER.

No. 401,263.

Patented Apr. 9, 1889.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM HENRY FRUEN, OF MINNEAPOLIS, MINNESOTA.

WATER-COOLER.

SPECIFICATION forming part of Letters Patent No. 401,263, dated April 9, 1889.

Application filed November 29, 1886. Serial No. 220,218. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY FRUEN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Water-Coolers, of which the following is a specification.

This invention relates to water-coolers; and it consists in an outer casing or shell of non-heat-conducting material, having a discharge-faucet and a water holder or reservoir with a self-closing valve in its lower part adapted to connect with said faucet when said reservoir is set into said casing, as hereinafter shown and described, and specifically pointed out in the claim.

In the drawings, Figure 1 is a sectional elevation of the cooler complete. Fig. 2 is a cross-section on the line X X of Fig. 1. Fig. 3 is an enlarged sectional detail of the valve and its operating mechanism. Figs. 4 and 5 are reduced details of the cooler, illustrating some slight modifications in its construction.

The outer casing or shell of the cooler is formed of two walls, having a filling of charcoal or other non-conducting material, a , between them, and will be made in two or more sections, A' A^2 , either horizontally, with one section, A^2 , sitting upon the other, as shown in Fig. 1, or divided perpendicularly, as in Figs. 4 and 5. The joints between the sections of the casing will be covered by bands b , attached to one of the sections, so that the points of juncture will not be observed. The casing will be provided with a cover, A^3 , in the ordinary manner.

B is a faucet inserted into the lower part of the casing, and with its discharge d' outside of the casing, and with its inner or receiving end, d^2 , turned upward and projecting into the interior of the casing, as shown. This upwardly-projecting end d^2 is tapered slightly and perforated, so that the water will flow into the faucet.

C' represents the water-holding reservoir, which is adapted to be inserted into the outer casing, and is provided with a cover, C^2 , independent of the cover A^3 of the casing. In the lower part of this reservoir a valve, e' , is arranged and adapted to be kept closed by the pressure of the water and a series of

springs, e^2 , until the reservoir is inserted into the casing, when the upwardly-projecting end d^2 of the faucet will open the valve and seat itself in the valve-opening, and thus connect the reservoir with the faucet, so that the water may be drawn therefrom. The upwardly-projecting end d^2 of the faucet will be provided with a packing, d^3 , of rubber or other suitable flexible material, so that when the connection is made with the reservoir the joint between the valve-opening and the faucet end d^2 will be water-tight. This packing will be formed by wrapping a strip or tube of rubber or other similar material about the faucet end with wire or twine at intervals, so as to leave rounded sections of the rubber projecting outward to come in contact with the metal of the valve-opening, and thus secure a more perfect joint, and one which will be more certain to act without unnecessary friction. The curved sections of the packing will prevent the rubber from "cramping" into the valve-opening, as the separate "rounds" receive the strains and distribute them throughout the whole length of the packing, and the rubber will not be crowded at any point more than another.

The valve e' is shown constructed of a simple disk of metal with a rubber or other suitable flexible packing, and held down upon the valve seat or opening by springs e^2 . The valve-seat is formed of a metal collar, g' , having a hub, g^2 , projecting down through the bottom of the reservoir C' and secured therein by a nut, g^3 , beneath the reservoir. I do not wish to be limited to the use of this specific form of valve, as I am aware that many other forms may be employed to produce the same effect.

By providing each of the outer casings, A' A^2 with one or more extra reservoirs C' , the latter may be filled with water and ice at any convenient point, and when brought to the casing the cover A^3 or the upper part, A^2 , of the casing removed, the empty or partially-empty reservoir taken out, and the freshly-charged one inserted in its place, and the discarded reservoir refilled, ready to be again inserted into the casing when required.

This form of cooler will be found very convenient for use in supplying a number of dif-

ferent places with ice-water, it being only necessary to remove the cover or the upper part of the outer casing, take out the reservoir and insert a freshly-filled one, close the outer casing, and proceed to the next cooler, the act of removing the empty or partially-empty reservoir C' disconnecting it from the faucet B and permitting the springs e^2 to close the valve e' and prevent the escape of the water which may still remain in the reservoir, and the act of inserting a fresh reservoir causing the valve therein to be automatically connected with the faucet, as before described. By this simple device a large number of coolers may be replenished in a short time and without wasting the water or the ice and without danger of spilling the water on the outside of the cooler.

Any method may be employed to convey the charged reservoirs from place to place; but generally a vehicle constructed for the purpose with a non-conducting housing or cover will be used, as by that means the loss of ice by radiation will be prevented. Dividing the outer casing into two or more parts is also an important feature of my invention, as by this means it will not be necessary to lift the reservoirs to the tops of the casings, as it would be if the casings were of the ordinary construction, although the removable reservoirs may be used with casings without the divisions.

If the casing be divided perpendicularly, as in Figs. 4 and 5, the reservoirs will not require to be elevated any higher than just sufficiently to release the valve from the faucet, and if the

casing be divided horizontally, as in Figs. 1 and 2, the reservoirs will never be required to be elevated more than one-half the height of the casing. This is a great convenience and will facilitate the replenishing of the coolers, the saving of time being an important item where a large number of the coolers are to be served each day, as will be the case in operating this invention ordinarily.

Having thus described my invention, what I claim as new is—

In a water-cooler, an outer casing or shell and a discharge-pipe extending outward beneath the bottom of the compartment formed by the casing, said pipe having a vertical open-mouthed branch extending through said bottom, in combination with a removable water-reservoir which is inserted into said compartment, and which rests on the bottom of said compartment, said reservoir having an opening in its lower end which passes over said vertical branch, and a self-closing valve carried by said water-reservoir for said opening, which valve is opened by being displaced upwardly by said vertical branch when said reservoir is placed in said compartment, and which automatically closes said opening when the reservoir is removed from the compartment, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM HENRY FRUEN.

Witnesses:

C. N. WOODWARD,
H. S. WEBSTER.