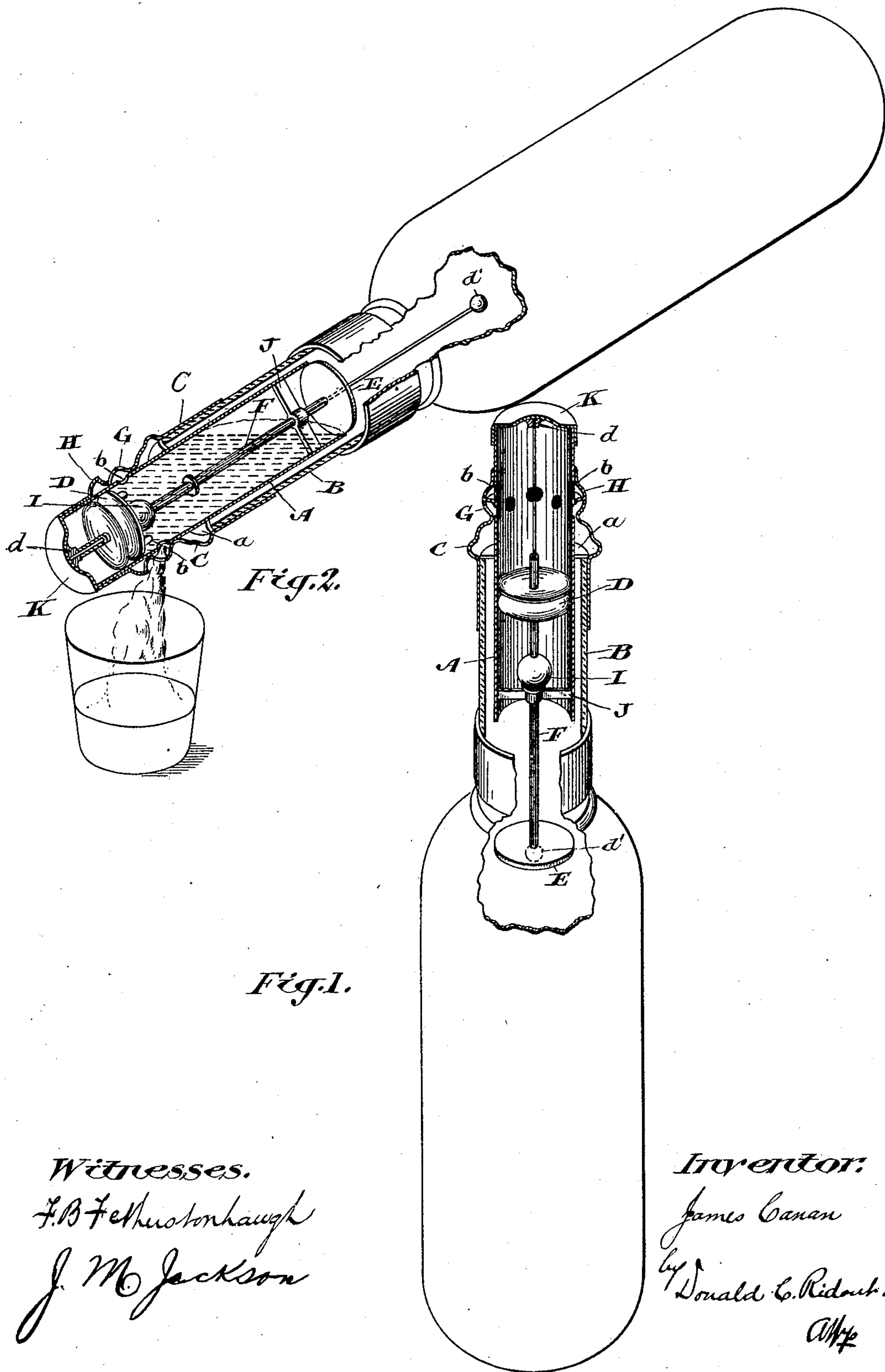


(No Model.)

J. CANAN.  
BOTTLE.

No. 389,953.

Patented Sept. 25, 1888.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JAMES CANAN, OF PORT COLBORNE, ONTARIO, CANADA.

## BOTTLE.

SPECIFICATION forming part of Letters Patent No. 389,953, dated September 25, 1888.

Application filed February 4, 1888. Serial No. 262,964. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES CANAN, of the village of Port Colborne, in the county of Welland, in the Province of Ontario, Canada, gentleman, have invented certain new and useful Improvements in Bottles, of which the following is a specification.

The invention relates to certain improvements upon a bottle patented by me in the United States on July 6, 1886, under No. 345,112, in which bottle I use a double-ended stopper fitted in a case placed on the mouth of the neck of the bottle, the said double-ended stopper being arranged to automatically close the inlet and open the outlet of the said case upon the reversal of the bottle, so that no more than a given quantity of liquid can be poured out of the bottle at a single reversal.

The object of the present invention, among other things, is to insure the regular movement of the double-ended stopper; and it consists, among other things, in an air-passage formed through the double-ended stopper and in a sliding weight designed to knock the stopper to assist its movement upon the reversal of the bottle; also in other details of construction, hereinafter explained.

Figure 1 is a sectional view of a bottle provided with my improved stopper and standing in its normal position. Fig. 2 is a view of Fig. 1 reversed.

In the drawings, A is a cylindrical case or tube fitting into the neck of the bottle B.

C is a skirt attached to the tube A, and designed to fit over the top of the neck of the bottle, a rubber ring, *a*, being provided to form a joint between the two.

D is a valve designed to fit loosely the inside of the tube A, and E is a valve designed to fit against and close the bottom of the tube A. The spindle F, which joins the two valves D and E, is hollow, so that air will pass freely through it. An annular row of perforations, *b*, is made in the tube A at a point immediately below the point which the valve D reaches when the valve E has closed the bottom of the tube A, as indicated in Fig. 2. A shield, G, attached to or forming part of the skirt C, surrounds the perforations *b*, so as to prevent the liquid spurting from the tube A farther than is necessary.

H is a ring, loosely fitted onto the tube A,

and designed to rest upon the skirt C when the bottle is in its normal position, as shown in Fig. 1, and to fall away from the said skirt when the bottle is reversed, as shown in Fig. 2, so that the liquid can escape freely from the perforations. A weight, I, is loosely fitted upon the spindle F between the valve D and the support or guide J, which is attached to the tube A and guides the spindle F.

The manner of the operation of my present device is exactly the same as that described in the patent hereinbefore referred to; but the hollow valve-spindle F admits air below the valve E, so that the stopper formed by the two valves D and E referred to will always work freely. When the bottle is tipped for the purpose of pouring liquid out of its mouth, the weight I immediately slides upon the spindle F and strikes the bottom of the valve D, giving a start to the said valve, which travels in the tube A until it has passed the perforations *b*, by which time the bottom of the tube A is closed by the valve E, and no more liquid is admitted into the tube until the bottle is replaced in its normal position. When the bottle is placed in the position shown in Fig. 2, the open end of the spindle F is closed by the stopper *d*, which is connected to the cap K, as shown, and when the bottle is in the position shown in Fig. 1 the ball-valve *d'* closes the air-passage in the spindle F, the said ball being formed on the end of a slender wire passing through the hole in the spindle F.

What I claim as my invention is—

1. A tube, in combination with a valve fitting the said tube and connected to a valve designed to close the bottom of the said tube and an air-passage through the two valves to permit air to pass into the interior of the bottle, substantially as and for the purpose specified.

2. A tube, in combination with a valve fitting the said tube and connected by a spindle having fitted upon it a sliding weight to a valve designed to close the bottom of the said tube, substantially as and for the purpose specified.

3. A valve designed to fit the tube and connected by a spindle to a valve designed to close the end of the tube, in combination with the said tube, having a row of perforations made in it at a point below where the valve



fitting it will be when the end of the tube is closed by the other valve, substantially as and for the purpose specified.

4. A valve designed to fit the tube and connected by a spindle to a valve designed to close the end of the tube, in combination with the said tube, having a row of perforations made in it at a point below where the valve fitting it will be when the end of the tube is closed by the other valve, and a shield, G, surrounding the said perforations, substantially as and for the purpose specified.

5. A valve designed to fit the tube and connected by a spindle to a valve designed to close the end of the tube, in combination with

the said tube, having a row of perforations made in it at a point below where the valve fitting it will be when the end of the tube is closed by the other valve, and a shield with a ring, H, loosely fitted upon the tube, substantially as and for the purpose specified.

6. The hollow spindle F, connecting the valves D and E together, in combination with the stopper d, attached to the cap K, substantially as and for the purpose specified.

Toronto, December 17, 1887.

JAMES CANAN.

In presence of—

CHARLES C. BALDWIN,

C. H. RICHES.