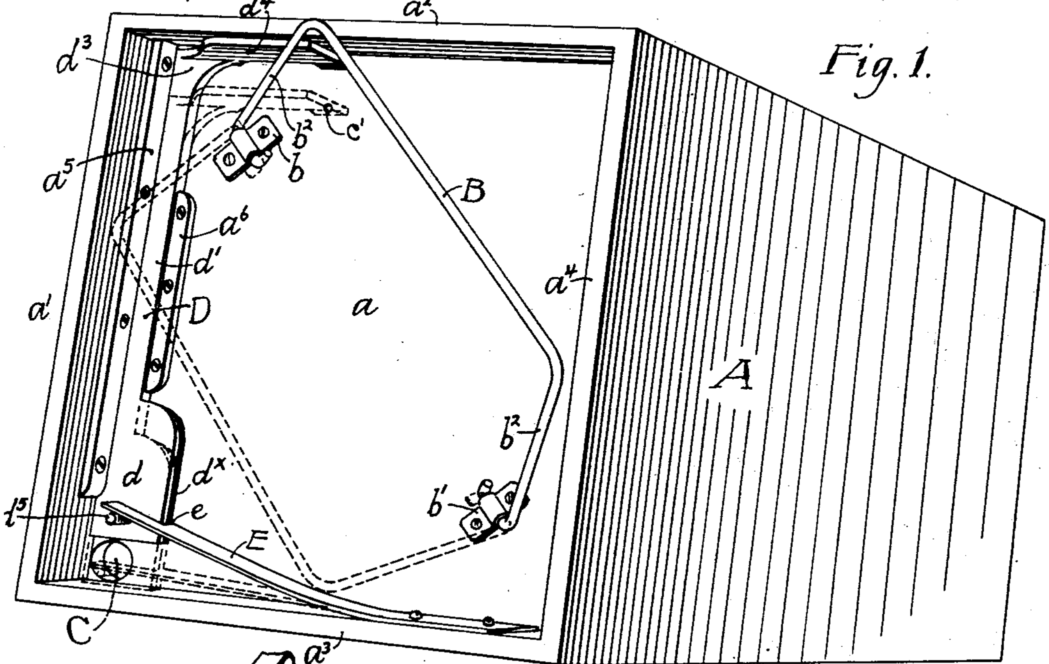
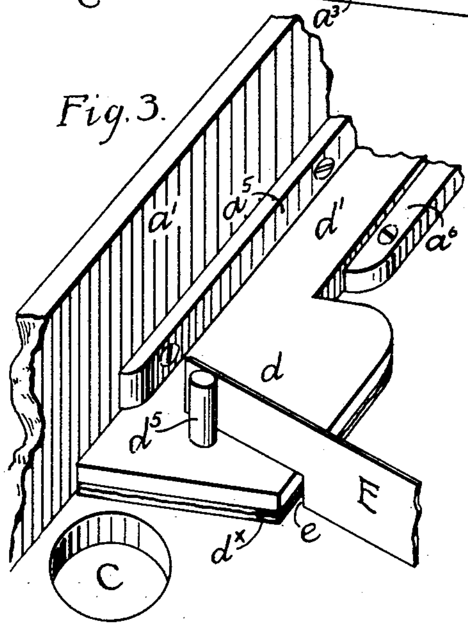
(No Model.)

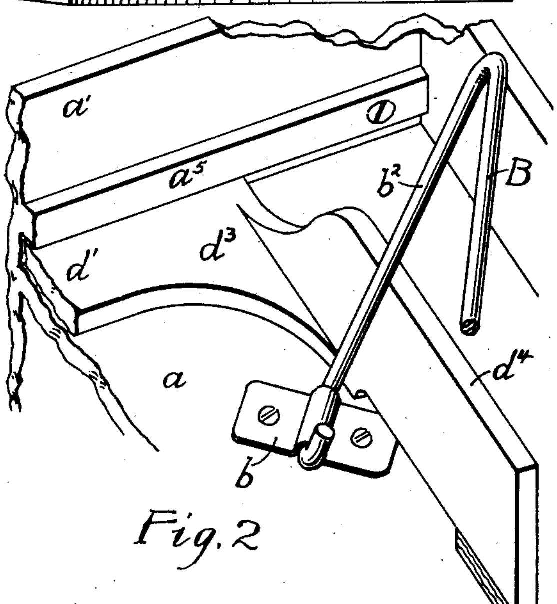
N. P. BRADISH & W. H. FITZSIMMONS.

AUTOMATIC VALVE FOR CANS.

No. 541,263. Patented June 18, 1895.







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AUTOMATIC VALVE FOR CANS.

SPECIFICATION forming part of Letters Patent No. 541,263, dated June 18, 1895.

Application filed March 11, 1895. Serial No. 541,358. (No model.)

To all whom it may concern:

Be it known that we, NELSON P. BRADISH and WILLIAM H. FITZSIMMONS, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and Improved Automatic Valve for Cans, &c.; and we do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of our invention is, first, to regulate the admission of the air through the vent simultaneously with the outflow of liquid from the can; second, to prevent escape of the liquid by the accidental overturning of the can.

Our invention further consists in the novel construction and combination of parts such as will first be fully described and specifically pointed out in the claims.

Referring to the drawings, Figure 1 is a view in perspective of a can, showing the automatic valve applied to the top and the alternate position in dotted lines. Fig. 2 is a detail view in perspective of a portion of the top of the can, showing the valves and the can and a portion of the handle. Fig. 3 is a detail view of one of the valves, showing the rubber on the under-side portion.

Similar letters of reference indicate corresponding parts in all the figures.

Referring to the drawings A represents an ordinary square shaped can for the holding of liquids, the top a, of which is made flat, and soldered or welded with the sides of the can so as to make the can air tight, and retain the liquid in any position in which it may be placed. The sides of the can are extended in an upward direction a considerable distance above the top a, as at a', a^2, a^3, a^4, the said extended portions forming a receptacle, for the purpose hereinafter described. To the top a, of the can, are attached in a position near the corners formed by the meeting sides a', a^2, a^3, a^4, the lugs b, b', to which is hinged a wire handle B, the side portions of said handles, attached to the said lugs extending in a vertical direction the proper distance as at b^2, b^3.

C represents the liquid discharge opening in the top a of the can which is located near the meeting portions of the sides a', a^3. c' is the air vent and is located in the top a, a considerable distance from the side a', in the direction of the side a^4, and at such a distance from the side a^2, as will permit the operation of the valve hereinafter described.

Against the inner portion of the side a' is arranged the automatic valve D, which consists of a flat portion or plate d, which extends over the discharge opening c, and is fitted to the meeting inner side portion a' a^3, of the can. To the flat portion d, is connected one end d^2, of a valve stem d', which extends along the inner portion of the side a', and the other end d^3, terminates at a point within a short distance of the inner side portion of the side a^2. To the end d^3 of stem d' is connected a valve d^4 which consists of a narrow strip extending at right angles from the said end d^3, between the lug b of the handle B, and the inner portion of the side a^2, and near said lug and directly over the air vent c', and a short distance past said opening, and upwardly to height nearly equal to that described by the side a^2 from the top a of the can so as to form a can for the purpose herein described.

In the top portion of the valve d, and near the end of said valve is a pin d^5. To the inner portion of the side a' of the can above the stem d' is attached a guide strip a^5, which extends a short distance over said stem and prevents the upward movement of the valves.

To the top of the can and bearing against the inner side portion of the stem d' is a short guide strip a^6. Upon the under side portion of the valve d, is attached a thin piece of rubber $d^\times$, which closes the opening c more effectually.

To the inner portion of the side a^3 is attached at a point near the meeting sides a^3 a^4 one end of a flat spring plate E, the other end of which plate is notched at e, and which notched end extends to the top portion of valve d, and bears against the pin d^5.

In the operation of discharging the liquid from the discharge opening c, the can A is seized by the handle B and the lower end of the can raised in position at first nearly horizontal. In the movement of the lower end of the can the handle retains its position

which brings the vertical portion b^2 against the cam of valve d^4, and throws the said valve and cam in the direction of and against the side a^2, thus exposing the vent c' and also the discharge opening c. As soon as the amount of liquid has passed the opening which is required, the lower end of the can is lowered in position and the spring E acting upon the pin d^5 immediately closes the opening C, and also the vent c' automatically, as seen in dotted line Fig. 1. In the discharge of the liquid the meeting portions of the sides a' a^3 form a nose or spout which guides the flow of the liquid. Should the can be dropped accidentally from an elevated position during the discharge of the liquid the valves immediately close and check the flow, so that the outside air pressure through the vent is checked and the discharge opening closed simultaneously.

The sides of the can which extend above the top a serve to prevent the waste of the liquid and also enable the excess of liquid to be conducted back to the can through the discharge opening, the valves being retained in an open position by the hand during the period of time required.

The spring E, may be varied and a coiled spring employed between the cam valve d^4, and the side portion a^2 of the can, to close the valves if preferred.

Having fully described our invention, what we now claim as new, and desire to secure by Letters Patent, is—

1. In a can for liquids having a flat top and a discharge opening in said top near one side of said can and an air vent in the said top near the other side of said can, a spring actuated sliding plate or valve extending over the said discharge opening at one end and having an extension at the other end at right angles to the main valve extending over the air vent substantially as and for the purpose described.

2. In a can for liquids having a flat top and a discharge opening in said top near one side of said can and an air vent in said top near the other side of said can and the sides of said can extended in an upward direction above said top the combination of a sliding plate or valve extending over said opening and having an extension at right angles to the said valve extending over the air vent a pin upon said valve a guide upon the top of said can and upon one side of said sliding plate and a spring plate upon said top having a notched end bearing upon the other side of said plate and against said pin, substantially as and for the purpose described.

3. In a can for liquids the combination with the top portion, having an opening for the discharge of the liquid, and a handle of a self acting valve adapted to close said opening, and a cam on said valve actuated by said handle substantially as and for the purpose described.

4. In a can for liquids the combination with the top portion having an air vent and an opening for the discharge of the liquid and a handle of separate valves provided with a valve stem connected with each valve, and a cam upon one of said valves actuated by said handle substantially in the manner described.

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