

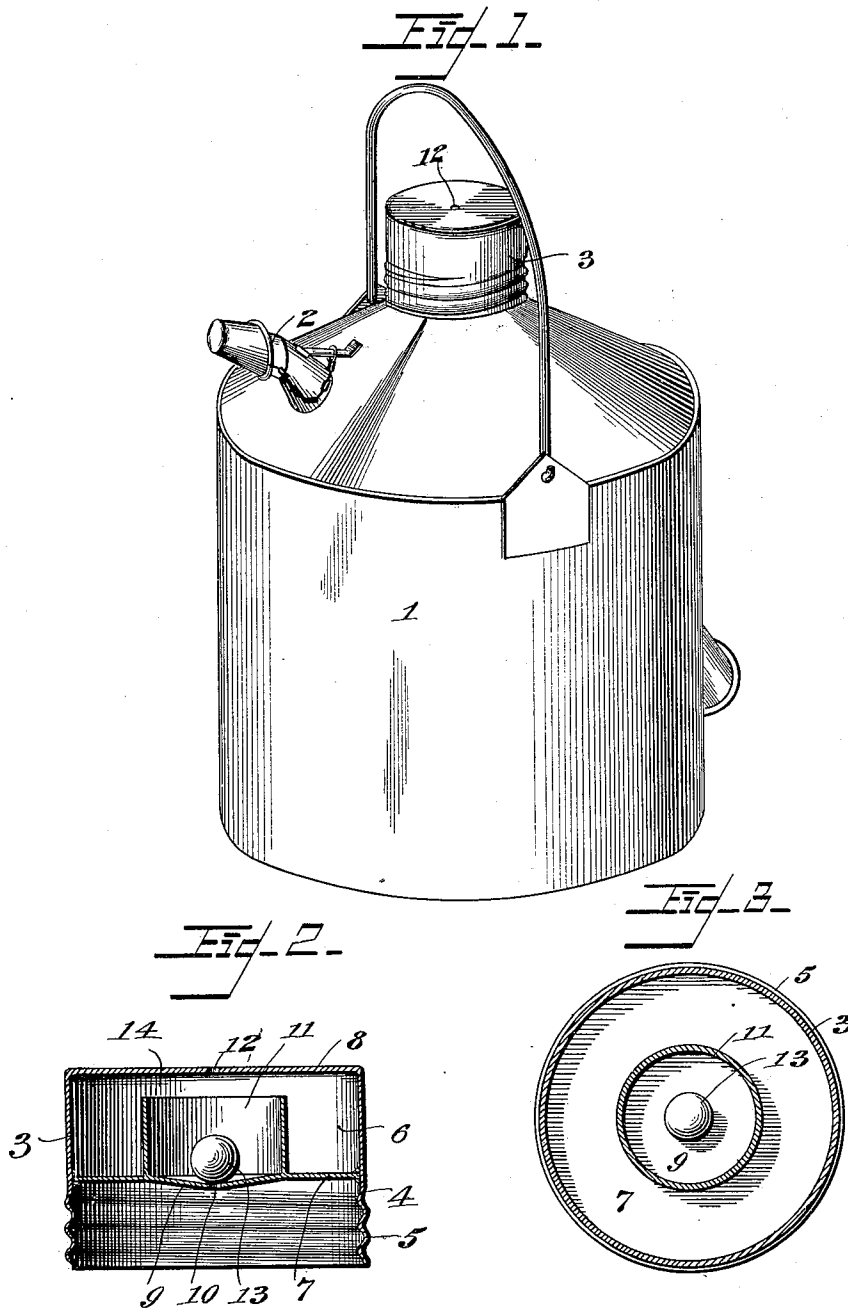
No. 635,761.

Patented Oct. 31, 1899.

J. G. EWING.
VALVE.

(Application filed July 14, 1899.)

(No Model.)



Witnesses

F. D. Ammer

By *his*

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UNITED STATES PATENT OFFICE.

JOSEPH G. EWING, OF McDONALD, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO ROBERT F. WALLACE, OF SAME PLACE.

VALVE.

SPECIFICATION forming part of Letters Patent No. 635,761, dated October 31, 1899.

Application filed July 14, 1899. Serial No. 723,858. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH G. EWING, a citizen of the United States, residing at McDonald, in the county of Washington and State of Pennsylvania, have invented a new and useful Valve, of which the following is a specification.

This invention relates to automatically-operating valves for application to oil-cans, coffee and tea pots, and other containing-receptacles; and the object of the same is to admit air to the interior of the can, pot, or receptacle body whenever the liquid therein is withdrawn therefrom and assist in giving the proper amount of ventage, and thereby facilitate pouring liquids from inclosed receptacles within the full capacity of a spout or other delivering element, and, furthermore, to preserve certain desirable qualities in different liquids or substances by excluding the air from entrance to the receptacle containing the same while in a position of rest through the automatic closing action of the valve.

The invention consists of the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of an oil-can, showing the improved valve attachment applied thereto. Fig. 2 is a transverse vertical section of the valve attachment on a larger scale. Fig. 3 is a horizontal section through the upper part of the valve attachment.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The improved valve attachment is shown applied to an oil-can to illustrate one form of application; but it will be understood that it is intended to be used and may be applied in connection with coffee and tea pots or any receptacle supplied with a cover or lid and from which the contents are adapted to be poured through a spout or delivering element and requiring air-ventage to facilitate the said pouring operation. In describing the valve the essential elements will therefore be understood as being equally well adapted for similar purposes in other devices, and that such changes as are necessary to prop-

erly attach the parts to different forms of lids or covers will be made as reside within the scope of the invention.

The numeral 1 designates the body of a containing-receptacle—in this instance represented as an oil-can having a pouring-spout 2 and a removable cap or cover 3. As common in this form of receptacle, the cap or cover 3 has a lower flange 4, constructed with a series of spiral corrugations 5 to coincide with and relatively fit corresponding threads or corrugations on the neck of the can-body or surrounding collar for the filling-opening of such receptacle.

As clearly shown in Fig. 2, the upper part of the cap or cover 3 has an air-chamber 6 formed therein by positioning a horizontal partition 7 at a distance below the top 8 of the said cap or cover. The center of the said partition 7 is formed with a depressed valve-seat 9, through the center of which is an opening 10, the said opening being at the lowest point of the depression. Surrounding the depressed seat 9 is an upstanding guard-flange 11, and in the top 8 of the cap or cover, over the central portion of the flange 11 and preferably in line with the opening 10, is a feed-aperture 12. On the seat 9 a ball-valve 13 has free movement and is formed of a yielding substance, such as rubber, to avoid rattling or noise during its operation and also more effectually serve its intended purpose. The space 14 between the upper edge of the guard-flange 11 and the adjacent portion of the top 8 is considerably less in vertical extent than the diameter of the ball-valve 13, and consequently it is therefore impossible for the said valve to become disengaged or fall without the confines of the said flange 11. This is a very advantageous arrangement in view of the fact that the cap or cover can be turned or arranged in any angle without obstructing the operation of the valve or disarranging the same, and a proper return thereof to the seat 9 is at all times assured.

By providing the air-chamber 6 a steady feed of air through the opening 10 in the valve-seat 9 will ensue, and as the unoccupied space within the can body or receptacle becomes greater as the contents are withdrawn the inflow of the air through the opening 10 will be

greater and in proportion to the increase of dimension of the said space. Hence the contents of the chamber 6 form an excess supply proportionately to the amount of air that can pass through the opening 10 within a given time, and this excess supply is continuously replenished by the inflow of air to the said chamber through the feed-aperture 12 in the top 8. By this regularity in the inflow of ventage-air the withdrawal of the contents of the receptacle through a spout or other analogous element will be steady and without fluctuation and the formation of a vacuum within the said receptacle is prevented.

In operation as the receptacle or can-body, as the case may be, is tilted to one side for the purpose of pouring the contents thereof through a spout or other device the ball-valve 13 rolls on its seat and uncovers the opening 10. As long as the can-body or receptacle is held at an angle for pouring purposes the said ball-valve will remain unseated; but as soon as the receptacle is restored to normal position the said valve will roll back over its seat and cover the said opening 10.

When the improved device is used on the lid or cover of a tea or coffee pot, the valve will prevent the escape of the aroma and other substances from the decoctions when the receptacles or pots are in positions of rest. The use of a rubber ball-valve is preferred, because it is less affected by different substances and has longer wearing qualities, and to ac-

commodate different applications the parts, including, essentially, the partition 7, flange 11, and ball 13, together with the surrounding inclosure to complete the chamber 6, may be varied in proportions, size, or minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new is—

In a device of the character set forth, the combination of an air-chamber comprising a lower portion in the form of a partition or bottom, having a depression with an opening therethrough, the said chamber being completely inclosed, above the partition or bottom and provided with an opening in the upper portion of the inclosure, a guard-flange surrounding the said seat and free of contact with the surrounding wall of the air-chamber, and a ball-valve movably bearing upon the seat, the distance between the upper edge of the guard-flange and the adjacent top portion of the inclosure being less than the diameter of the ball-valve to prevent the ball from being inoperatively dislodged from the seat.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH G. EWING.

Witnesses:

A. VALENTOUR,
L. LEHLY.