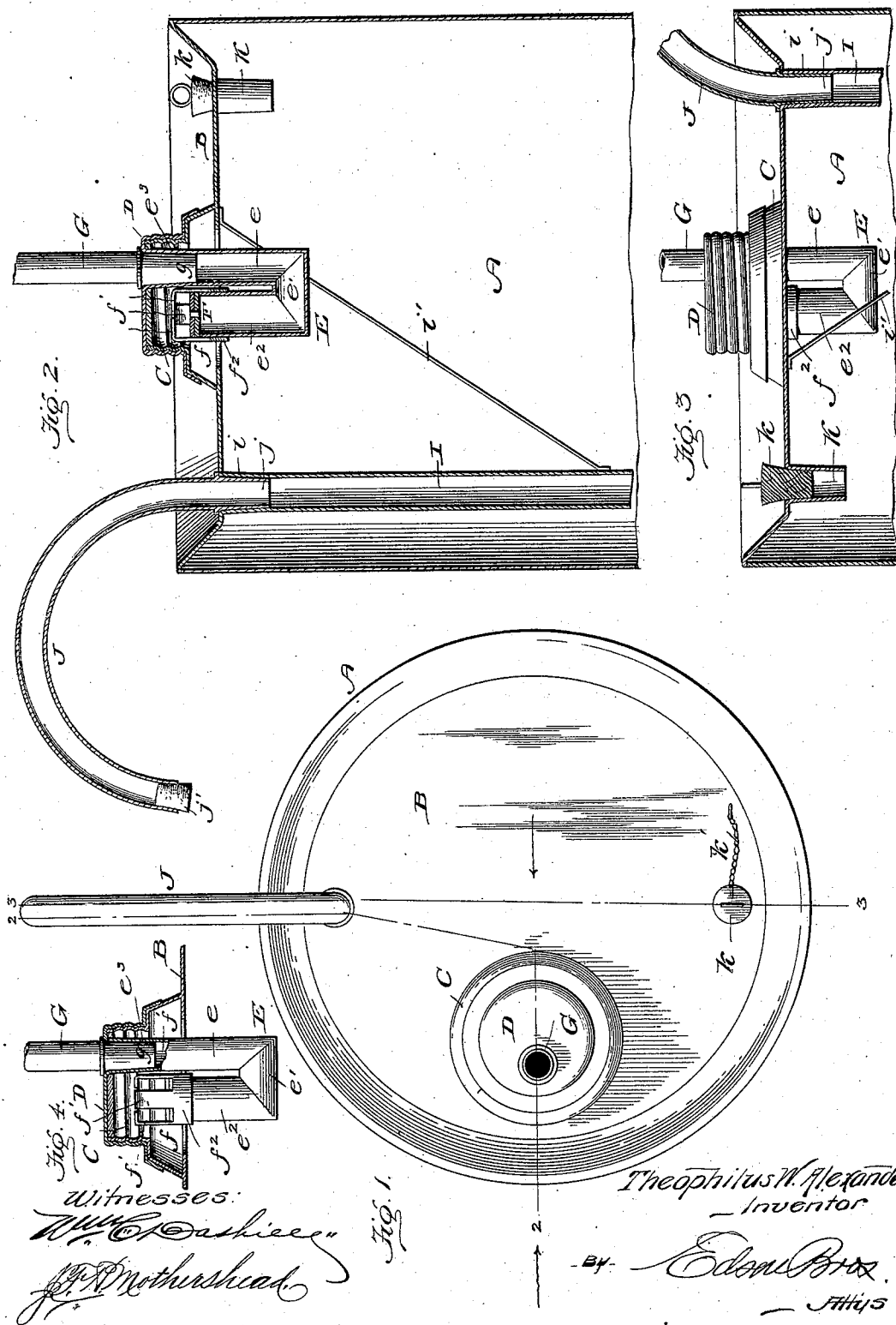


(No Model.)

T. W. ALEXANDER.
DISPENSING CAN.

No. 576,018.

Patented Jan. 26, 1897.



UNITED STATES PATENT OFFICE.

THEOPHILUS W. ALEXANDER, OF BURLINGTON, IOWA.

DISPENSING-CAN.

SPECIFICATION forming part of Letters Patent No. 576,018, dated January 26, 1897.

Application filed August 1, 1896. Serial No. 601,374. (No model.)

To all whom it may concern:

Be it known that I, THEOPHILUS W. ALEXANDER, a citizen of the United States, residing at Burlington, in the county of Des Moines and State of Iowa, have invented certain new and useful Improvements in Dispensing-Cans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in dispensing-cans especially designed for holding illuminating and heating oils and for filling lamps, stoves, &c.

The general plan of my improved can is to effect the displacement of the liquid by atmospheric pressure, which may be augmented by blowing air therein through a mouth-tube or by a compression-bulb.

The principal object of my invention is to produce a can of simple and inexpensive construction and provided with means for tightly closing all the openings in the can to prevent the evaporation of the liquid therein and to avoid the escape of fumes from the can; and a further object of the invention is to provide a novel construction of the pressure-tube which will prevent the liquid in the can from splashing into the tube, which is designed to be closed by an automatic check-valve to prevent the ingress of air, the parts being arranged and constructed to permit ready access thereto.

With these ends in view my invention consists of the novel combination of devices and in the construction and arrangement of parts, as will be hereinafter fully described and claimed.

To enable others to understand my invention, I have illustrated the preferred embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a plan view of a dispensing-can constructed in accordance with my invention. Fig. 2 and 3 are vertical sectional views on the planes indicated by the dotted lines 2 2 and 3 3, respectively, of Fig. 1. Fig. 4 is a detail view of the removable nozzle with the elbow-shaped end of the pressure-pipe attached thereto.

Like letters of reference denote correspond-

ing parts in all the figures of the drawings, referring to which—

A designates the can, and B is the head thereof. These parts may be of the usual or any preferred construction.

C is a filling-nozzle attached to the head of the can and forms a filling-opening which communicates with the storage-chamber, and through which oil, gasoline, or other liquid may be conveniently introduced into the can. This nozzle C is externally threaded, preferably after the manner of the usual nozzles in ordinary cans, and with said nozzle is engaged the cap D, which is also threaded to enable it to be screwed on the nozzle, although the cap may be connected to the nozzle by other interlocking types of devices than the one herein shown and described.

E is an elbow-shaped tube which is attached to the inner side of the cap D, and which is thus carried by said cap to enable it to be attached with the cap to the head of the can or to be removed with said cap from the can-head, so that access may be readily had to the elbow-shaped tube for the purpose of repairs, adjustment of the valve when necessary, and for cleaning the parts. This elbow-shaped tube E consists of a straight member e , a short horizontal member e' , and an upwardly-extending member e'' , although the form and style of the elbow may be varied as desired.

The member e is longer than the member e'' , and said member e is attached to the cap D, to open through the same in the form of a slightly conical or flared socket e^3 . The member e'' of the elbow does not extend up to the top of the cap, but it terminates at a point well within the lower edge of the pendent threaded flange of said cap. The upper end of the shorter member e'' of the elbow is formed or otherwise provided with a valve-seat f , on which is adapted to be snugly fitted an automatic check-valve F. This valve may be of any suitable construction and shape; but I prefer to employ the vertically-movable disk-shaped valve shown, said valve consisting of a disk of leather, cork, or other material, backed by a disk of metal united to the cork or leather disk. The valve is confined in place and guided by the fingers f' , attached to a collar f^2 , which in turn is fastened to the member e' of the elbow E, and the upper ends of the

fingers f' are bent over inwardly toward each other to arrest the upward movement of the valve and prevent its displacement.

It is evident that the valve F will automatically seat itself on the end of the elbow-tube and that the atmospheric pressure in the can will tend to force the valve to its seat, thus closing the elbow-tube against the admission of air and the escape of fumes from the can. When the operator forces air into the can through a pressure-tube G, the valve is lifted off its seat by the inflowing current of air, and the latter is free to flow into the storage-chamber of the can, so as to increase the atmospheric pressure therein and cause the liquid to flow out of the eduction-tube I.

The cap D may be readily disconnected from the filling-nozzle, and access can thus be easily had to the elbow-tube E for the purpose of cleaning the same, of adjusting the valve, or repairing any of the parts when necessary.

It will be noted that the elbow-tube lies within the vertical plane of the broad base of the cap, so that the tube easily passes into or out of the can and filling-nozzle. This elbow-tube depends a short distance only into the can, and it lies close up to the head B thereof, with its valve-discharge end projected well up into the filling-nozzle and cap, whereby the liquid is prevented from splashing up and into the elbow-tube when the can is carried around or is being used to fill a lamp, stove, &c.

The pressure-tube G which I have shown in this embodiment of my invention is designed to be used as a mouth-tube, into which the operator blows air when it is desired to displace the oil in the can and cause it to flow through the eduction-tube; but it is evident that a compression-bulb or other air-forcing appliance may be connected with said pressure-pipe for the purpose of forcing air through said pipe and the elbow E into the can A. This pressure-pipe G has its foot tapered or made slightly conical, as at g , to adapt it to fit snugly in the socket e^3 of the elbow E, so as to secure a tight joint between the parts E G and at the same time enable the pipe G to be detached at will.

The eduction-pipe I is attached to the can-head B near one side of the can, and its lower end extends through the can to terminate a short distance above the bottom thereof. The upper end of the eduction-pipe opens through the head B and terminates in a slightly-flared socket i , and said eduction-tube may be braced by an inclined strut i' , attached to the tube and the can-head.

The spout J is curved as shown, and one end thereof is slightly tapered, as at j , to enable the spout to be tightly fitted in the socket i , and thereby adapt the spout to be easily attached to or removed from the eduction-tube. The mouth of the spout may be closed by a stopper, as at j' , to prevent the ingress of air and close the can against evaporation of the liquid therein.

K is the vent-tube or nozzle, which is formed in or attached to the head B, and this vent-tube is designed to be tightly closed by a stopper k , to which is attached a chain, cord, or the like k' , fastened to the head B to prevent the stopper from being lost.

The operation may be described, briefly, as follows: To fill a lamp or stove, the spout J is introduced therein and air is forced through the pressure-pipe G. When the atmospheric pressure in the can is sufficient to overcome the inertia of the liquid, it flows through the eduction-tube and into the lamp or stove so long as the required pressure is maintained. To arrest the flow of liquid, the operator ceases to force air into the can and the check-valve reseats itself over the mouth of the elbow. The stopper K may be removed to diminish the air-pressure and arrest the flow. When the spout J is immersed in the liquid in a lamp or stove and the stopper K is removed, the liquid may be siphoned from the lamp or stove back into the can, thus preventing overflow.

It will be seen that the can is tightly closed when not in use, thus preventing evaporation of the liquid.

I am aware that changes in the form and proportion of parts and in the details of construction of the devices herein shown and described as the preferred embodiment of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such modifications as fairly fall within the scope of the invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a can, and an eduction-pipe, of a filling-nozzle, a cap attachable to said nozzle, an elbow-shaped air-tube fastened at one end to said cap and having its other end carried or extended upwardly toward the cap, retaining-fingers on the upturned end of said air-tube, an automatic check-valve confined within said fingers and adapted to seat itself on the open end of the air-tube, and an attachable pressure-pipe, substantially as described.

2. The combination with a can, and a liquid-eduction pipe, of an elbow-shaped air-pressure pipe having one arm attached to the can-head to open through the same and its other, upturned arm terminating inside of said can-head, a blowpipe fitted removably in the open end of the air-pressure pipe, retaining-fingers on the upturned end of said air-pipe, and a check-valve confined within the retaining-fingers of said air-pipe, as and for the purposes described.

In testimony whereof I affix my signature in presence of two witnesses.

THEOPHILUS W. ALEXANDER.

Witnesses:

JOS. N. KOLZ,
L. T. JONES.