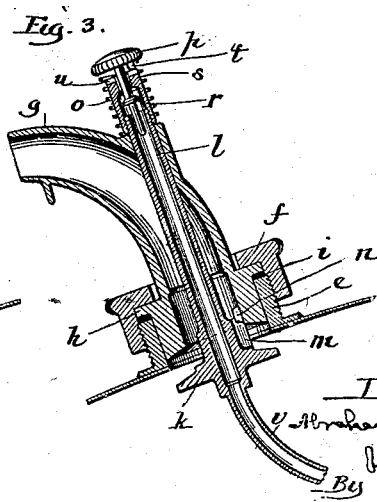
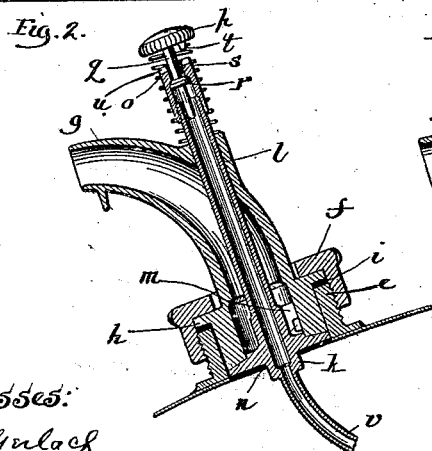
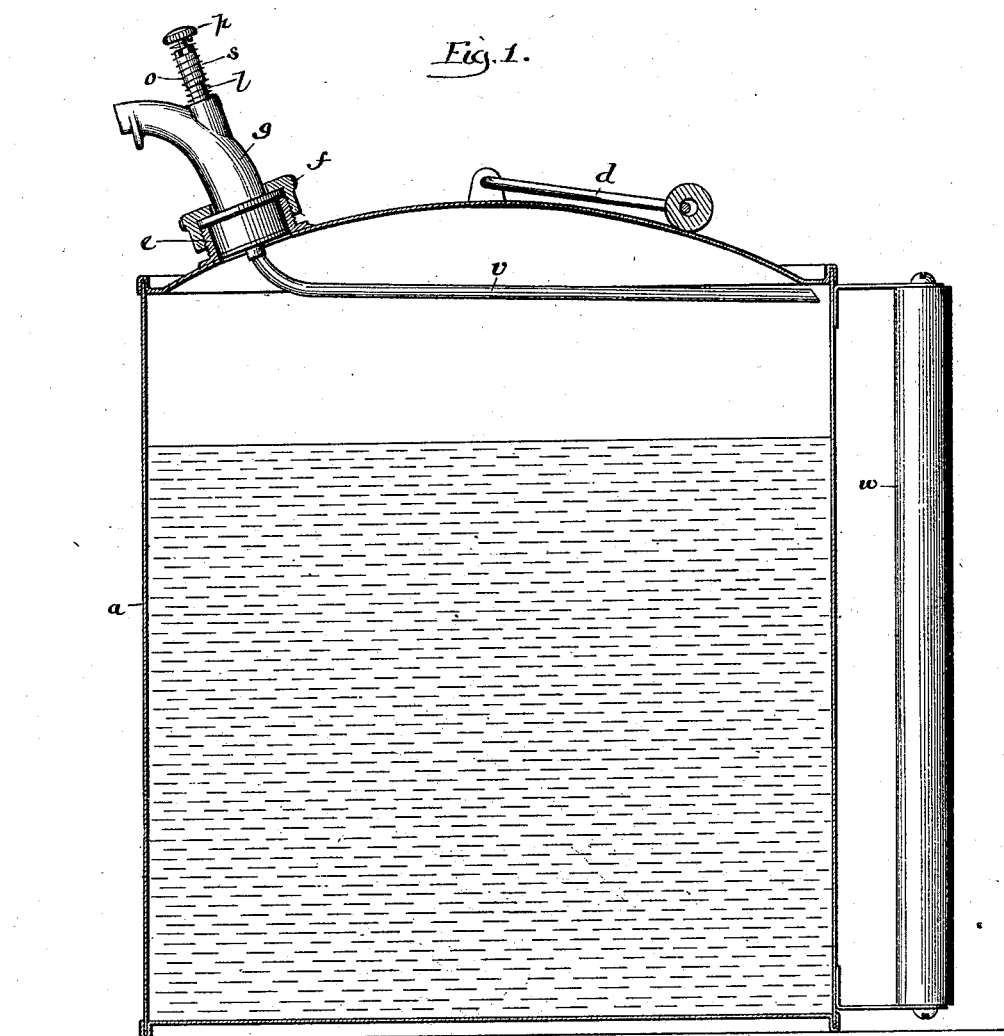


(No Model.)

A. T. H. BROWER.
VESSEL VENT.

No. 553,389.

Patented Jan. 21, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

ABRAHAM T. H. BROWER, OF CHICAGO, ILLINOIS.

VESSEL-VENT.

SPECIFICATION forming part of Letters Patent No. 553,389, dated January 21, 1896.

Application filed May 31, 1895. Serial No. 551,031. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM T. H. BROWER, a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Vessel-Vents, of which the following is hereby declared to be a full, clear, and exact description.

The invention relates to vents for controlling the discharge of liquids from vessels of various sorts, and in the form hereinafter set forth the structure is designed more especially for use in conjunction with cans employed for storing benzine, naphtha, and like inflammable liquids.

The main object in view is to admit air to the vessel at the back of the level of its contents in regular even volume according to the rapidity of discharge, by which expedient the flow becomes uniform and without regurgitation or tendency to splash or spill the escaping liquid.

The nature of the improvements will appear in detail from the description, and will thereafter be more particularly pointed out by claims at the conclusion.

In the drawings like parts bear like designation throughout.

Figure 1 is a view in longitudinal section of a can having the improved vent applied thereto. Some of the parts are shown in elevation. Figs. 2 and 3 are views in longitudinal section of the vent structure displayed in closed and open position respectively.

The familiar sheet-metal can *a* here shown has the usual carrier-bail *d* and at one side is furnished with a neck-opening *e*, to which is threaded a cap *f*. Opening *e* serves conveniently both for filling and emptying the can. Through a hole in cap *f* extends the curved outlet-nozzle *g* having a flange *h* near its base, which rests upon neck *e* and is firmly clamped thereto by the threaded cap *f*. A gasket or packing *i* closes the joint between the nozzle and can-neck, if desired.

The inner enlarged end of the nozzle *g* is reamed out to afford a snug seat for the valve *k* carried upon a tubular stem *l*, which projects above through nozzle *g* and is guided in place by the wall thereof. A slit *m* in the hub of valve *k* engages with guide-pin *n* extended within from the base of nozzle *g* to align the tubular stem *l* in its play to and fro. Coil-

spring *o* surrounds the upper part of tubular stem *l*, and at one end rests against nozzle *g* and at its opposite end beneath the headed terminal *p* of spindle *q*. The spindle *q* carries a valve-head *r* to close against a seat provided therefor in threaded extension *s* of tubular stem *l*. A nib *t* on the under side of head *p* may be thrust into engagement with notches *u* at the rim of extension *s*, and thereby unscrew at will the extension *s* from tubular stem *l*. Stem *l* can then be withdrawn from position on nozzle *g* and the nozzle itself be dismounted, if desired. Manifestly spring *o* acts in dual role and retains both stem-valve *k* and spindle-valve *r* snugly against their respective seats in position (Fig. 2) to prevent the premature escape of the liquid from the body of the vessel through nozzle or the passage in tubular stem *l*.

At its inner end tubular stem *l* carries a supplemental pipe *v* communicating therewith and having a port in remote position near the wall of vessel *a*. By grasping the stout handle *w* at the side the vessel is tipped at will, and upon pressing down the terminal button *p* against the stress of spring *o* valves *r* *k* are opened. The liquid is then free to discharge through nozzle *g*, while a fresh supply of air enters between spindle *q* and the hole at extension *s*, in which the spindle slides, and proceeds thence past valve *r*, along tubular stem *l* and pipe *v* to the back of the liquid level, thus insuring an even rapid discharge of the vessel contents. Since nozzle *g* is sustained at what is by preference the sole inlet for the can and the nozzle itself is kept closed except when the valves are manipulated, the contents of the vessel are less apt to be spilled or lost through careless handling or mischievous tampering than if another hole or extra vent were present.

Details of structure may be varied according to the skill of the mechanic without departure from the essentials of the invention.

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

1. In can-vents, the combination with the discharge nozzle having a valve-seat near its inner end, of the tubular stem sustained by said nozzle and carrying a valve to close against said nozzle seat, a supplemental spin-

dle and its air valve retained within said tubular stem and a spring engaging with the projecting terminal of said spindle to control both valve passages, substantially as described.

5 2. In can-vents, the combination with the discharge nozzle having a valve-seat near its inner end, of the tubular stem sustained by said nozzle and carrying a valve to close
10 against said nozzle seat, a supplemental spindle and its air valve retained within said tubular stem and a coil-spring located externally between the nozzle and the headed projecting terminal of said air-valve spindle, substantially as described.

15 3. The combination with the vessel and its discharge nozzle having an internal valve seat, of a reciprocating tubular stem sustained by said nozzle and provided with a valve to close against said seat, and a supplemental

spindle supported to play within said tubular 20 stem and carrying a valve head to close the tubular passage, substantially as described.

4. In can-vents, the combination with the can-neck and its inclosing cap, of the outlet 25 nozzle retained between them and having a valve-seat at its inner end, the tubular stem reciprocating in said nozzle and carrying a valve to close against the nozzle seat, and a supplemental spindle and its air valve retained within said tubular stem and a spring 30 engaging with the projecting terminal of said spindle to control both valve passages, substantially as described.

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Witnesses:

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