

UNITED STATES PATENT OFFICE.

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LAMP.

SPECIFICATION forming part of Letters Patent No. 695,985, dated March 25, 1902.

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To all whom it may concern:

Be it known that I, WILLIAM R. WILLSON, a citizen of the United States, residing at Baker City, in the county of Baker and State of Oregon, have invented certain new and useful Improvements in Lamps, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to lamps, and particularly to lamps designed for using gasoline.

It is important in the use of lamps using gasoline that the oil font or reservoir should not be completely filled with the gasoline, for when the lamp is lighted the tendency of the gasoline is to expand, and such expansion would be apt to burst the font or reservoir or would force too much gasoline to the burner, causing the lamp to smoke. It is highly advisable also to provide a vent in the font or reservoir for the escape of gas, even when the font or reservoir is but partially filled with gasoline, in order to avoid any liability to accidents of the nature above specified; and to that end my invention relates to improvements designed to prevent the font or reservoir from being filled with more than the required amount of gasoline and to provide means for insuring the opening for the escape of gas that may be generated in said font or reservoir being left uncovered at all times after the filling-opening has been closed. I accomplish these objects by means of the devices shown in the accompanying drawings and hereinafter fully described.

That which I claim as new will be pointed out in the claims.

In the drawings, Figure 1 is a vertical section through the upper portion of a lamp font or reservoir with my improvements applied thereto, the dotted lines representing the position of the parts when the cap for the filling-tube is in place. Fig. 2 is a cross-section at line 2 2 of Fig. 1; and Fig. 3 is an enlarged detail, being a cross-section at line 3 3 of Fig. 1.

Referring to said drawings, *a* indicates a font or reservoir for a gasoline-lamp, the upper portion only of such font or reservoir being shown, as that is sufficient to illustrate my improvements.

b indicates a pipe extending through the bottom of the font or reservoir, as usual, and

connected at its upper end to the upper curved wall of the font or reservoir. It is provided, as usual, near the bottom of the font or reservoir with holes, (not shown,) through which gasoline passes and is conducted to the lamp-burner.

c indicates a hook secured to the upper end of the pipe *b*, by which hook the lamp as a whole is adapted to be suspended.

The parts *a*, *b*, and *c* are all of well-known form and construction.

d indicates a tube passing through and attached to the upper curved wall of the font or reservoir *a* and extending downward into the said font or reservoir. The upper end of this tube is adapted to be closed by an ordinary screw-threaded cap *e*, having a small raised central portion forming a recess *f* in its under face, the object of which will be hereinafter stated.

g indicates a vertical rod extending through the tube *d* and pivoted at its lower end to the longer arm of a lever *h*, which lever *h*, as shown, is provided with a yoke *i*, of a width to adapt it to fit over and against the tube *b*, to which it is pivoted by a suitable pin *j*, that passes through said yoke and pipe, the yoke being of sufficient length to permit said lever to be turned sufficiently on its said pivot-pin *j*.

k indicates a cross-piece secured to the interior of the tube *d*, said cross-piece being in the construction shown in the form of a spider. (See Fig. 2.) This cross-piece is provided with a central opening, through which the rod *g* is adapted to pass.

l indicates another cross-piece, which may be in the form of a spider, like the other cross-piece referred to, or may be otherwise shaped, so long as it is not so shaped or of such size as to materially interfere with the use of the tube *d* as a filling-tube. The cross-piece *l* is rigidly secured to the rod *g*.

m indicates a coiled spring resting at its lower end on the cross-piece *k* and bearing at its upper end against the cross-piece *l* on the rod *g*.

n indicates a second vertical rod pivoted at its lower end to the shorter arm of the lever *h* and supporting at its upper end a suitable valve *o*, adapted to rest on a suitable seat *p*, which seat in the construction shown is on the flaring upper end of a short tube *q*, that

projects through the curved upper wall of the font or reservoir *a* on the side opposite to the filling-tube *d*. A winged guide *r* on the valve *o* and movable in the short tube *g* is shown and insures the retention of the rod *n* in proper position and the proper seating of the valve *o* when said rod *n* is drawn down.

When the lamp font or reservoir is to be filled, the cap *e* is removed, releasing the spring *m*, which had theretofore been compressed between the cross-pieces *k* and *l*, such release of the spring forcing up the cross-piece *l*, and with it the rod *g*, to which such cross-piece is attached. This movement of course turns the lever *h* on its pivot *j* and through the rod *n* draws the valve *o* down tightly upon its seat, where it will be held by the force exerted by the said coiled spring *m*. Gasolene is then to be poured into the font or reservoir through the tube *d*, the cross-pieces *k* and *l* being of a character not to materially interfere with such operation. Inasmuch as the vent-opening controlled by the valve *o* is effectually closed by the said valve, it will not be possible to fill the font or reservoir much higher than the lower end of the tube *d*, owing to the air in the upper end of such font or reservoir, as will be well understood. The required amount of gasolene in the font or reservoir being indicated by gasolene commencing to rise in the tube *d*, the flow through such tube is to be shut off and the covering-cap *e* screwed into place. In screwing this covering-cap into place the upper end of the rod *g* is contacted by such cap and the rod is forced down as the cap is moved into place. This operation of course turns the lever *h* and the parts connected therewith, the valve *o* being raised from its seat, as indicated in dotted lines. The recess *f* in the cap *e* furnishes a bearing for the end of the rod *g* and aids in holding such rod against twisting or bending while being forced down, the cross-pieces *k* and *l* also acting to support such rod in proper position at all times. With the vent-opening that is controlled by the valve *o* open at all times when the filling-tube *d* is closed the lamp can be lighted and used without any danger of an explosion from confined gas in the font or reservoir or without liability of the lamp smoking by reason of gasolene in undue quantity being forced to the burner in consequence of too-great pressure on the gasolene in said font or reservoir. It is evident also that the valve *o* will also be always forced to its seat when the filling-tube cap *e* is removed for filling the font or reservoir, and that therefore by reason of the con-

fined air in the upper part of said font or reservoir gasolene cannot be poured in so as to fill the font or reservoir to the top.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with the font or reservoir of a lamp, of a filling-tube extending down into the interior of said font or reservoir, a removable cover for said tube, an opening in said font or reservoir for the escape of gas, a valve for said opening, and means operated through the securing of said cover in place to open said valve, substantially as specified.

2. The combination with the font or reservoir of a lamp, of a filling-tube extending down into the interior of said font or reservoir, a removable cover for said tube, an opening in said font or reservoir for the escape of gas, a valve for said opening, and means operated through the securing of said cover in place to open said valve and hold it open until the removal of said cover, substantially as specified.

3. The combination with the font or reservoir of a lamp, of a filling-tube extending down into the interior thereof, a removable cover for said tube, an opening in said font or reservoir for the escape of gas, a valve for said opening, a pivoted lever in said font or reservoir, a rod connecting said valve with one end of said lever, a second rod connected to the opposite end of said lever and projecting up into said filling-tube, and a spring acting on said last-named rod to force it upward, substantially as specified.

4. The combination with a font or reservoir of a lamp, said font provided with an opening, of a pipe *b* extending through the said font for supporting the lamp, the filling-tube *d* depending into said font and suitably connected thereto, the cover *e* for said tube, the lever *h* provided with a yoke *i* adapted to surround said pipe *b* and be pivotally attached thereto, the valve *o* for closing the said opening, the rod *n* connected at one end to the said lever and at its opposite end to said valve for operating the latter, thereby closing the said opening, the rod *g* connected to the opposite end of said lever and extending upwardly in the said tube, and the spring *m* arranged in said tube and adapted to force the said rod *g* upwardly, substantially as specified.

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Witnesses:

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