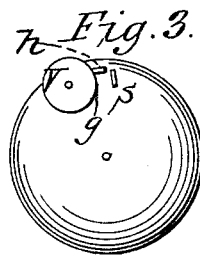
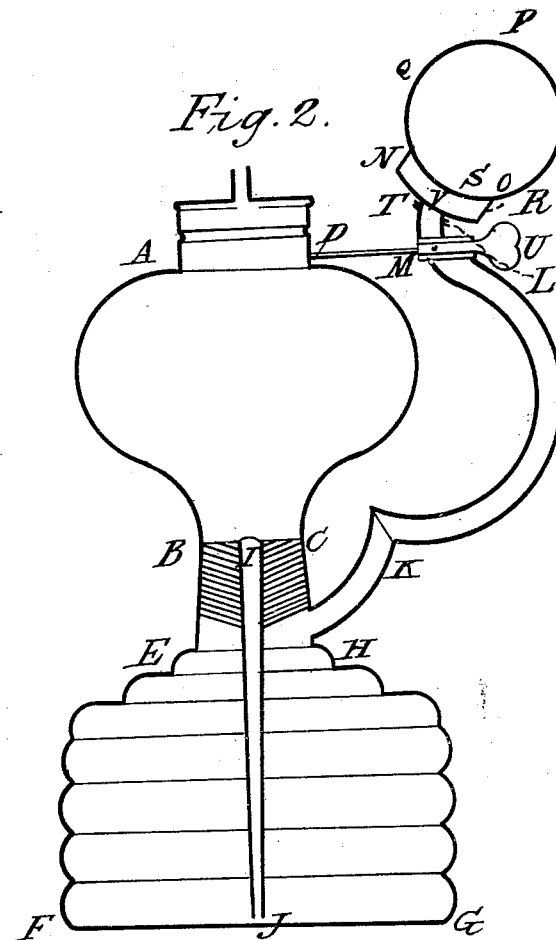
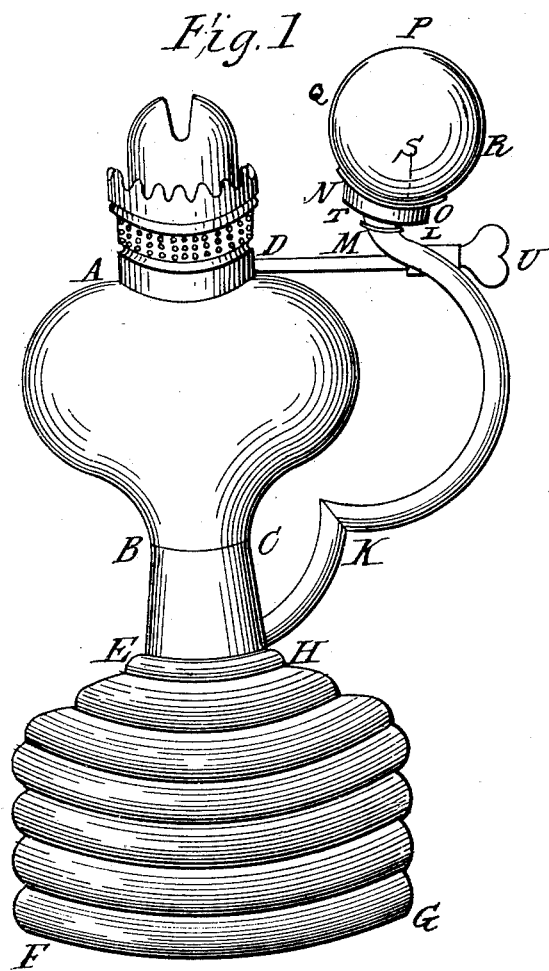


J. P. DRIVER.

Lamp.

No. 49,613.

Patented Aug. 29, 1865.



Witnesses:

J. J. Bagshaw.
H. M. Martin.

Inventor:

John P. Driver

UNITED STATES PATENT OFFICE.

JOHN P. DRIVER, OF MARENGO, IOWA.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 49,613, dated August 29, 1865.

To all whom it may concern:

Be it known that I, JOHN P. DRIVER, of Marengo, in the county of Iowa and State of Iowa, have invented a new and Improved Lamp; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section. Fig. 3 is a perspective view of the india-rubber ball with its slit and flap-valve.

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

The nature of my invention consists in making the base or bottom of a lamp hollow, so that it shall form an air-tight vessel of sufficient capacity to hold any desired quantity of oil or fluids. Said vessel is to serve the double purpose of a bottom to the lamp and a reservoir, from which the lamp above it can be replenished with oil through a supply-pipe extending downward from the bottom of the lamp-fount into and near the bottom of the reservoir.

It also consists in a thumb-bellows, or an elastic india-rubber ball with a certain aperture in the top and a slit with an elastic flap-valve over it on the under side. This elastic ball is fastened to the top end of a certain air-pipe, which connects with the reservoir, for the purpose of injecting air into said reservoir by means of the said elastic ball, and thereby force the oil from the reservoir through the supply-pipe up into the lamp-fount.

To enable others to make and use my invention, I will proceed to describe its construction and operation, to wit:

A B C D is the lamp-fount, which may be made in any of the known styles or forms now used in kerosene, camphene, and oil lamps, and can be furnished with any kind of a burner that best suits the fluid used for light.

E F G H is the reservoir and base or bottom of the lamp, and should be of larger diameter than the fount A B C D above it, in order that the lamp may stand steady and not fall over. The said reservoir E F G H may be constructed in any convenient form or style that will best answer for a bottom to the lamp, and have sufficient capacity to hold any desired quantity of oil or fluids. It may also be made, in con-

nection with the fount, from glass, bronze, tin, or any of the substances used in the manufacture of lamps; or the fount and reservoir may be molded or otherwise made separate and joined by a stem and metallic band, B E H C, and plaster-of-paris or some other cement.

The fount A B C D and the reservoir or base E F G H are two separate vessels, and have no communication with each other except through the supply-pipe I J, the upper end of which is ground and fitted air-tight in the stem or space separating the fount and reservoir, so that the air, when forced into the reservoir by means of the elastic ball P Q R S and the air-pipe L K H, may not escape out of the reservoir into the fount above it. The said supply-pipe I J in Fig. 2 extends from the bottom of the fount A B C D downward through the center of the reservoir E F G H to within about the one-sixteenth of an inch above the bottom of said reservoir.

P Q S R is the thumb-bellows or elastic india-rubber ball, from one to two inches in diameter, more or less, with a small round aperture on the top of it, at P, for the admission of air into the ball, and a clear straight slit about the one-eighth of an inch in length cut in opposite side, at S, for the air to pass out of said ball into the air-pipe when there is a pressure put on the upper side of the ball. The elasticity of the india-rubber ball will, as soon as the pressure is removed from the ball and it returns to its natural shape, contract and close the said slit S perfectly air-tight, so that the air, when once forced through said ball into the reservoir, cannot return, but must remain compressed upon the surface of the oil or other liquid within the aforesaid reservoir. But in case that the slit S in the ball aforesaid should, from any cause, fail to be perfectly air-tight, there is an elastic concave india-rubber flap-valve, V, closely fitted on the outside of the said ball and directly over the said slit, which may, if necessary, have a spiral or other spring under it to hold it tightly against the said ball and over the slit. The flap-valve V is hinged or fastened to the ball at *h g* in Fig. 3, where it is represented as thrown back from the slit it is supposed to cover air-tight. The said thumb bellows or ball P Q S R is constructed from india-rubber, or any elastic substance which shall always retain elastic power to resume its rotundity or original given shape when pressed out of it, and draw the sides of

the slit S close together and make it (the said slit) air-tight.

N O is a small air-chamber, to which the elastic ball is tightly cemented or otherwise fastened air-tight, and in which the flap-valve V works. There may be a metallic valve in this air-chamber that shall work air-tight, in which case the slit and flap-valve can be dispensed with and a small round aperture substituted for the slit.

L K H is an air-pipe leading from the india-rubber ball, or from about opposite the collar or burner of the lamp, down into the top of the reservoir E F G H. It may, like the supply-pipe I J, be of the same material as the body of the lamp, and is curved to answer the purpose of a handle to the lamp, as well as an air-pipe.

D M is a stay or support to hold the air-pipe and its appendage of ball and air-chamber to their proper place.

T L is a screw where the rubber ball P Q S R is screwed air-tight to the handle or air-tube L K H.

The operation of the invention is as follows, to wit: The thumb-bellows or india-rubber ball P Q S R, with the air-chamber N O, is screwed off from the air-pipe L K H at the joint T L. When the ball, &c., is taken off the air can escape out of the reservoir E F G H through the said air-pipe L K H. The oil or inflammable liquid designed to be used is then poured into the fount A B C D in the ordinary way of filling lamps. It then passes down through the supply-pipe I J into the reservoir E F G H and fills the said reservoir, the air in the reservoir passing out of the air-pipe as fast as the fluid is admitted through the supply-pipe. When both the fount A B C D and the reservoir E F G H are full the elastic ball is again screwed tightly on the air-pipe. As the oil or liquid burns down in the fount A B C D it can be replenished from the reservoir E F G H by placing the ball of the thumb tightly over the aperture in the top of the india-rubber ball and pressing said ball down, which forces the air in the ball aforesaid down through the air-pipe L K H into the top of the reservoir, where it cannot escape, and by virtue of its compression thereon the surface of the oil forces the oil up the supply-pipe into the fount aforescribed. All the oil or fluid in the reservoir can thus be forced into the fount above it till the surface

of the oil comes down to the lower end of the supply-pipe. The air, being unable to escape from the reservoir, will hold the oil in the fount. By this means the oil can be kept up in the fount near the flame, and consequently give a much steadier and more brilliant light. In addition to this advantage, the lamp need not be filled with oil every morning, for as the reservoir E F G H can be made, with no inconvenience to the lamp, to hold from a pint upward to any desired quantity, and thus a lamp may go a full week or more without being filled afresh from the oil-can.

I do not confine myself to a round thumb-bellows, as represented; but in lieu thereof an oval one fitted with the necessary valves, to be pressed or grasped by the hand, may be used, or an india-rubber tube with a mouth-piece, and an air-tight screw or clamp for, or any other substantial equivalent.

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

1. The base E F G H, made hollow and air-tight, as an oil-reservoir.

2. The supply-pipe I J, for the double purpose of letting the oil into the reservoir and also of transmitting it to the lamp-fountain A B C D.

3. The thumb bellows P Q R S, of india-rubber, with the aperture P, the slit S, elastic flap V, with a spiral spring to strengthen said flap in place or not, as may be best, and the air-chamber N O, as set forth.

4. The hollow handle L K H, to answer the double purpose of a handle and an air-pipe to transmit the air from the bellows to the reservoir. In lieu of said thumb-bellows an ordinary short india-rubber tube with a mouth-piece may be used to force the air into the reservoir.

5. The combination of the fount A B C D, the reservoir E F G H, the supply-pipe I J, the elastic india-rubber ball P Q S R, with the aperture P, the slit S, and the valve V, the air-chamber N O, with a spiral spring to hold said valve in its place, or other equivalents, the air-pipe L K H connecting with the reservoir E F G H, the support D M, the whole arranged and operating substantially as herein specified.

JOHN P. DRIVER.

Witnesses:

HELEN CRANDALL,
THOS. CHADWICK.