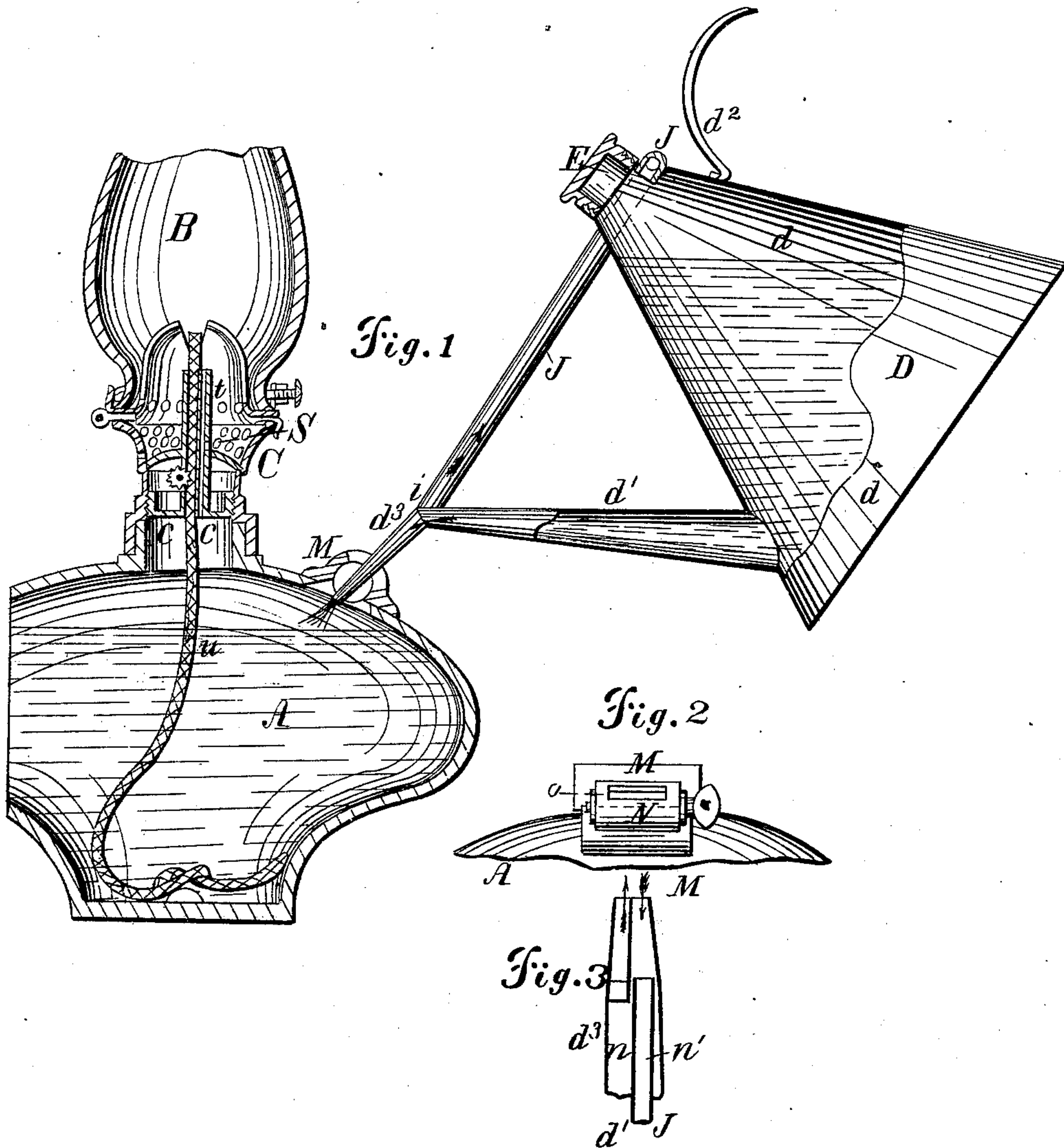


T. P. GIBBONS.

Lamp.

No. 82,219.

Patented Sept. 15, 1868.



Witnesses:

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T. P. GIBBONS, OF BALTIMORE, MARYLAND.

Letters Patent No. 82,219, dated September 15, 1868.

IMPROVEMENT IN LAMP-FEEDERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, T. P. GIBBONS, of the city and county of Baltimore, and State of Maryland, have invented a new and improved Lamp and Feeder; 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section through the centre of the lamp, showing the feeder partly in section.

Figure 2 is a front view of the feeding-port of the lamp.

Figure 3 is a longitudinal section of the nozzle of the feeder.

The object of this invention is to provide a cheap and convenient device by which lighted lamps can be filled at any time with perfect safety.

The great danger which attends the filling of a lighted lamp with kerosene, or any other volatile hydrocarbon, arises from the fact that the upper portion of the body of the lamp is at times filled with an explosive gas, which is expelled by the fluid poured into the lamp, and comes in contact with the flame, forming a medium by which it is conducted to liquid in the lamp, which causes an explosion. There is, of course, no way to avoid this danger except by withdrawing the gas from the interior of the lamp, and conducting it away to a safe place, either before or at the time of filling the lamp.

By my improved lamp-feeder, the gas is withdrawn from the lamp during the process of filling the latter, and in exact proportion to the amount of oil or hydrocarbon fed to the lamp. The gas thus withdrawn is conducted to the feeder, and confined there, in the upper part of the can, above the liquid contents thereof.

Such being the principle upon which my invention operates, I will now proceed to describe its construction, reference being made to the drawings, in which—

A represents the body of the lamp, B being the lamp-chimney, and C the burner, and attachment for connecting the chimney to the lamp-body. This connecting-attachment is provided with an air-tight and water-tight floor, *c*, which extends across the neck of the lamp, effectually preventing any of the gas or fluid from passing from the lamp up to the burner, except so much of the fluid as is drawn up through the wick *w*, and except so much of the gas as may pass up through a small tube, *t*, alongside of the wick-tube, arranged so as to discharge the current that passes through it directly into the flame of the lamp. The tube *t* is provided with an aperture, *s*, on its side, through which air can pass into it, and mingle with the gas that is rising through it, thereby preparing such gas for burning better at the top of the tube. By this means, the explosive gases engendered within the lamp are completely utilized as they escape, adding to the illuminating-power of the lamp, without endangering its safety in the slightest degree.

The body of the lamp is tapped on one side, near the neck that supports the chimney, and a plate, M, is inserted, and properly luted or packed. The object of this plate is to support a cock, N, similar to a common gas-cock, which, being turned in one direction, will open a passage into the lamp, and, in the other, will close said passage air-tight.

In connection with this apparatus, I employ a can or lamp-feeder, D, composed of a body, *d*, spout, *d'*, and handle *d''*, similar in general construction to an ordinary oil-can. The nozzle *d'''* is, however, made of such a shape as to accurately fit into the passage, through the cock N, and is made tapering from the angle *i* to the end, in order that it may be inserted so as to form, under all circumstances, an air-tight joint between it and the cock.

From the rear side of the can, directly below the cap or cover E, a pipe or tube, J, extends around to the front side of the can, and thence across to the nozzle *d'''*, with which it unites, forming a part thereof. The outside shape of the nozzle is not affected by the junction of the pipe with it, but the interior of the nozzle is thereby divided into two passages, one, *n*, leading from the lower end of the oil-can to the orifice of the nozzle, and the other, *n'*, leading from the upper end of the oil-can, through the pipe J, to said orifice. When the nozzle is inserted through or into the cock N, and the oil is poured from the can to the lamp, the oil will flow

through the passage n , and, as fast as the oil leaves the interior of the can, its place will be supplied with gas drawn from the body of the lamp through the passage n' . By this means, the gas displaced from the upper part of the lamp-globe will be forced through the tube J into the upper part of the can D , and will there take the place of the oil discharged from the can into the lamp. Two forces operate to effect this result: the one, the force of the fluid filling the lamp and expelling the gas therefrom, and the other, the force of "atmospheric pressure" endeavoring to supply the partial vacuum that would form in the can by the discharge of the oil therefrom. The latter force, it will be observed, commences to act the moment the fluid begins to run from the body of the can towards the nozzle.

By tipping the can, after the operator has inserted the nozzle into the aperture of the cock N , the gas is not forced out of the nozzle, so as to endanger the safety of the can itself, but the air is actually drawn into the end of the nozzle, preventing entirely the escape of gas, and rendering the apparatus perfectly safe from explosion.

In order to close both passages of the nozzle, a tight cap, G , is slipped over it when not in use.

Having thus described my invention, I do not broadly claim a can having a tube extending from the nozzle to the upper part of the can, for such a tube may be constructed and applied, as shown in the patent of R. Cornelius, dated April 6, 1843, for the purpose of preventing the oil in the lamp from rising above a certain point, the tube being so shaped and applied as to conduct the oil back to the can when it rises in the lamp above that point. In my invention, in consequence of shaping the tube as described, and of conducting it around to the back of the can, it is impossible that any of the oil should pass through the tube, either to the can from the lamp, or to the lamp from the can, during the operation of filling the lamp, but however high the oil may rise in the lamp, it is designed that the tube shall always be open, to give a free escape to the gas, as hereinabove set forth. I do not claim any kind of lamp-filler, whether constructed with two tubes or otherwise, that operates in any other manner than that to which I herein limit my invention; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. The lamp-feeder D , when constructed with the tube J extending from the end of the nozzle around to the rear side of the body of the can, near its top, and thence through the wall of the can into its interior, and operating substantially as described.

2. The combination of the cock N , having the orifice o , with the nozzle d^3 , having the two passages n n' , by which, at the same time that the liquid is delivered from the can D to the lamp A , the gas in the latter is conveyed to the upper part of the can, without escaping around the nozzle, and in the manner described.

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Witnesses:

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