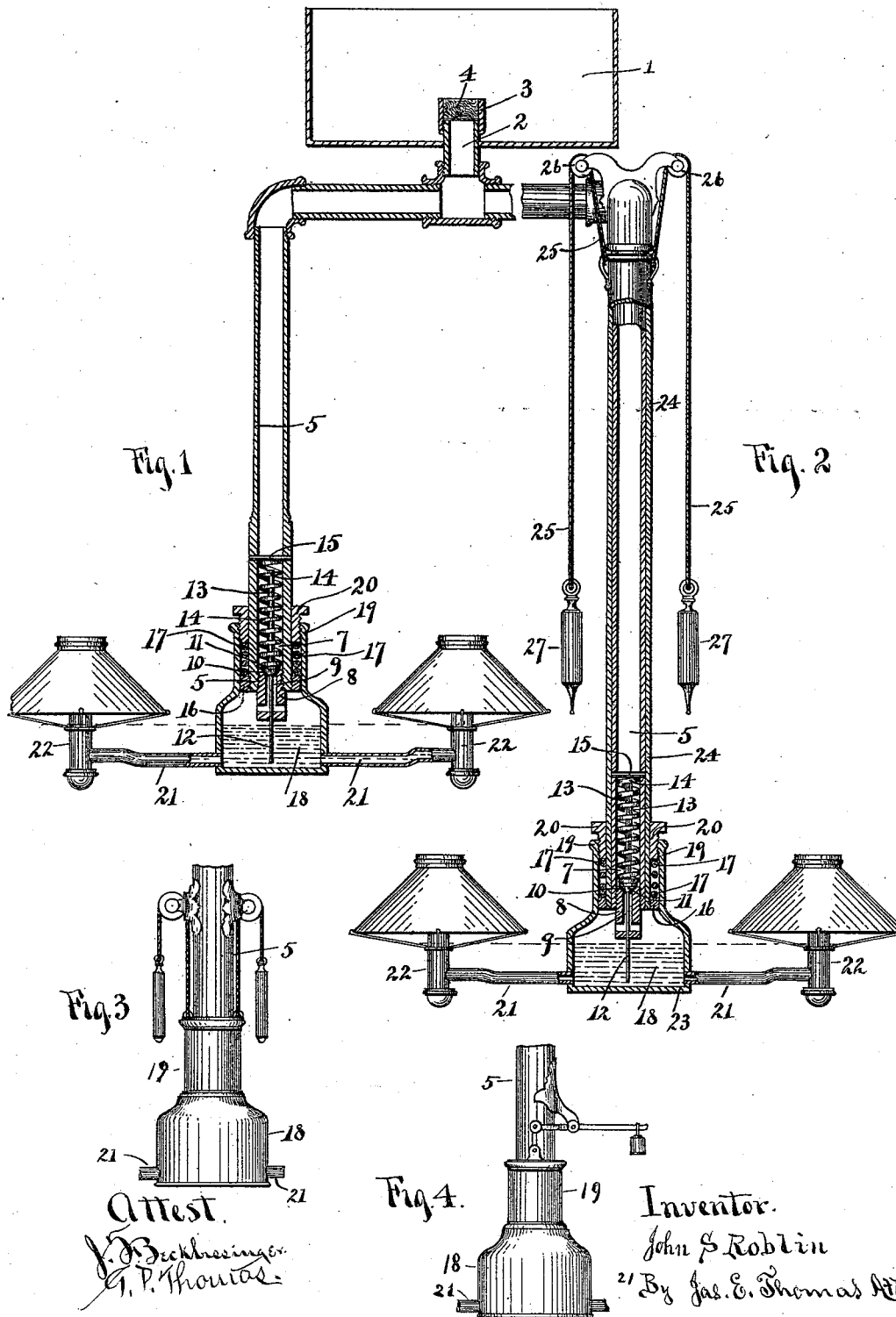


(No Model.)

J. S. ROBLIN.
APPARATUS FOR LIGHTING BUILDINGS.

No. 527,005.

Patented Oct. 2, 1894.



UNITED STATES PATENT OFFICE.

JOHN STANLEY ROBLIN, OF WEST BAY CITY, MICHIGAN.

APPARATUS FOR LIGHTING BUILDINGS.

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To all whom it may concern:

Be it known that I, JOHN STANLEY ROBLIN, a citizen of the United States, residing at West Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Apparatus for Lighting Buildings, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in apparatus for lighting buildings with oil, and pertains more especially to that class of lighting apparatus in which a reservoir for the oil is used in connection with pipes leading therefrom to different lamps throughout the building; and the invention consists in the arrangement and combination of the several parts or elements used in the construction of the apparatus and in the action and operation of the same, as I shall hereinafter fully describe and which will also be mentioned and pointed out in the claims of this specification.

In the accompanying drawings my invention will be found illustrated.

Figure 1, represents a vertical section of my improved apparatus. Fig. 2, is the same arranged for lowering the lamps for trimming, &c. Figs. 3 and 4, are modified forms of a portion of Fig. 1, in elevation, and detached.

1, represents a tank for containing a supply of oil, and this tank is located in an elevated position at any convenient height above the devices for burning the oil.

2, is a supply pipe with its upper end connected with the tank and is preferably extended into the tank to a short distance above the bottom and is provided with a straining cup 3, containing cotton or other fibrous material 4, for retaining any particles of dust, &c., contained in the oil. From the tank this pipe is led to any convenient point in a building, and is arranged preferably so that its lower end portions 5, depend from the ceiling of the room to be lighted to a suitable distance and its lower end opening 7, is provided with a plug 8, containing a central opening 9, and also a valve seat 10, on its upper end within the pipe.

Upon the valve seat 10, is arranged a valve 11, provided with a downwardly extending operating pin 12, passing through the open-

ing 9, and projecting below the plug, and has also an upwardly projecting guide pin 13, around which a spring 14, is coiled and above the spring a pin 15, is passed through the pipe and serves to retain the spring in contact with the valve for quickly closing and for retaining the same upon its seat with firmness and reliability.

Around the lower end of the supply pipe is arranged a collar 16, and above this collar and with its lower end resting on the same is a coiled spring 17.

18, is a lamp reservoir, and is provided on its upper portion with an upwardly projecting neck 19, which extends over the lower end of the supply pipe and reaches over the spring, and 20, is a collar loosely surrounding the supply pipe and has its outer periphery provided with a screw thread which is passed into the upper threaded end of the neck 19, so that its lower end rests upon the upper end of the spring 17, for adjusting the spring to the required tension for a purpose to be presently explained.

Connected with the lower portion of the reservoir 18, are one or more laterally extending feed pipes 21, upon the outer end of which are secured in any convenient manner, the lamps 22, of any common or desirable form containing a wick, burner or chimney in the usual form.

The collar 20, is turned to lift the reservoir and lamps, and also the contents of the reservoir when partially filled, to a position to bring the bottom 23, of the reservoir nearly to contact with the lower end of the operating pin 12, and the lamps then being lighted, the oil in the reservoir flows thereto and is consumed until the weight of the contents of the reservoir is reduced sufficiently to allow the spring 17, to lift the reservoir, to bring its bottom 23, in contact with the operating pin 12, and move the valve from its seat. The oil from the supply tank then flows through the pipe, and replenishes the contents of the reservoir until its weight is sufficient to move the same downwardly when the valve again closes and the consumption of oil again reduces the weight of the contents in the reservoir and the valve is again operated the main level of the contents of the reservoir being thereby maintained by an automati-

action, the tendency of the action being that, when the lights are burning and the tension of the spring 17, is properly adjusted, the reservoir is held to a position to allow the required flow of oil through the valve without perceptible variation, and as soon as the lights are shut off the oil flows into the reservoir until its contents are of sufficient weight to move the reservoir away from the pin and the valve then closing, retains the oil above the valve until the lamps are again lighted.

It will be noticed that the reservoir 18, and also the supply tank 1, are both open to atmospheric pressure, and as regards the supply tank its location and height is a matter of convenience as the valve automatically operated by the variation of the weight of the contents of the lamp reservoir, efficiently and positively controls the supply of oil to the reservoir.

As shown in Fig. 2, the portion 5, of the supply pipe is provided with an outer casing or covering tube 24, and this casing tube is held in position by cords 25, passed over pulleys 26, carried by the ceiling or other permanent support, one end of the cords being secured to the casing while balancing weights 27, are secured to the opposite ends. With this construction the collar 16, is secured upon the lower end of the casing tube and the spring 17, rests on the collar, and the reservoir and the screw collar 20, is then arranged to operate in the same manner as before described, the casing tube being held firmly in position by the weights, the operation of the reservoir upon the guide pin for regulating the oil supply operating in the same manner as before described, and by this construction the reservoir can be lowered for trimming and lighting the lamps, the tube 24, passing downwardly over the portion 5, with the weights moving upwardly, the valve of course being closed so that no oil can pass out until the casing tube is again moved up to its normal position.

Of course it will be understood that the most important feature of the invention is the means for automatically operating the valve to provide a proper oil supply for the reservoir, and it will be understood that while I have described and illustrated a spring for sustaining the reservoir and its contents in proper position in relation to the valve, other means however can be used and produce the same effect, and in Fig. 3, cords, pulleys and weights are used, while with Fig. 4, a weighted lever is shown for the same purpose, so that I do not therefore limit my invention to the precise construction and means herein described and shown for accomplishing this purpose, and wish it understood that while I have illustrated and described a spring for holding the valve upon its seat, I am well aware that this spring is not altogether required, as the weight and action of the downwardly moving oil in contact with the valve has substantially the same effect, and the

spring is added as an additional means of securing a positive action of the valve against liability of sticking and allowing a leak to occur.

Having described my invention, what I claim is—

1. The combination of the lamp reservoir, the superimposed supply tank, a supply pipe leading from the tank and extending into said reservoir and provided with an upwardly facing valve seat, a valve upon the seat and provided with a guide pin extending below the pipe and in proximity to the bottom of said reservoir, and means for automatically lifting the reservoir to open the valve when the contents of the reservoir are reduced, and for lowering the same when the contents are replenished, substantially as set forth.

2. The combination of the lamp reservoir, the superimposed supply tank, a supply pipe leading from the tank and extending into the reservoir and provided on its lower end with an upwardly facing valve seat, a valve upon the seat and provided with an operating pin extending below the end of the pipe, and means as a spring for supporting the reservoir and for automatically moving the reservoir to contact with the end of said guide pin to lift the valve when the oil supply is diminished, substantially as described.

3. The combination of a lamp reservoir, a supply tank above the reservoir, a supply pipe leading from the tank and with its vertical lower end passed into the reservoir, and provided with an upwardly facing valve seat, a valve upon the seat and provided with a downwardly extending operating pin reaching below the end of the pipe, a spring for lifting the reservoir to contact with the pin for opening the valve, and for permitting a downward movement of the same when the reservoir has received its oil supply, substantially as set forth.

4. The combination of the superimposed open tank, a supply pipe leading from the tank and provided with a vertical lower portion having on its end an upwardly facing valve seat and a valve upon the seat and provided with an operating pin extending below the end of the pipe, with a lamp reservoir having its bottom in proximity to said operating pin and having on its upper portion an open neck passed over the end of the supply pipe, a spring carried by the supply pipe for supporting the reservoir and means for adjusting the spring, for the purpose set forth substantially as described.

5. In an apparatus of the class described, the combination with an elevated tank and a depending supply tube provided with a valve for regulating the flow of oil therethrough, of a lamp reservoir loosely supported on the supply tube and arranged to automatically open the valve as the supply of oil in said reservoir is reduced, substantially as described.

6. In an apparatus of the class described,

the combination with an elevated tank and depending supply tube provided with a valve for regulating the flow of oil therethrough, of a lamp reservoir loosely supported on said tube, and means for automatically moving the reservoir on the tube and opening the valve thereof as the supply of oil in said reservoir is reduced, substantially as described.

7. The combination with an elevated tank and depending supply tube provided with an internal valve having a stem which projects beyond the lower end of the supply tube, of a lamp reservoir loosely supported on said tube near the lower end thereof and communicating therewith, and means for automatically moving said reservoir longitudinally on the supply tube and into contact with the depending valve stem as the supply of oil in said reservoir is reduced, substantially as and for the purpose described.

8. The combination with an elevated tank and depending supply tube provided at its lower end with an annular flange or collar, 16, of a lamp reservoir fitted around the lower end of the supply tube and having its upper end closed, a valve arranged within the supply tube and provided with an operating pin that

extends into the lamp reservoir, and a coil spring fitted around the tube between the collar 16 thereon and the upper end of the lamp reservoir and adapted to move the reservoir longitudinally of the tube to open the valve therein as the supply of oil in said reservoir is reduced, substantially as described.

9. The combination with an elevated tank and a depending supply tube, of a casing or shell, 24, fitted loosely on the tube and adapted to move longitudinally thereof, a lamp reservoir carried by the casing 24 and communicating with the supply tube, a valve arranged within the supply tube and provided with an operating pin that extends into the lamp reservoir, and means attached to the casing 24 for automatically moving the same and the reservoir supported thereby longitudinally of the supply tube, to open the valve therein, as the supply of oil in said reservoir is reduced, substantially as described.

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

JOHN STANLEY ROBLIN.

Witnesses:

JAS. E. THOMAS,
T. FLUES.