

F. C. WIREMAN.
Lamp-Extinguishers.

No. 142,067.

Patented August 19, 1873.

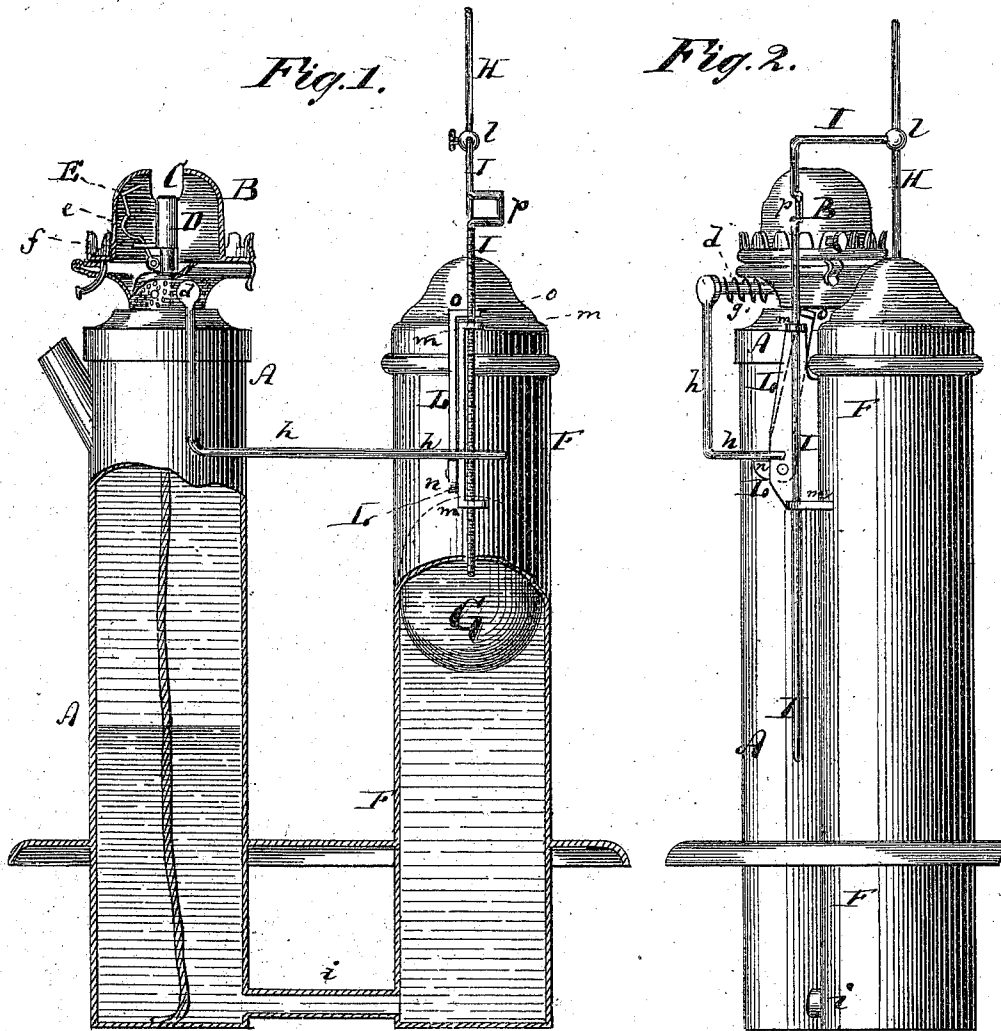
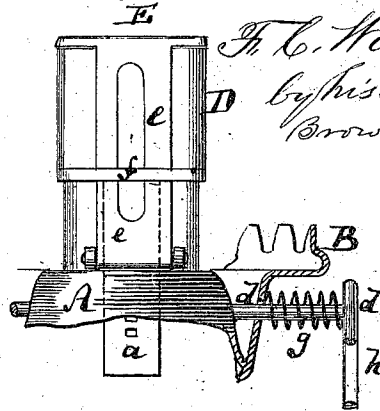
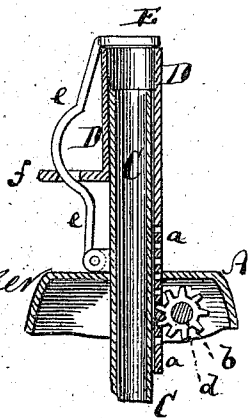


Fig. 3.

Fig. 4.



Witnesses
John Becker
Fred Haynes

F. C. Wireman
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

FRANKLIN C. WIREMAN, OF NEW YORK, N. Y.

IMPROVEMENT IN LAMP-EXTINGUISHERS.

Specification forming part of Letters Patent No. 142,067, dated August 19, 1873; application filed June 25, 1873.

To all whom it may concern:

Be it known that I, FRANKLIN C. WIREMAN, of the city, county, and State of New York, have invented an Improved Self-Extinguishing Lamp, of which the following is a specification:

Figure 1 is a side view, partly in section, of my improved self-extinguishing lamp. Fig. 2 is an end elevation thereof; Fig. 3, a vertical section on an enlarged scale through the wick-tube; Fig. 4, a side view, partly in section, on an enlarged scale, of the wick-tube.

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

The object of this invention is to provide lamps which burn oil or other liquid fuel with an attachment, whereby the time at which the lamp should be extinguished may be determined, and automatic extinguishing of the lamp be produced.

In large cities and towns, especially in buildings that are occupied by more than one family, it is customary that hall and other lights are left burning until certain hours of the night, and that at such certain hours one of the occupants of the house is charged with the extinguishing of the light. This necessitates either late hours for the party so charged, or the still more unpleasant task of getting out of bed and putting out the lights. By providing a lamp with an automatic extinguishing attachment this difficulty will be overcome, as well as the danger which results from the possible forgetfulness of the party who is to put out the light, and the loss of fuel resulting from keeping up the flame longer than necessary.

My invention consists in providing a lamp with a self-extinguisher, which is actuated by a spring or weight, and which, when liberated from its detaining appendages, will invariably and spontaneously cause the extinction of the flame, but which, while the lamp is to be kept burning, is locked to a trigger that bears against a sliding attachment to a float resting on the liquid contents of the lamp. When the liquid contents, by the gradual lowering of the level, caused by the consumption of the fuel by the flame, permit the fuel to descend so far as to bring a notch or opening in the slide, against which the trigger bears in line with said trigger, the latter is immediately

disengaged, and releases its connection with the extinguisher, which thereupon puts out the flame. The apparatus can be adjusted to keep the lamp burning for any desired length of time, according to its capacity for containing fuel.

In the accompanying drawing, the letter A represents the fuel-containing vessel of a suitable lamp. B is its burner; C, its wick-tube, all of them of suitable construction. The wick-tube is embraced by a sliding sleeve, D, which has a toothed downward projection, *a*, fully shown in Figs. 3 and 4. A pinion, *b*, mounted upon a spindle, *d*, that hangs in the side of the burner, bears or catches into the toothed part *a* of the slide D for the purpose of lowering the same. E is the extinguisher-cap, made to cover the slide D when the lamp is extinguished, and hinged by its shank *e* to the side of the wick-tube, as shown in Fig. 3. The shank *e* passes through a slotted projection, *f*, of the slide D. A spring, *g*, connects with the spindle *d* in such manner as to have the tendency to hold said spindle-pinion *b* and slide D, in the position shown in Figs. 3 and 4—that is to say, keeping the lamp extinguished, for when the spring *g* exerts its power upon the spindle *d* it turns the same, so as to elevate the slide D above the burning part of the wick, and also to swing the cover E over the top of said slide, as shown. When, however, the crank-projection *h* of the spindle *d* is carried and held down so as to counteract the effect of the spring *g* the slide D will be lowered, and the cap E swung off the wick-tube and slide, in the manner clearly shown in Fig. 1, and then the flame may burn, and will be left burning as long as by the locking of the arm *h* the power of the spring *g* is counteracted. For locking said arm *h* I prefer to use the apparatus shown in Figs. 1 and 2—that is to say, to apply to the vessel A another vessel, F, which connects with A at or near the bottom, as shown at *i*. In both vessels I pour water, or other suitable liquid, heavier than the fuel to be consumed, and when the water has found a level in both vessels, I pour oil, or the fuel to be used, into the vessel A upon the water therein contained. The oil will then crowd some of the water into F, and will itself remain entirely in A for the pur-

pose of feeding the flame. The water in F is used to support a float, G, that enters the top of the vessel. The stem H of such float extends through the top or cap of the vessel F, and is connected by an adjustable joint or slide, I, with a rod, L, of which the main part is parallel to the stem H, as clearly shown in Fig. 2. L is a trigger pivoted to a projecting lug, m, of the vessel F, and provided at its lower or at other suitable part with a projecting hook, n, while at or near its upper end, or other part, it has a projecting lug, o, shown more clearly in Fig. 1. When the arm h is to be locked it is rested upon the hook n of the trigger L, while, at the same time, the projecting part o of said trigger is caused to rest against the slide I, which slide is supported by the float G. The slide I has a notch or bend, p, formed in it. As the flame consumes the liquid fuel contained in the vessel A the level of the liquid in A, as well as in F, sinks, and, consequently, the float gradually descends. As soon as the bend or notch p, during such descent, comes in line with the projection o of the trigger L such projection will lose its hold on the slide I, and the trigger will then yield to the pressure exerted upon it by the spring g, and will be swung down by the arm h, said arm, with its spindle d, being then turned by the spring g, so as to cause the elevation of the slide D and the closing of the cap E over the wick, and the consequent extinguishing of the flame. For adjusting the apparatus to a suitable height, the slide I is made adjustable on the stem H of the float, the connection L permitting such regulation. The slide I may also have a graduated scale marked upon it, as shown in Fig. 1, to enable the adjustment of the parts with great precision and fineness. The scale will, of course, have its upper end at the lower part of the notch or bend p, so that the length of time during which the lamp

is to be allowed to burn may be determined by the space left between the hook o and the bend p, no matter how high the liquid may stand in the vessels while such adjustment takes place. It is quite evident that the same apparatus may be used without having water in the vessel F, as the oil used for fuel may also answer to hold the float; but I prefer to use water, because it is the heavier liquid, and will be the more capable of bearing the float and its appendages. It is also evident that instead of having a second vessel, F, in conjunction with the main oil-reservoir A, I may arrange the float within A, and have, in that case, the trigger L, slide I, and stem H, all arranged on the vessel A in the same way, substantially in which they are now shown to be arranged on the vessel F.

What I claim as my invention is—

1. The self-extinguishing lamp, containing the float G, slide I, trigger L, and arm h of the extinguishing attachment, all parts being arranged substantially as herein shown and described.
2. The slide I, provided with a notch or bend, p, for alternately holding and releasing the trigger L, and made adjustable on the stem H of the float G, substantially as described.
3. The vessel A, connected by the tube i with the vessel F, the latter being arranged to contain, and combined with, the float G for extinguishing the light in the burner that is supported on A, substantially as described.
4. The combination of a wick-tube slide or extinguisher with the spring g, pinion b, and spindle d, whereby the extinguisher is made self-acting, as set forth.

FRANKLIN C. WIREMAN.

Witnesses:

F. V. BRIESEN,
MICHAEL RYAN.