

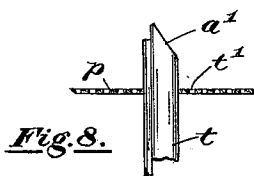
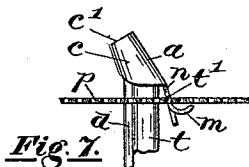
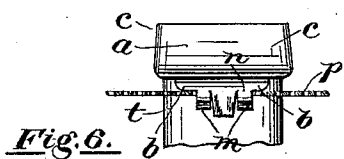
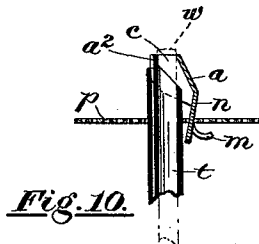
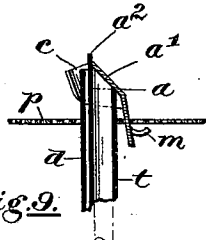
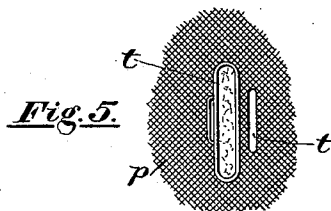
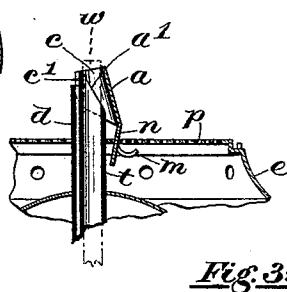
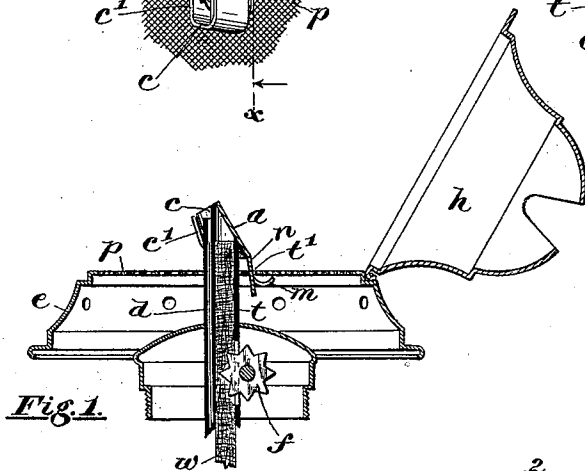
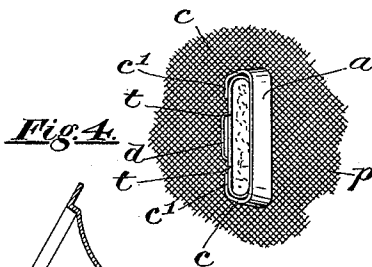
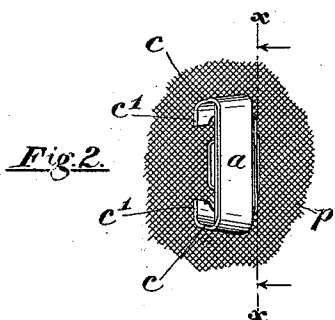
(No Model.)

F. P. BOLAND.

AUTOMATIC EXTINGUISHER FOR KEROSENE BURNERS.

No. 554,978.

Patented Feb. 18, 1896.



Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK P. BOLAND, OF PROVIDENCE, RHODE ISLAND.

AUTOMATIC EXTINGUISHER FOR KEROSENE-BURNERS.

SPECIFICATION forming part of Letters Patent No. 554,978, dated February 18, 1896.

Application filed April 29, 1895. Serial No. 547,504. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. BOLAND, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Automatic Extinguishers for Kerosene-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to "kerosene-burners," so called—that is, to the class of lamp-burners, oil-stoves, heaters, &c., in which a wick-carrying tube is employed, and having means for raising and lowering the wick. My present improvement, however, relates more particularly to devices for extinguishing the flame of a burning wick—such, for example, as are arranged to become operative automatically by the act of turning down or lowering the wick; and it consists essentially of a pivotally-mounted extinguisher-plate having end ears bent to form a stop, and at the same time inclosing the upper end portion of the wick-tube, the latter being cut off at an angle or beveled on the side adjacent to the extinguisher. It is further provided with means whereby the extinguisher is positively kept in its seat or place with respect to the wick-tube, all as will be more fully hereinafter set forth and claimed.

In a patent of the United States granted to me on the 9th day of April, 1895, No. 537,001, I have shown and described an automatically-operating extinguisher or attachment for kerosene-burners. In that device, however, no provision is shown for keeping the extinguisher in position in case the lamp be accidentally tipped, or even holding it in place in the burner before the latter is secured to the lamp. In said patented extinguisher the lower end of the tongue is slightly bent so as to form a stop against the wick-tube for limiting the rearward movement of the device. Such construction involves a certain degree of adjustment with respect to the burner in order to make the said attachment work properly.

The object I have in view in my present in-

vention is to overcome the objections just referred to.

In the accompanying sheet of drawings, 55 Figure 1 is a transverse central sectional view of an ordinary lamp-burner provided with my improvement, the extinguisher-plate being in the normal position and the wick lowered into the wick-tube. Fig. 2 is a corresponding plan 60 view of the device and tube. Fig. 3 is a partial sectional view similar to Fig. 1, showing the relation of the parts when the wick is raised. Fig. 4 is a corresponding plan view. Fig. 5 is a plan view of the wick-tube and 65 portions of the perforated plate, the extinguisher being omitted. Fig. 6 is a partial side elevation taken on line *xx* of Fig. 2. Fig. 8 is a corresponding end view, the extinguisher being omitted; and Figs. 9 and 10 are sectional views corresponding with Figs. 1 and 3, showing a modified form of the end of the wick-tube.

The burner proper may consist of the usual parts as commonly adapted for illuminating, 75 heating, &c. The drawings represent a common lamp-burner, having a base *e* adapted to be screwed into a lamp-body or oil-holder, a central flat wick-tube *t* having the usual vent-passage *d*, a perforated base-plate *p*, through 80 which the wick-tube extends, a hinged top or cap *h*, (turned back, see Fig. 1,) and the wick-adjusting wheel *f*.

The upper end of the wick-tube *t* is beveled entirely across at any suitable angle, as shown 85 at *a'*, thus making one side of the tube longer than the other. The perforated plate *p* has an elongated opening *t'* formed therethrough parallel with and near the lowest side of the beveled end of the tube *t*. (See Fig. 5.) 90

My improved extinguisher *a* is struck up or cut out of a piece of sheet metal. The main portion of the device *a* is bent at an angle with respect to the lower portion or tongue *n*, the latter being cut away at each side to 95 form shoulders or pivot-points *b*, adapted to rest directly upon the plate *p*. The reduced part of the tongue extends down through the said plate-opening *t'* and is bent thereunder, as at *m*, thereby preventing the extinguisher 100 from becoming accidentally detached from the plate. The two lateral sides or ends of the upper portion of the plate *a* are provided with extensions or ears *c*, the ends of which

are reversely bent around the adjacent ends and side of the wick-tube to form holders or stops c' , thereby preventing the extinguisher from tipping or falling too far rearwardly when the wick is raised, (see Figs. 3, 4 and 10,) the center of gravity of the device then being well toward the center of the wick-tube.

It will be seen, referring to Fig. 3, that when the wick is raised the upper edge of the extinguisher-plate is slightly above that of the opposite side of the wick-tube. In some cases it is found desirable to have both of said upper edges even or level. In order to accomplish such a result I simply bevel the wick-tube t , so that its longest side extends somewhat above the edge of the plate a when the latter is in its normal position, as clearly shown at a^2 , Fig. 9. Now upon elevating the wick it will press or swing the plate a aside, the two edges then being level, as before stated. (See Fig. 10.)

The extinguisher-plate a consists of a single piece of suitably-shaped sheet metal. The act of turning up the wick causes the extinguisher to swing outwardly until arrested by the engagement of the stops c' with the side of the wick-tube, thereby uncovering the top of the latter and exposing the wick, which then may be ignited. Upon turning the burning wick past the edge of the extinguisher down into the tube t (when the flame is to be put out) the device a automatically swings inwardly or laterally until its upper portion rests fairly upon the beveled part of the tube, as shown in Figs. 1, 2, 7 and 9, thereby at the same time completely covering the end of the wick, practically excluding air therefrom, effectually extinguishing the flame and preventing smoke, noxious odors, &c.

I claim as my improvement and desire to secure by United States Letters Patent—

1. In a lamp-burner, the combination with the wick-tube, beveled on one side at its upper end, a perforated plate p , and means for raising and lowering the wick, of the extinguishing device a pivotally mounted in said plate having a portion thereof extending through the plate and bent thereunder to retain the extinguisher in place, and having the upper portion of the extinguisher adapted to snugly cover the said beveled end of the wick-tube, and further provided with oppositely-facing end ears bent around the tube and terminating in extensions c' for limiting the rearward movement of the extinguisher upon raising the wick, substantially as described.

2. The combination, in a kerosene-burner, of the wick-tube beveled at its upper end having one side thereof, at a^2 , extending a distance above the beveled part, means for adjusting the wick, an integrally-formed pivotally-mounted extinguisher-plate having end ears c bent around the tube and terminating in extensions c' adapted to form stops for limiting the rearward movement of the said extinguisher-plate upon raising the wick, and having the upper edge of both the said extension a^2 and extinguisher-plate adapted to stand in a substantially horizontal or level plane when the wick is elevated above them.

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

FRANK P. BOLAND.

Witnesses:

GEO. H. REMINGTON,
FREDERIC ARNOLD.