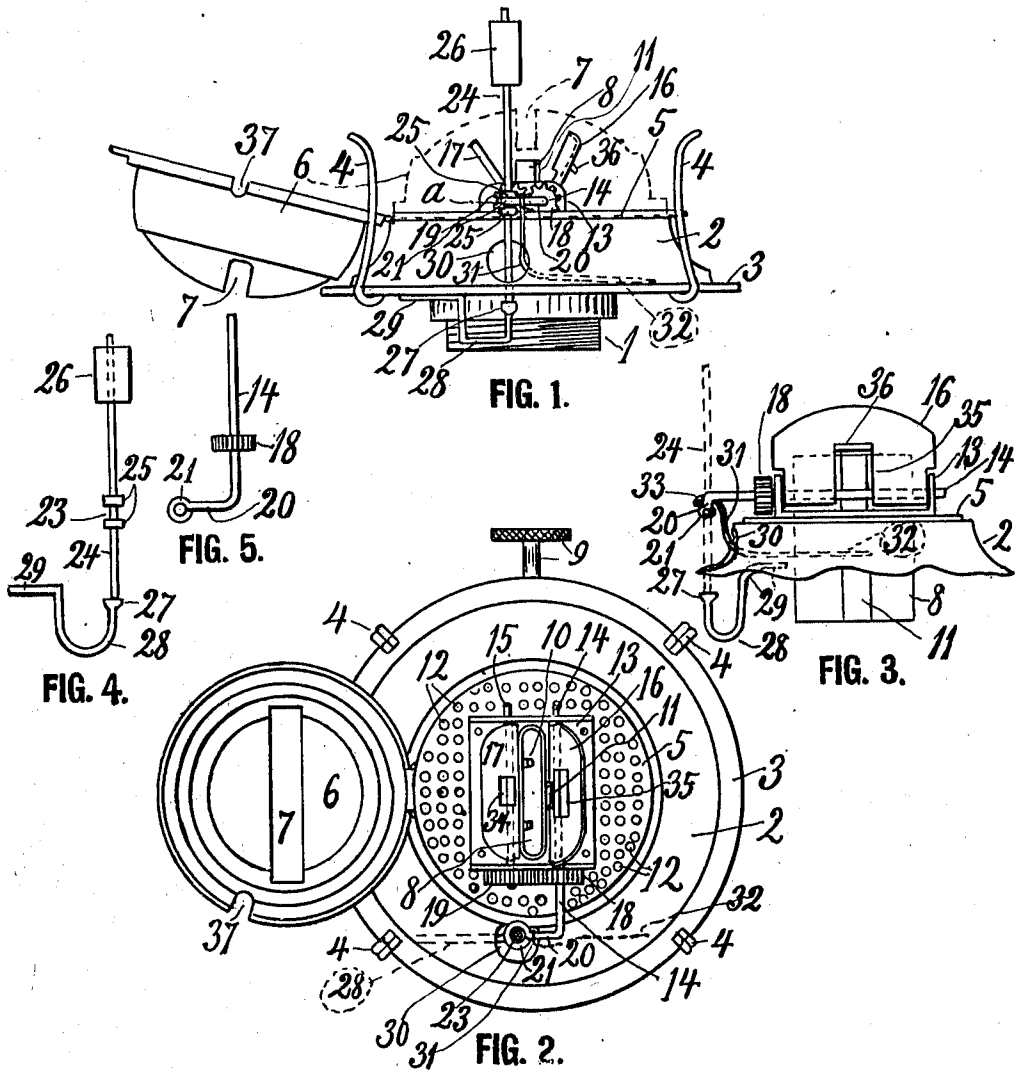


O. O. BERQUAM.
SAFETY LAMP BURNER.
APPLICATION FILED DEC. 20, 1909.

970,782.

Patented Sept. 20, 1910.



WITNESSES:

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UNITED STATES PATENT OFFICE.

OLAI O. BERQUAM, OF GRAFTON, NORTH DAKOTA.

SAFETY LAMP-BURNER.

970,782.

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To all whom it may concern:

Be it known that I, OLAI O. BERQUAM, a citizen of the United States, residing at Grafton, in the county of Walsh and State of North Dakota, have invented a new and useful Safety Lamp-Burner, of which the following is a specification.

My invention relates to safety devices for oil burning lamps; and the object is to provide an efficient, unfailing automatic device that will extinguish the flame of the lamp as soon as the lamp happens to be turned over or upset.

In the accompanying drawing,—Figure 1 is a side elevation of a burner of a common kerosene lamp with my safety device applied thereto; the top of the burner is thrown open and only shown in normal position in dotted lines. Fig. 2 is a top view of the burner in Fig. 1 with the staff 24 in section at the point *a* in Fig. 1. Fig. 3 is a right hand side elevation of certain parts of Fig. 1. Fig. 4 is a detail view of the gravity-operated part of the mechanism. Fig. 5 is a detail view of the gear, rock shaft and rocker-arm forming parts of the extinguishing mechanism.

Referring to the drawing by reference numerals, I have illustrated my device as applied to a common kerosene lamp burner, of which 1 is the threaded stem to be screwed into the top of the oil-holder (not shown).

2 is a hollow table upon whose lower rim 3 the chimney (not shown) is supported between the usual guards 4, while upon the top 5 of the table rests the hinged cap 6, having the usual central aperture 7 for the flame from the wick (not shown) in the wick tube 8, which tube is provided with the usual feed screw 9, having cogged wheels 10 for moving the wick up and down. There is also upon one side of the wick tube the usual small air tube or vent 11: and the top of the table is perforated as at 12 to admit air upward therethrough.

Upon the perforated top of the hollow table I secure a suitable frame 13, in whose vertically upstanding end portions or flanges are journaled two rock-shafts 14, 15, upon one of which is fixed a hood 16, which when in upright position rests against one broad side of the wick tube and covers the two narrow sides and the top thereof so as to extinguish the flame of the wick, to effect the extinguishing more promptly and safely, the other shaft has a wing 17 acting as a door to

the open side of the hood; the said door preferably fits partly into the hood, but it may also be made to simply meet the edges of the hood; or the two members may each form a half hood and meet each other centrally above the wick, as such variation would not effect the mechanism by which said members are closed and opened, and which will now be described.

The two shafts 14 and 15 are made to rock in reverse direction by a pair of intermeshing gear wheels 18, 19, one of which is firmly secured on each shaft. The shaft 14 has one end extended beyond the top of the table and provided with a rocker arm 20 formed with an eye 21, (see Figs. 2, 3 and 5) in which is very loosely fitted the portion 23 of a staff 24, which above and below said portion or neck 23 is provided with fixed collars 25, by which the rocker arm is actuated. The upper end of the staff is provided with a weight 26, and the lower end is normally supported upon the head 27 of a U-shaped arm 28, whose other end 29 is secured inside the hollow table, while the headed end 27 is held directly below a large aperture in the inclined edge of the table, and said staff extends through said aperture from the head 27 below it to the rocker arm above it. The rocker arm 20 is normally impelled downward by a spring arm 31 extending through the aperture 30 and having one end secured at 32 within the table and the other end engaged at 33 with the rocker arm.

In the operation or use should the lamp be over-turned on its side, or be much inclined in either direction, the weight 26 will cause the bottom end of the staff to move in the opposite direction and leave its support (the eye of the rocker arm acting as fulcrum to the staff) the rocker arm is thus free to be operated by the spring 31, and the result is that the hoods are instantly closed in upon the top end of the wick tube and the flame is thereby extinguished. As soon as the lamp is righted again to normal position the hoods are spread from the wick tube to the position shown in Figs. 1 and 2 by simply putting the staff with its lower end upon the head or support 27. The U-shaped form of the support is to permit the staff to escape freely at either side of the head 27.

In Figs. 2 and 3 is shown that each hood member is provided with an aperture 34 or 35 which are to admit air freely to the flame when the lamp is burning, when the hood

members are closed together said apertures are closed by the broad sides of the wick tube. The aperture 35 is formed by cutting and bending outward a tongue 36 in the metal of the hood. Said tongue is then shortened and serves as a cover over the top end of the air tube 11 to prevent escape of oil when the lamp is turned over and the hoods closed; it will also be seen that the aperture 35 extends downward as an open notch in the hood member and thus affords a clearing in the latter for said air tube 11. 37 is a clearing in the cap 6 for the rock shaft 14.

Having thus described the invention, what I claim is:

1. In an oil lamp burner the combination with pivoted hood-members adapted to extinguish the flame by closing together above the top of the wick tube, of means gearing together said hood members to make them close and spread in unison, a rocker arm on one of the members, a staff loosely jointed to the rocker arm so as to swing in any direction with its ends, a weight fixed on the upper end of the staff, a support fixed in or to the structure of the burner and having a head-shaped portion for the lower end of the staff to normally stand on, and a spring arranged to act on the rocker arm to close

the hood members whenever the staff is brought beyond the supporting head.

2. In an oil lamp burner the combination with pivoted hood-members adapted to extinguish the flame by closing together above the top of the wick tube, of means gearing together said hood members to make them close and spread in unison, a rocker arm on one of the members, a staff loosely jointed to the rocker arm so as to swing in any direction with its ends, a weight fixed on the upper end of the staff, a support fixed in or to the structure of the burner and having a head-shaped portion for the lower end of the staff to normally stand on, and a spring arranged to act on the rocker arm to close the hood members whenever the staff is brought beyond the supporting head; one of said hood members having a clearing for the usual air duct or tube at one side of the wick tube, and a wing adjacent the clearing for closing the upper end of the air tube when the hood members are closed.

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

OLAI O. BERQUAM.

Witnesses:

OLE OUVERSON,
P. A. BLAKSTAD.