

UNITED STATES PATENT OFFICE.

RUDOLF KOPETCHI, OF FOCSANI, PUTUA, ROUMANIA.

SAFETY-LAMP.

SPECIFICATION forming part of Letters Patent No. 422,808, dated March 4, 1890.

Application filed September 3, 1889. Serial No. 322,827. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF KOPETCHI, a subject of the King of Roumania, residing at Focsani, in the Province of Putua, in the Kingdom of Roumania, have invented certain new and useful Improvements in Safety-Lamps; 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.

Referring to the drawings, Figure 1 is an isometric view of a lamp provided with a flat wick-tube embodying my invention. Figs. 2 and 3 are sectional elevations of the upper end of the flat wick-tube provided with the extinguishing devices, shown in their normal and operative positions, respectively. Fig. 4 is an elevation, and Fig. 5 a top plan view, of a cylindrical wick-tube, the extinguishing devices being also shown in their normal and operative positions, respectively.

The invention has for its object to provide a simple and efficient means for automatically extinguishing a lamp for burning hydrocarbon or other oils when moved out of its normal or perpendicular position, to avert danger of explosion or fire; and it consists in structural features and combinations of parts, substantially as hereinafter fully described, and set forth in the claims.

In the application of my invention to lamps it is necessary that a suitable recess be provided in the bottom of the oil fount or reservoir when such fount or reservoir constitutes the foot or base of the lamp, or in said foot or base when the oil fount or reservoir is supported from such.

In Fig. 1 I have illustrated the application of the invention to a lamp the fount or reservoir A of which constitutes the foot or base, and in the underside of said fount is formed a recess A'. A tube d' extends through the fount and is open at both ends, and said tube contains the operating-rod d. The rod d carries at its lower end a head d², which may be a disk or button, and said rod extends through a slot in the free end of a spring e,

secured to the bottom of the fount, said free end of the spring being interposed between the head d² and the bottom of the fount A, as shown in Fig. 1. The tendency of the spring is to draw the rod d downward; but such tendency is checked by the weight of the lamp when standing upon any support, such as a table or other support therefor. It is obvious that when the lamp is lifted or accidentally moved out of a perpendicular position the spring e will at once exert its power on the head d² of the rod and draw the rod down. I have shown in the drawings a flat spring; but it is obvious that a coiled spring or an elliptic spring may be interposed between the head of the rod and the bottom of the fount, and the nature of the spring will depend somewhat on the depth of the hollow foot of the lamp where the invention is applied to existing lamps provided with a hollow foot or base.

The extinguisher consists of the well-known spring-actuated wings or shutters a. These are hinged to a frame a', that encompasses the wick-tube b, and has journals a⁴, on which is pivoted one end of levers c', fulcrumed on a pin c², secured to the arms of a bracket c, attached to the fount or the screw-cap thereof, the other end of the levers being connected by a cross-bar c³, to which is connected the upper end of the operating-rod d. The journals a⁴ extend through curved slots a⁵, formed in the correspondingly-shaped end of the levers, as shown in Fig. 4, to provide for the necessary amplitude of motion, the levers being preferably made as short as possible.

When the lamp is moved out of its perpendicular position, the rod d is drawn down by the spring e, as heretofore stated, thereby tilting the levers c' and moving the frame a' upward along the wick-tube, the hinged shutters or wings moving over the wick under the stress of the springs a³, thereby extinguishing the flame.

To prevent the access to the wick of a sufficient quantity of air to maintain combustion after the frame has been moved upward and the wings a are folded over the wick, I so construct the frame a' as to fit the wick-tube snugly and provide it with projecting

end walls a^5 , that will form a closure of the space encompassed by the frame and wings or shutters, as more plainly shown in Fig. 3, thus insuring the extinguishing of the flame, 5 the frame a' , shutters a , and end walls a^5 completely shutting in the upper end of the wick-tube. It will also be seen upon an examination of Fig. 3 that the amplitude of upward motion of the extinguishing devices 10 is a comparatively limited one, only such as is needed to bring the upper edges of the shutters in contact above the wick.

I have shown the invention applied to a cylindrical wick-tube in Figs. 4 and 5, the 15 wings or shutters a being of substantially semi-cylindrical form and close over the upper end of the wick-tube b , as shown in Fig. 5, the ring frame or support for the shutters fitting the wick-tube snugly, so as to exclude 20 all air from the wick for the purposes hereinbefore stated.

When it is desired to move the lamp from one place to another, the extinguishing devices are held against operation by placing 25 one end of a finger underneath the outer end of the levers c' to prevent them being pulled down by the spring e ; or a suitable locking device may be provided—such, for instance, as a hook—which may be pivoted to the 30 burner, so as to engage one of the levers. I prefer, however, not to use a locking device, for the reason that when the levers are locked

for the removal of the lamp from one place to another the person carrying the lamp is liable to forget to unlock the levers. 35

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a lamp, the combination, with the wick-tube, of extinguishing devices consisting of a frame adapted to snugly fit and slide 40 on the tube, said frame having spring-actuated hinged side walls a and rigid end walls a^5 , constructed as described, and actuating devices for moving the frame along said 45 wick-tube, substantially as and for the purposes specified.

2. The combination, in a lamp provided in its foot or bottom with a recess, with the wick-tube and extinguishing devices movable 50 vertically thereon, of the actuating-levers c' , having their free ends connected by a cross-bar c^2 , the flat spring e , arranged in the recess of the foot or bottom of the lamp, and the headed connecting-rod d , connecting the 55 spring with the cross-bar c^2 , substantially as and for the purposes specified.

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

RUDOLF KOPETCHI.

Witnesses:

NETTIE S. HARRIS,

RUDOLF VON PLANK.