

Back

No. 774,278.

PATENTED NOV. 8, 1904.

G. E. SAVAGE & J. H. LOEFFLER.

ALCOHOL LAMP.

APPLICATION FILED FEB. 12, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

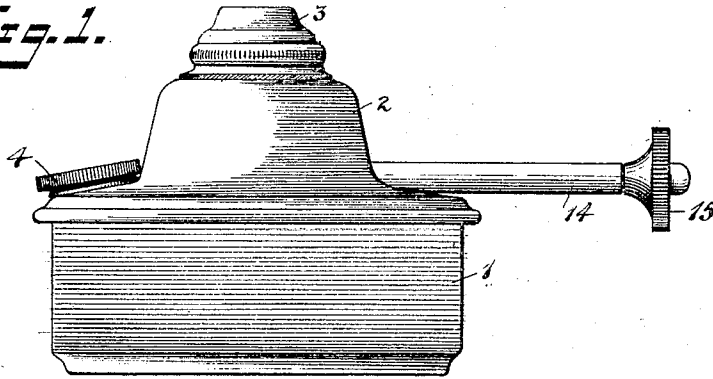


Fig. 2.

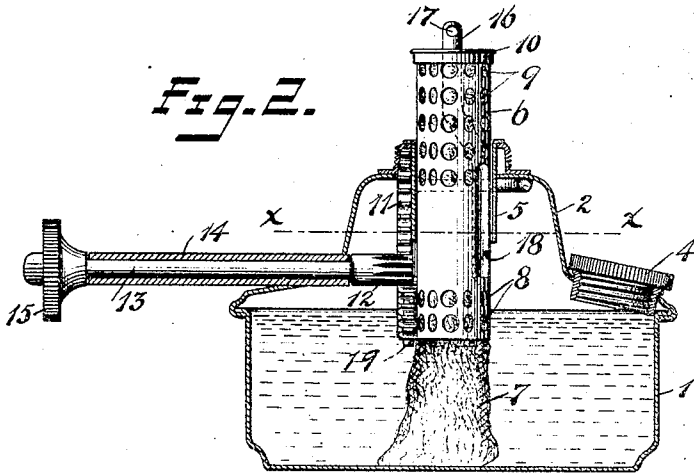
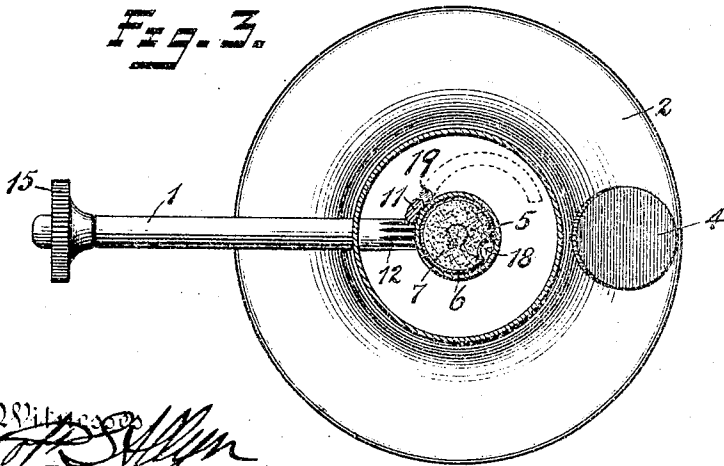


Fig. 3.



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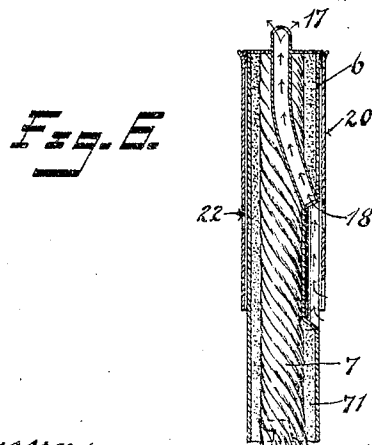
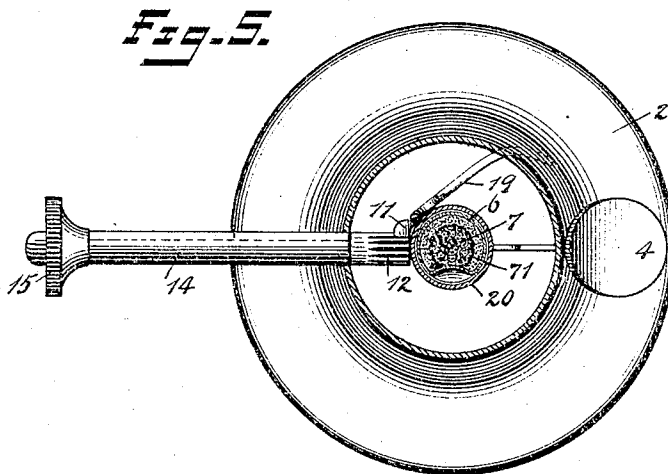
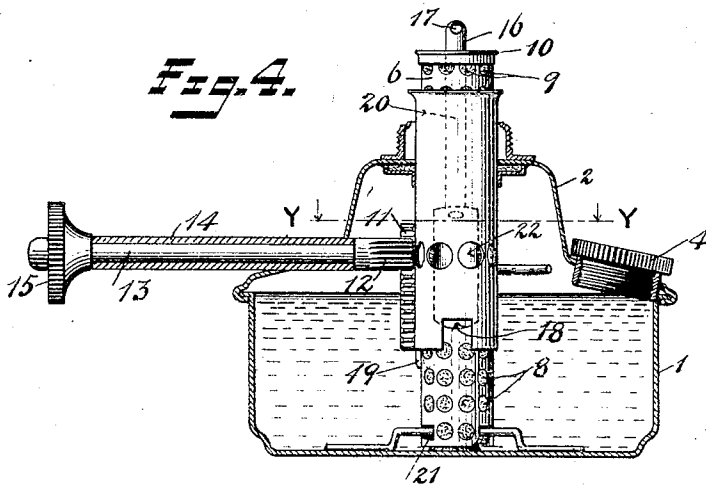
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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ALCOHOL-LAMP.

SPECIFICATION forming part of Letters Patent No. 774,278, dated November 8, 1904.

Application filed February 12, 1904. Serial No. 193,230. (No model.)

To all whom it may concern:

Be it known that we, GEORGE E. SAVAGE and JAMES H. LOEFFLER, citizens of the United States, residing at Meriden, in the county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Alcohol-Lamps, of which the following is a full, clear, and exact description.

Our invention relates to improvements in lamps, and particularly to a construction which is adapted to employ alcohol as the fluid.

The object of our invention is to provide a simple and inexpensive construction which will be efficient in its operation, which may be regulated to a nicety, and which may be employed without danger of explosion.

The invention consists in a construction embodying, first, a casing having a means for introducing alcohol; second, a wick-tube provided with means for adjusting the extent of its exposure to flame, and, third, means for preventing undue pressure on the interior of the casing.

The details of construction will be seen more particularly in the accompanying two sheets of drawings.

Figure 1 is a side elevation of a lamp having an adjustable wick-tube and embodying improvements of our invention. Fig. 2 is a vertical section of the lamp-casing, the lamp being turned around, the cap being removed, and the wick-tube raised. Fig. 3 is a section and plan of the same lamp on the plane of the line X X, Fig. 2. Fig. 4 is a vertical section of a lamp having an adjustable shield, the wick-tube being removable. Fig. 5 is a section and plan view of the same lamp on the plane of the line Y Y of Fig. 4. Fig. 6 is a section of the wick-tube of Figs. 4 and 5 and showing the wick and vent tube.

In the preferred form of construction the casing is composed of two parts, the base 1 and the top 2, which are suitably united together.

3 is a cap which is provided to seal the lamp when not in operation.

4 is a screw-cap for the opening through which the lamp may be filled. It will be noted

in this connection that the lamp may be filled practically only up to the level, as shown in Fig. 2. As a result of this there is no danger of the fluid leaking through the joints of the wick-tube or of the regulating mechanism.

In the form shown in Figs. 1, 2, and 3, 5 is a guide-tube carried by the upper part of the casing. 6 is a tube carrying a wick of suitable material. The body of the wick 7 is preferably composed of a highly-absorbent material, such as cotton, which dips into the alcohol and extends up to the top. The upper part of the wick is surrounded by a fire proof substance 71, such as asbestos. The fluid is therefore quickly soaked up, and yet the asbestos prevents the cotton from burning or charring. 8 indicates a series of perforations at the base of the wick-tube, so that while the wick is supported at this point the fluid has access to it. 9 indicates a series of perforations in the upper part of the wick-tube, through which the vapor escapes. The zone of the flame is consequently situated about the upper part of the wick-tube. 10 is a plate closing the top of the wick-tube. The wick-tube is movable up and down in the guide-tube 5, so as to light the lamp, to increase or decrease the extent of the flame, or to extinguish the lamp. 11 is a rack. 12 is a pinion coacting with the rack for raising and lowering the same. 13 is a rod attached to the pinion. 14 is a bearing-tube for the rod 13, which is secured to the casing. 15 is a thumb-nut secured to the outer end of the rod 13, so that the pinion may be manually operated in a convenient manner.

When the lamp is in operation, considerable heat is of course generated. In order that there shall be no danger of an excess of pressure existing within the casing, we have provided the vent-pipe 16, having perforations 17 at the top. This pipe communicates with the interior of the casing above the surface of the fluid, as shown at 18. The inlet 18 to this vent is extended for a considerable distance along the outer surface of the wick-tube in order that there shall be an unimpeded entrance to the vent from the space above the fluid at all times—*i. e.*, when the tube is moved

up, as well as when the tube is moved down. Any vapor generated within the casing will escape through this vent-tube 16 through the perforations 17 and be ignited at the proper place. The tube is guided in its movement by means of the rod 19, which is attached to the casing and extends parallel to the rack 11 for some distance. The rack is thus held in engagement with the pinion 12.

10 In the form shown in Figs. 4, 5, and 6 the rack 11 is carried by a shield-tube 20, which is thus raised and lowered by the pinion 12. The wick-tube has a bayonet-joint connection 15 21 with the base of the casing, so as to secure the wick-tube in place when desired. The shield-tube 20 has a series of perforations 22 above the highest possible fluid-level and communicating with the inlet 18 to the vent-tube 16. The position of the shield controls the 20 flame.

The particular advantages of this construction are its simplicity, its efficiency, reliability, and the nicety of adjustment without interfering with its safety.

25 What we claim is—

1. In an alcohol-lamp the combination of a casing and a movable wick-carrying tube having a venting-passage having an outlet at the top of said wick-tube and an extended inlet 30 along the side of said wick-tube within said casing but above the highest possible level of liquid in said casing.

2. In an alcohol-lamp the combination of a casing, a wick-carrying tube therein, means for 35 supporting said tube, a safety vent-tube supported within said wick-tube and having an outlet above the same and an inlet within said

casing above the highest level of liquid in said casing.

3. In an alcohol-lamp the combination of a 40 casing forming a liquid-carrying font, a wick-carrying tube therein and having a plurality of perforations around its base portion and a plurality of perforations around the top portion and a venting-passage having an outlet 45 at the top communicating with the interior of said casing above the highest level of the fluid to be contained in said font.

4. In an alcohol-lamp, a casing, a guide-tube, a wick-carrying tube, a tube-shield for adjusting the extent of the flame said shield having a perforation, said wick-tube having a venting-passage extending into the casing and having an inlet adjacent said perforation and always above the level of the liquid in said casing. 55

5. In an alcohol-lamp, the combination of a casing, a guide-tube, a removable wick-carrying tube having perforations around the top and perforations near the bottom, means for adjusting the extent of exposure of the wick-carrying tube above the guide-tube, a locking 60 member carried by the base of said casing, the lower end of said wick-carrying tube being constructed to cooperate with said locking member so that said wick-carrying tube may 65 be locked or unlocked by a longitudinal and rotary movement.

Signed at Meriden, Connecticut, this 9th day of February, 1904.

GEORGE E. SAVAGE.
JAMES H. LOEFFLER.

Witnesses:

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