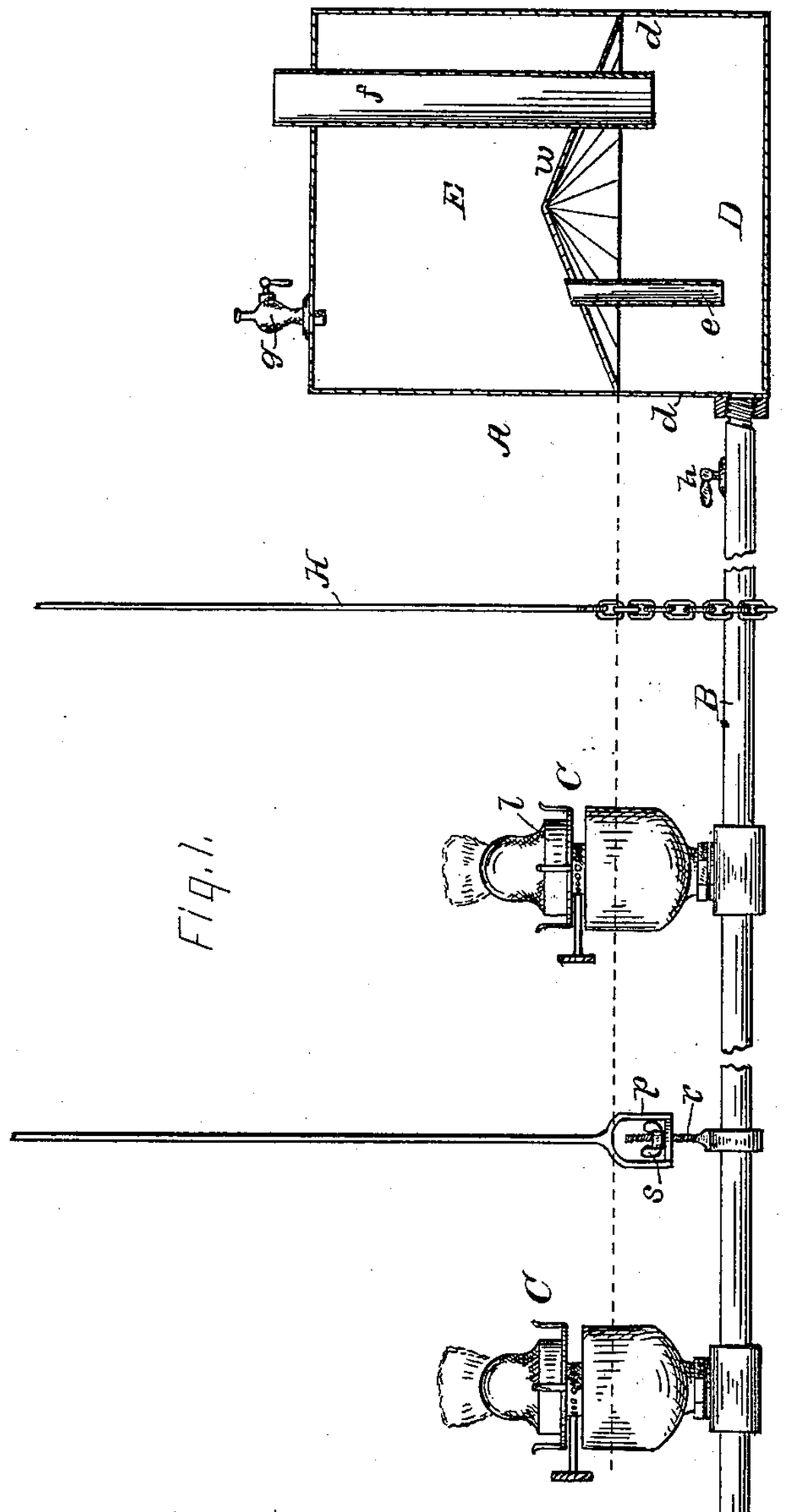
(No Model.)

# C. A. LEAGER, G. S. PIERCE & R. A. CANTERBURY.

## ILLUMINATING DEVICE.

No. 332,541. Patented Dec. 15, 1885.

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# UNITED STATES PATENT OFFICE.

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## ILLUMINATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 332,541, dated December 15, 1885.

Application filed March 11, 1885. Serial No. 158,479. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES A. LEAGER, GEORGE S. PIERCE, and RICHARD A. CANTERBURY, citizens of the United States, residing at Franklin Grove, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Illuminating Devices; and we 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 drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

Our invention has reference to illuminating devices in which oil or other combustible liquid is distributed from a stationary reservoir through communicating tubes to different lamps or founts seated at desired localities on such tubes in the same plane; and our invention pertains more especially to certain novel and useful improvements in the novel construction of the oil-reservoir, by means of which the oil in the lamps is automatically kept at one uniform height.

In the drawing, the figure is a side elevation, partly in section, of a system of illuminating devices embodying our invention.

A is the reservoir, from which the oil is automatically fed into and through the horizontal tubes B into the lamps C. The reservoir A is divided into the two compartments D and E. The lower compartment, D, has a conical top, *w*, and is of such altitude that the top of its sides *d* is on a plane with the maximum height of the oil in the lamps C and its bottom on or about the plane of the lower side of the orifice in the tube B, whereby the oil cannot rise higher than the proper height in the lamps C for good results, and as long as any oil remains in the chamber D it will flow by its own gravity into the tubes B, and thereby feed the flame in such lamps. The lamps C have a hollow stem or base, and are screwed into the upper side of the tubes B, and thereby communication is had from the reservoir A through the tubes B with the lamps C, the oil rising in each of the latter to the height of such oil in the chamber or compartment D. The compartment E is formed over the compartment D, and communicates with the latter through the medium of the short vertical tube *e*, inserted in the crown of the compartment D, and projected downward into the latter about one-half of the altitude of such lower compartment, D. A vertical tube, *f*, extends from above the top of the compartment E down through the latter, and through and very slightly below the conical top of the compartment D. Both the tubes *e* and *f* have open ends, and are hollow throughout their entire length.

The reservoir A is filled by pouring the oil in the upper end of the tube *f*, from whence it passes into the compartment D, and rises from the latter through the tube *e* into the compartment E. A stop-cock, *g*, in the upper surface of the latter allows the air to escape therefrom in the process of filling. A stop-cock, *h*, in the tube B, just outside of the reservoir A, closes such tube to prevent the oil from passing therein while the reservoir is being filled. After both compartments D and E are entirely filled the stop-cock *g* is closed and the stop-cock *h* is opened. As the oil flows out through the tube B it gradually lowers the height of such oil in the compartment D. No air can ascend through such tube into the compartment E, and of course no oil can descend from the latter until the oil in D, under the pressure of the air beneath its conical top *w* through the tube *f*, shall have subsided sufficient to uncover the lower end of the tube *e*. When this point is reached, the air from the outside passes down through the tube *f* into the chamber D and bubbles up through the tube *e* into the chamber E, permitting the oil in the latter to pass slowly downward through such tube *e* into the chamber D until such inflow shall raise the oil in the latter chamber sufficiently high to again seal the lower end of the tube *e*, when the downward flow of the oil from E to D will be suspended until the oil in D shall be again depleted to open the lower end of the tube *e*, when the operation of filling D from the oil in E will be repeated. Thus the oil in D can never rise high enough to flow out at the tops of the lamps C, and neither will there be any pressure from the oil in E upon that in D, while the oil in E will automatically keep D supplied.

The compartment E can be made of any desired size, and thus frequent filling and constant watching of the reservoir are avoided.

In practice we use one glass lamp placed in some place convenient for observation, whereby, without a special indicator or gage, we can readily discover at any time the height of oil in the compartment D.

The tubes B are suspended adjustably by by means of pendent rods H, having hook links at their lower ends encircling the tubes B, or by a suspended stirrup, *p*, through the lower end of which is projected a threaded bolt, *r*, whose lower end forms a collar for the tube B, while a thumb-nut, *s*, seated on the lower part of the stirrup *p*, is used to adjust the height of the tube B.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

In an automatically-discharging oil-reservoir, A, the combinations and interrelations of the following-described elements, namely: the compartment D, provided with the conical top *w*, the compartment E, imposed on the compartment D and provided with the stop-cock *g*, the tube *f*, extending from above the compartment E through the latter vertically to slightly below the top *w* of the compartment D, the tube *e*, seated in the top *w*, and extending down through such top to nearly the plane of the upper wall of the oil-outlet, the tube B, or oil-outlet, provided with the stop-cock *h* and inserted in the side of the compartment D, near the base of the latter, substantially as shown, whereby the altitude of the oil in the lamps is maintained within certain desired limits, as hereinbefore specified.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES A. LEAGER.
GEORGE S. PIERCE.
RICHARD A. CANTERBURY.

Witnesses:
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