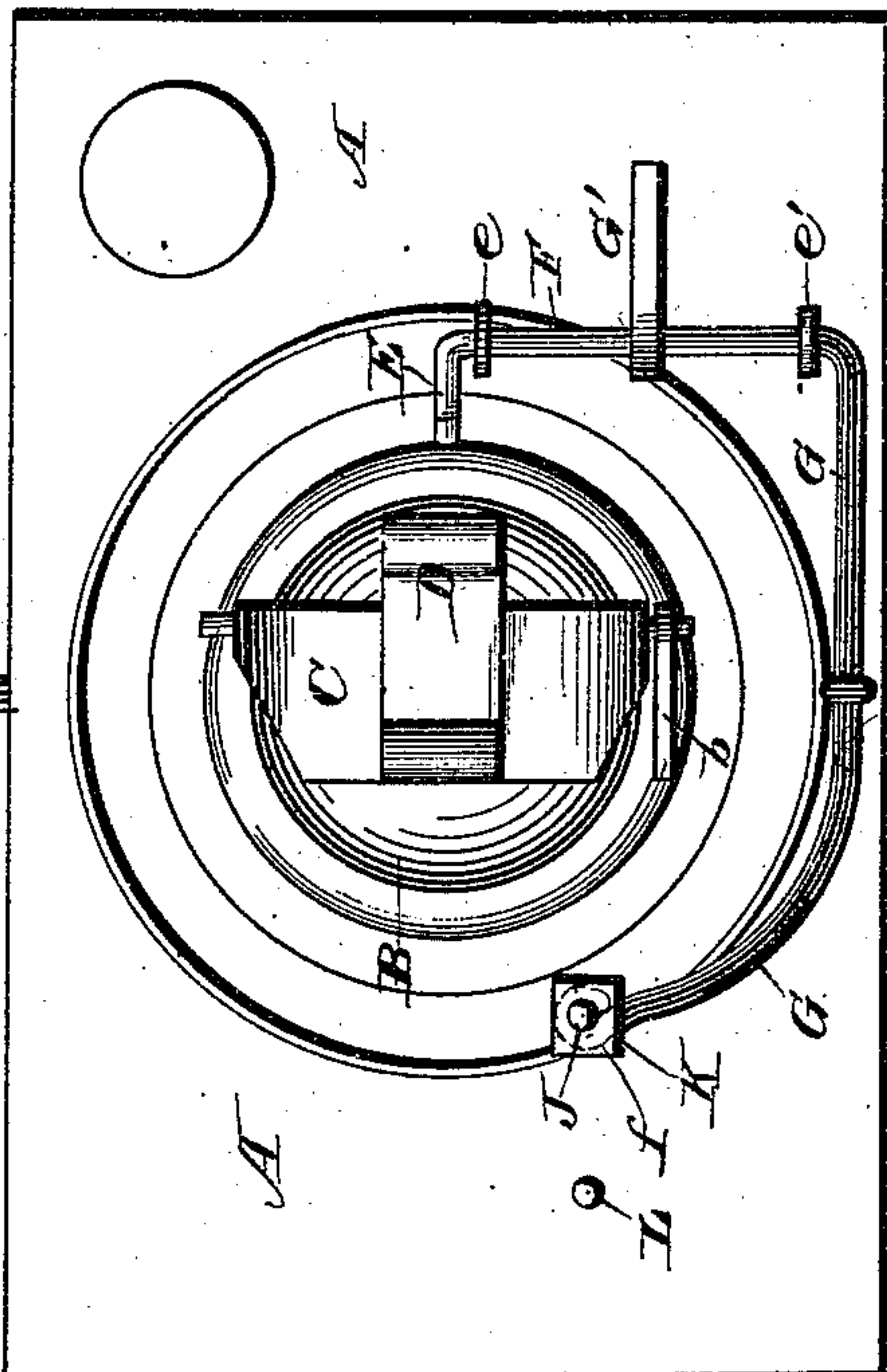
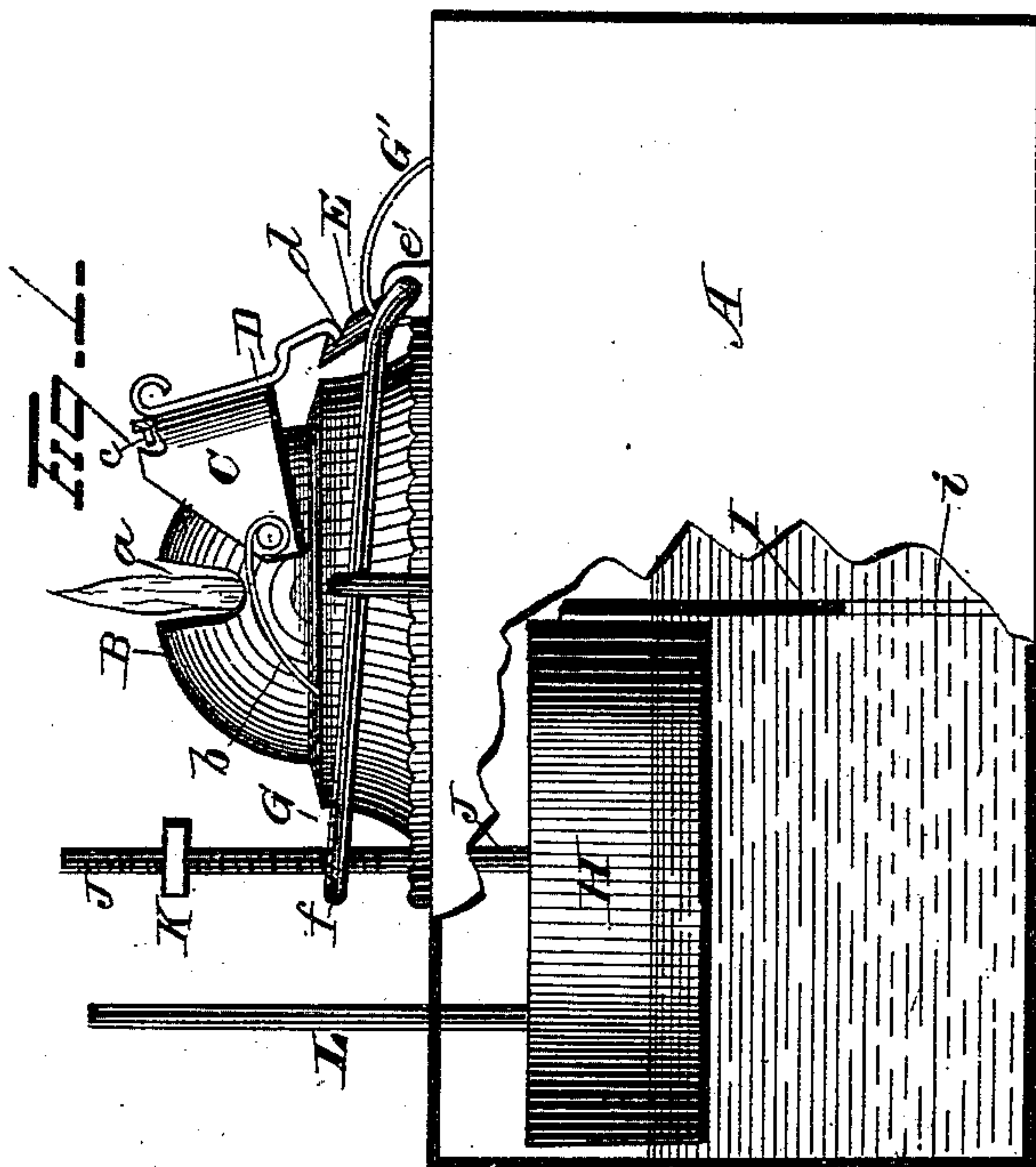
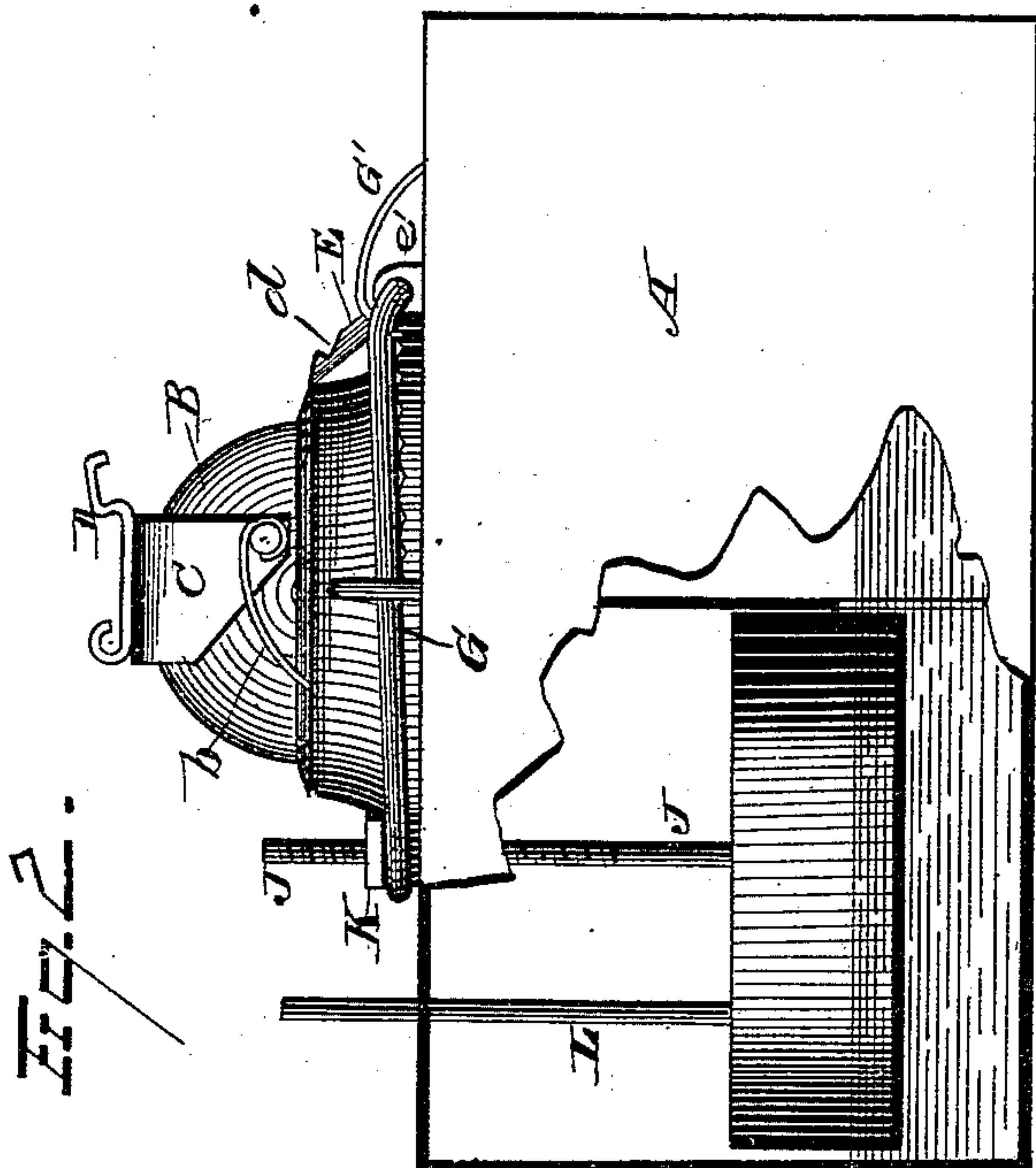


R. H. FRAZEE, H. L. FISHER & A. J. HASSELL.

Automatic Lamp-Extinguisher.

No. 211,902.

Patented Feb. 4, 1879.



WITNESSES

C. J. Nottingham
A. M. Bright.

INVENTORS

R. H. Frazer,
H. L. Fisher,
A. J. Hassell,
INVENTORS
ATTORNEYS

By Leggett & Leggett. A J.

UNITED STATES PATENT OFFICE.

RICHARD H. FRAZEE, HARVEY L. FISHER, AND ANGELL J. HASSELL, OF
TOLEDO, IOWA.

IMPROVEMENT IN AUTOMATIC LAMP-EXTINGUISHERS.

Specification forming part of Letters Patent No. **211,902**, dated February 4, 1879; application filed
December 19, 1878.

To all whom it may concern:

Be it known that we, RICHARD H. FRAZEE, HARVEY L. FISHER, and ANGELL J. HASSELL, of Toledo, in the county of Tama and State of Iowa, have invented certain new and useful Improvements in Automatic Lamp-Extinguishers; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in automatic lamp-extinguishers, the object being to provide a lamp with attachments arranged and constructed in such a manner that they may be adjusted to automatically extinguish the flame of the lamp at any predetermined time; and to this end our invention consists, essentially, in the combination, with a shield pivoted to the outer surface of a lamp-burner, and adapted to move over and away from the flame-orifice in the top of the burner, said shield being provided with a catch, of a float located in the oil-receptacle of the lamp, a trigger arranged to engage with the catch attached to the shield, and adjustable connections between the float and trigger, whereby the float in its descent will operate to release the shield, and allow the latter to move over the top of the burner and automatically extinguish the flame.

In the accompanying drawings, Figure 1 is a side elevation of our improvement, with a portion of the body of the lamp cut away to show the position of the mechanism when the lamp is burning. Fig. 2 is a similar view, showing the position of the parts when the lamp has been extinguished. Fig. 3 is a plan view of the lamp provided with our improved attachment.

A represents the oil-receptacle of a lamp, and B is an ordinary burner attached thereto. C represents a shield, the ends of which are pivoted to opposite sides of the burner. Shield C is forced over the flame-orifice of the burner by means of a spring, *b*, the extent of movement of the shield being limited by means of a stop, *c*, attached thereto.

To shield C is fixed, or made as a part there-

of, the bent arm D, which is adapted to engage with the notch *d*, formed in the end of the crank-arm or trigger E. The arm E is connected with a rock-shaft, F, which is journaled in suitable bearings *e e'*, and is provided with a curved arm, G, having an eye, *f*, formed on the extreme end thereof. Spring G' serves to retain the arm or trigger E in its raised position when an opposing force is not applied to the long projecting arm G. Within the oil-receptacle of the lamp is placed a float, H, which may be constructed of metal, or in any manner so that its weight shall be of less specific gravity than the oil. I is a casing surrounding the float, having an opening, *i*, in the lower end thereof for the free admission and circulation of oil therein, thus insuring the same level of oil in the float-casing as exists in the main body of the lamp.

To the top of the float is secured an upright rod, J, which is screw-threaded on its upper end, and provided with an adjusting-nut, K. The upper end of the rod J extends through the eye *f* in the end of the arm G. A guide-rod, L, is also attached to the upper end of the float, and extends through the upper part of the body of the lamp, and serves to guide the float and retain the same in horizontal position.

Having described the construction of the parts of the lamp, its operation will now be explained. The lamp being filled with oil, the float is raised to the upper portion of the oil-receptacle, thus carrying the rod J upwardly to its highest point of travel. The shield is then forced away from the flame-orifice of the burner against the force of the spring, and the bent arm attached thereto is locked to the notched end of the arm or trigger E. Now, if it is desired to extinguish the lamp automatically in a short space of time, the nut K is turned down on the rod J, so that there will be but little space between the nut and the eye *f* in the arm G. The lamp is then lighted, and when a sufficient amount of oil has been consumed to allow the float to descend and cause the nut to depress the end of arm G, the arm or trigger E will be instantly disengaged from the arm of the shield, and the latter will then be moved by its actu-

ating-spring over the flame-orifice in the burner, and immediately extinguish the flame.

All the mechanism necessary for adjustment to regulate the length of time the lamp shall burn before being automatically extinguished consists in the adjusting-nut K, which is moved in either direction on the rod J, according to the desired time for extinguishing the lamp.

From the foregoing it will be observed that our improvement is simple in construction, is of small initial cost, is readily applied, and enables a lamp to be automatically extinguished at any predetermined time without the employment of clock-work or other complicated mechanism.

We would have it understood that we do not limit ourselves to the exact construction and arrangement of parts shown and described. The shield may be of any desired construction. The float may or may not be provided with a guide rod or wire. The casing for guiding the float may be dispensed with, if desired. Any preferred form of spring attachment may be employed for actuating the shield; and the intervening mechanism for transmitting the motion of the float to the shield may be varied widely in its construction and arrangement without departing from the spirit of our invention.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. An automatic lamp-extinguisher consisting, essentially, in the combination, with a shield pivoted to the outer surface of a lamp-burner, and adapted to be moved over and away from the flame-orifice in the same, said shield hav-

ing a catch attached thereto, of a trigger adapted to engage with the catch on the shield, a float located in the oil-receptacle of the lamp, and adjustable connecting mechanism between the float and trigger, substantially as set forth.

2. The combination, with a shield pivoted to the outer surface of a lamp-burner, and adapted to be moved over and away from the flame-orifice in the same, a catch attached to said shield, and a spring connected with the shield, and adapted to force the latter over the flame-orifice of the burner, of a trigger arranged to engage with the catch attached to the shield, a float located in the oil-receptacle, and adjustable connecting devices between the float and trigger, substantially as set forth.

3. The combination, with a shield pivoted to the outer surface of a lamp-burner, and adapted to be moved over and away from the flame-orifice of the burner, a catch attached to said shield, and a spring connected with the shield and adapted to force the same over the flame-orifice of the lamp-burner, of a rock-shaft having a trigger connected with one end thereof, and a float located in the oil-receptacle, and provided with devices whereby it is adjustably connected with an arm extending from said rock-shaft, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 14th day of December, 1878.

RICHARD H. FRAZEE.
HARVEY L. FISHER.
ANGELL J. HASSELL.

Witnesses:

MELVIN P. WADLEY,
FRANK S. PEAKE.