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A. W. DYER & A. G. SPINNEY.

TIME LIGHT EXTINGUISHER.

APPLICATION FILED JAN. 20, 1905.

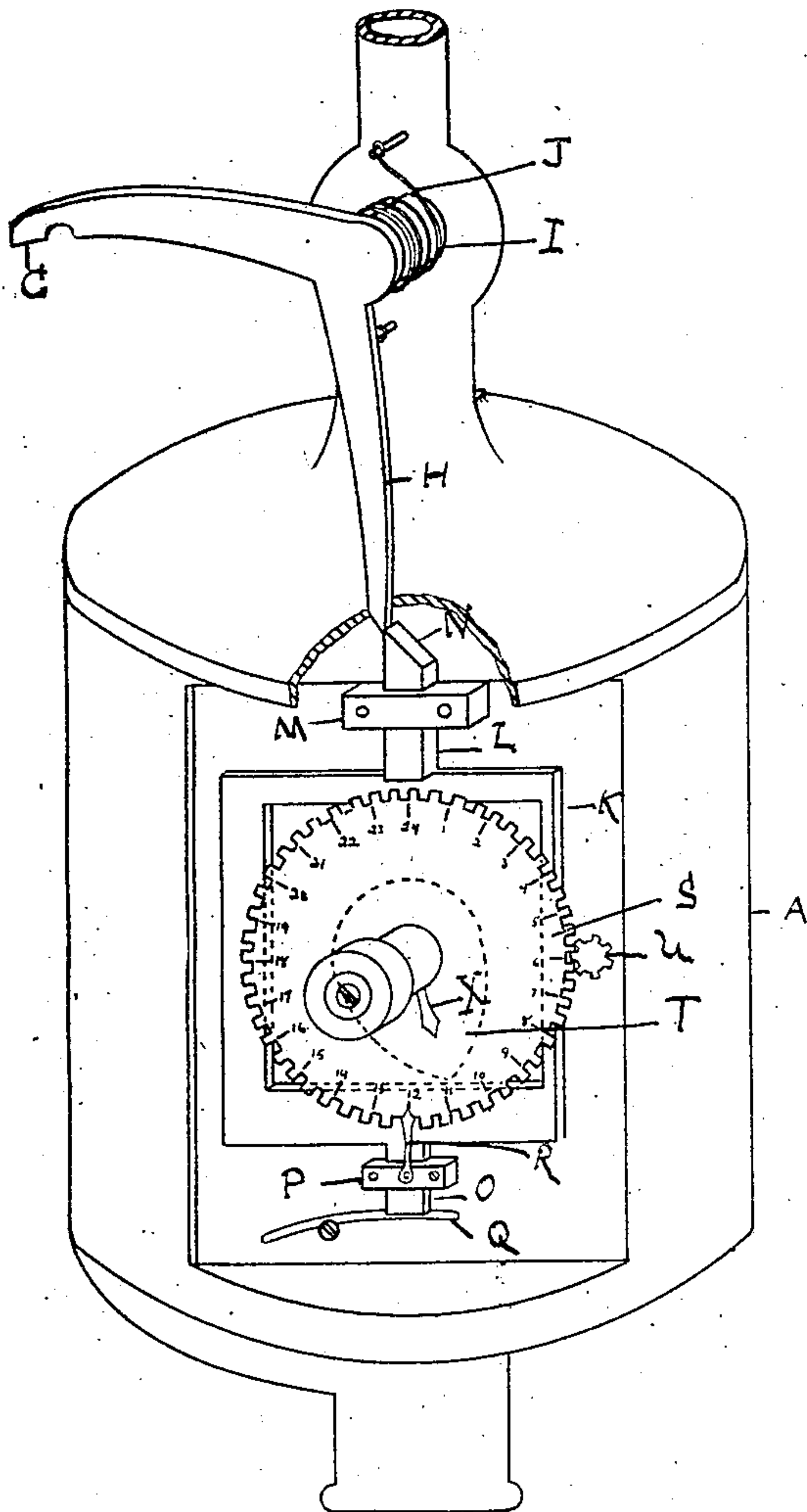


Fig. 1.

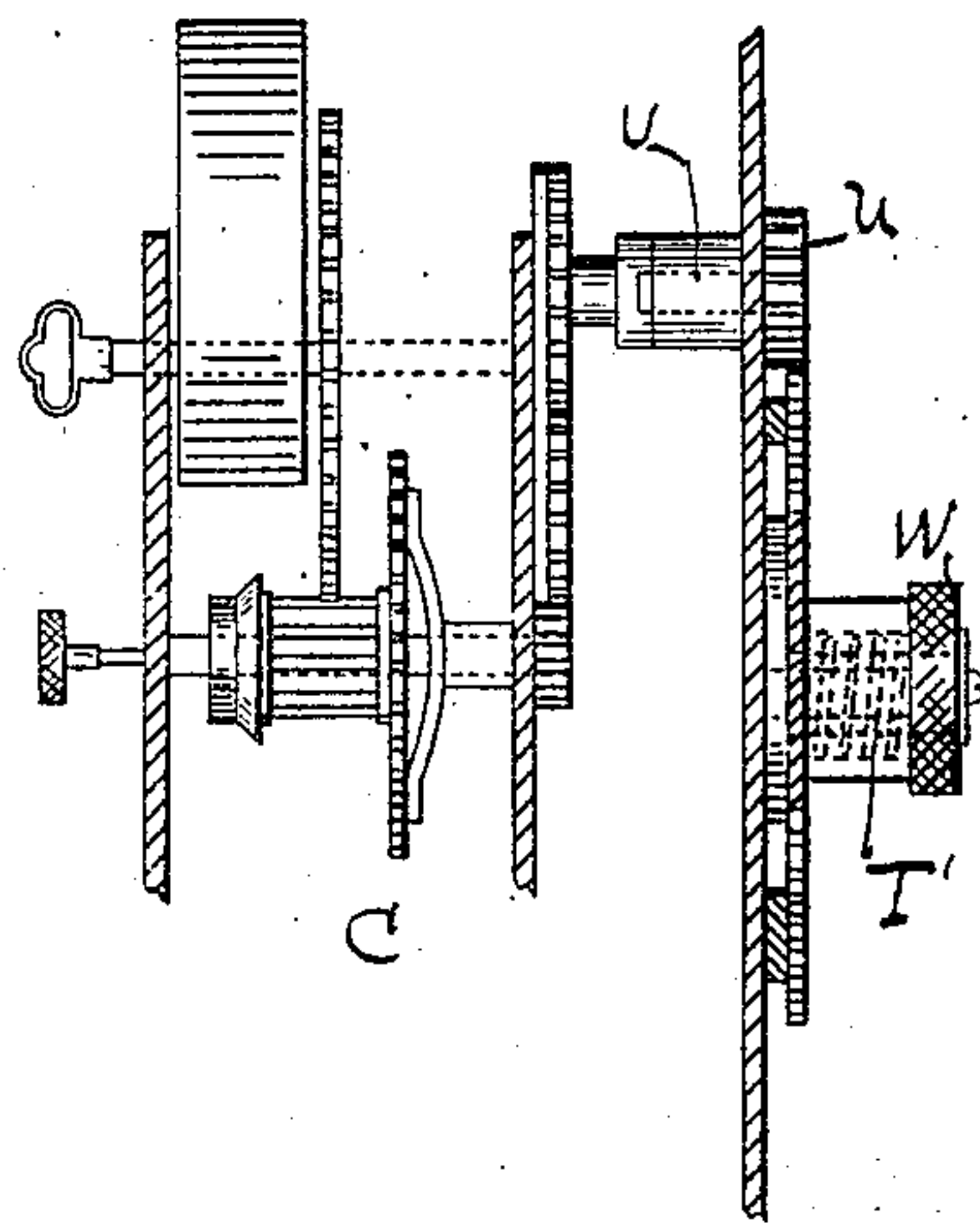
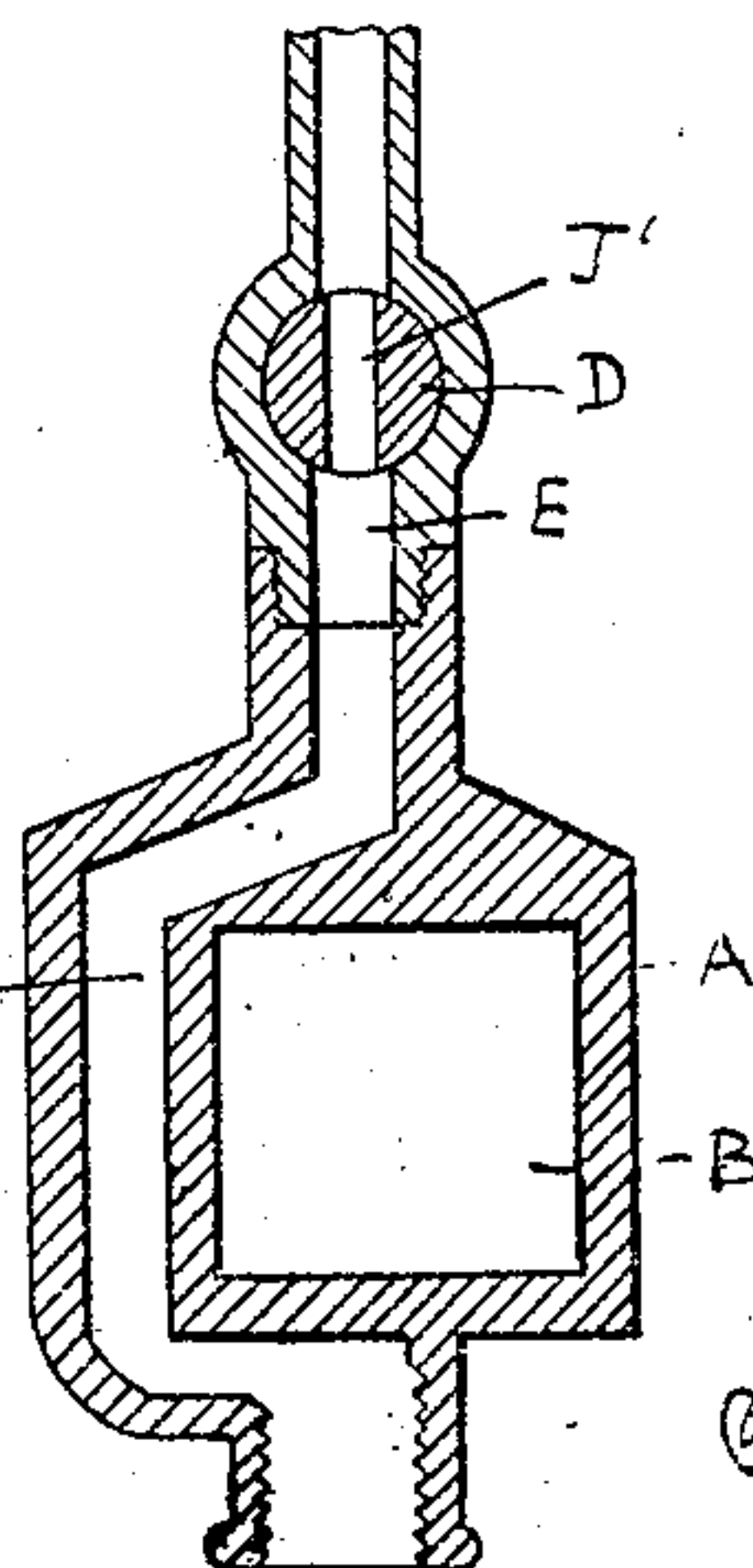


Fig. 3.



WITNESSES:

Fig. 2.
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UNITED STATES PATENT OFFICE.

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TIME LIGHT-EXTINGUISHER.

817,840

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ALBERT W. DYER and ANDREW G. SPINNEY, citizens of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented new and useful Improvements in Automatic Light-Extinguishers, of which the following is a specification.

This invention relates to improvements in automatic gas-extinguishers, and is especially adapted to that class of gas-burners which are applied to street or outside lamps where it is necessary and customary that the same be extinguished at certain predetermined times.

It consists of a suitable case in which is mounted a clock mechanism which drives a dial provided on its inner surface with a heart-cam, which cam when it comes in the proper position engages a latch which is normally in engagement with the cock of the burner, causes the latch to be withdrawn and the cock to be turned, thereby cutting off the supply of gas and extinguishing the light.

It also consists in a novel arrangement of the interior of the casing, whereby gas may be conducted to the burner without entering the chamber reserved for the driving mechanism, and in certain other details of construction which will be hereinafter more fully shown and described.

In the drawings herewith accompanying and forming a part of this application, Figure 1 represents a perspective view, parts being broken away, of our improved gas-extinguisher. Fig. 2 is a vertical section of the same, showing the novel means of conducting gas to the burner. Fig. 3 is a horizontal sectional view, the case being removed, of the clock-driving mechanism, dial, and cam.

In said drawings, A represents a case, which may be of any desired size and any suitable configuration; but it is preferably constructed circular in form. Said case is provided with a substantially rectangular chamber B, in which is mounted in any suitable manner a clock-train C. Running between the chamber in which the clock-train is mounted and the exterior of the casing and not in communication with the clock-train chamber is a duct F, which conducts the gas to the burner. (Not shown in the drawings.) Mounted in the pipe E, upon which the burner is intend-

ed to be mounted, is the usual cut-off cock D, which has two arms G and H substantially at right angles to each other and an offset I, surrounded by a spring J. The offset extends into the pipe below the burner and is provided with an opening J' and also serves as the shut-off. Mounted on one face of the casing is a rectangular frame K, provided on its upper surface with a lug L, extending through a suitable clamp M, said lug having its upper end beveled, as seen at N. The lower part of said rectangular frame is also provided with a lug O, held in position by means of clamp P. Also mounted below said clamp P is a spring Q, which normally tends to keep said rectangular frame in an operative position. Also mounted on said lower clamp P is a hand R, the purpose of which will hereinafter be more fully set forth. Pivotaly mounted in the face of the case is a dial S, having on its inner or back side a heart-cam T. Said dial is driven by a pinion U, which connects with the clock-train mechanism, as seen at V in Fig. 3. The dial is so arranged that it will make one revolution in twenty-four hours and bears upon its face characters from "1" to "24," both inclusive, each space indicating an hour; but the dial may be subdivided into as many spaces as desired, the greater number of spaces allowing the device to be set with more accuracy.

The heart-cam I is held against the back side of the dial by means of coil-spring T' and nut or some other suitable means and revolves with the dial. Said cam is also provided with a thumb-nut W, which projects outwardly through the front face of the dial for the purpose of turning said cam independently of the dial. Also mounted on said thumb-nut is a hand X, so arranged as to indicate at all times the relative position of the apex of the heart-cam to the circumference of the dial.

The operation of our improved device is as follows: The cock F is turned so as to allow the gas to pass into the burner, and the arm H is locked in position by the lug L. The cam is revolved to such a position on the dial as will correspond to the number of hours which the operator wishes the lamp to burn. This is determined in the following manner: If the number of the dial nearest the hand R on the clamp P indicates, for example, five

o'clock and the dial is so arranged as to turn from right to left and it is desired that the light burn for seven hours, the cam is turned so that the indicator on the thumb-nut will correspond to the number "22." When the hand on the thumb-nut registers with the hand on the clamp P at the lower end of the case, the cam will be in its most extended position and the latch will be forced downwardly. This releases the catch from the arm. The resiliency of the spring will throw it back, thereby cutting off the supply of gas and extinguishing the light.

The advantage of this invention is that it provides a simple and effective means for extinguishing the light, that lights can be arranged to be extinguished at an absolutely predetermined time, and that, further, it dispenses with the services of a man to go round and extinguish the lights.

The clock mechanism may be of any suitable construction and adapted to run any length of time, from a day to a week or longer, if desired.

We do not wish to limit ourselves to the exact construction as shown and described, for other equivalent means may be used to accomplish the same result without departing from the spirit of our invention.

Having thus described our invention and its use, we claim—

1. In an automatic gas-extinguisher, a suitable case divided into two independent non-communicating compartments, suitable driving mechanism in one of said compartments, the other compartment serving as a means for conducting the gas through said case, a shaft mounted in said case and carrying thereon a dial, said dial tightly fitting on

said shaft and adapted to be driven with said shaft, a cam rigidly mounted on the end of said shaft and at the back side of said dial, the whole being driven by said driving mechanism, a spring cut-off, a latch capable of vertical movement on said case and operated by said cam to throw said cut-off, means for indicating the position of the cam and means for returning said spring-latch to an operative position.

2. In an automatic gas-extinguisher, a suitable case divided into two independent non-communicating compartments, suitable driving mechanism in one of said chambers, the other chamber serving as a means for conducting the gas through said case, a shaft mounted in said case and carrying thereon a dial having numerals on its surface and notches in its periphery, said dial tightly fitting on said shaft and adapted to be driven with the said shaft, a heart-cam rigidly mounted on the inner end of said shaft and contiguous to the back side of said dial, the whole being driven by said driving mechanism, a spring cut-off, a latch capable of vertical movement on said case and operated by said heart-cam to throw said cut-off, means for indicating the position of the heart-cam and means for returning said spring-latch to an operative position.

In testimony whereof we have hereto affixed our signatures, in presence of two subscribing witnesses, this 17th day of January, 1905.

ALBERT W. DYER.
ANDREW G. SPINNEY.

In presence of—

NATHAN CLIFFORD,
ELGIN C. VERRILL.