M. CURRAN

Automatic Fire Lighters.

No. 165,409. Patented July 13, 1875.

Fig. 1.

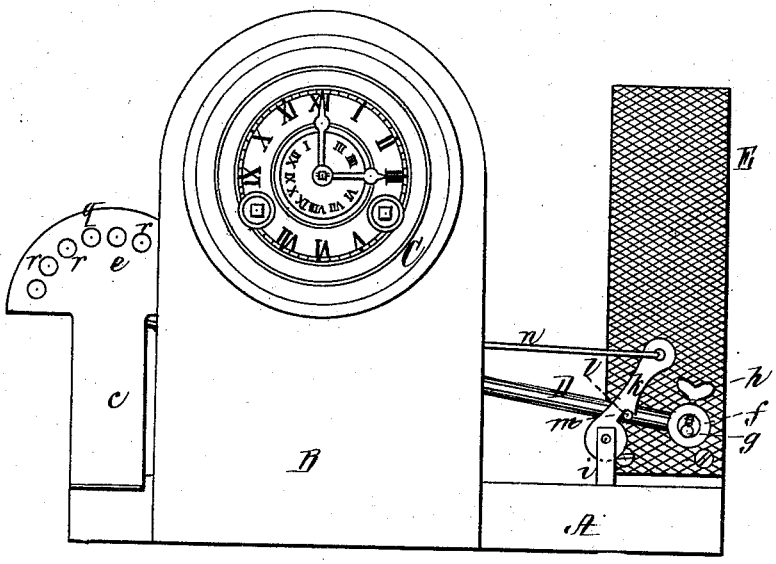


Fig. 3.

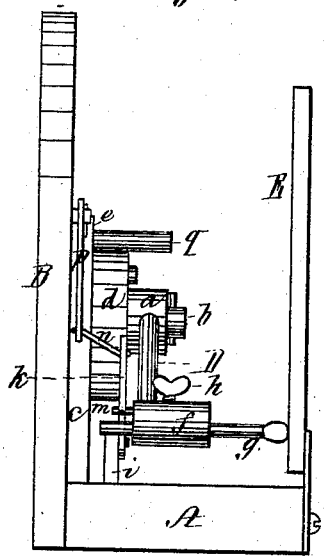
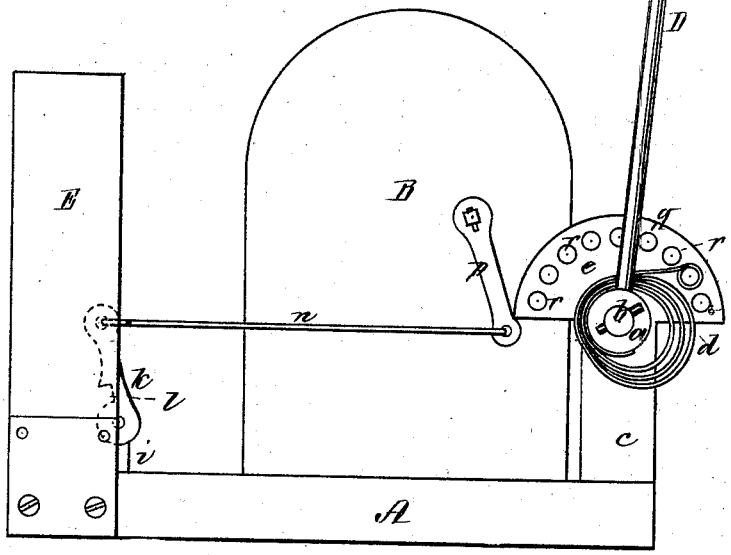


Fig. 2.



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UNITED STATES PATENT OFFICE.

MICHAEL CURRAN, OF NASHUA, NEW HAMPSHIRE.

IMPROVEMENT IN AUTOMATIC FIRE-LIGHTERS.

Specification forming part of Letters Patent No. **165,409**, dated July 13, 1875; application filed June 22, 1875.

To all whom it may concern:

Be it known that I, MICHAEL CURRAN, of Nashua, in the county of Hillsborough and State of New Hampshire, have invented an Improvement in Automatic Fire-Lighters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a front elevation of my improved automatic fire-lighter. Fig. 2 is a rear elevation of the same. Fig. 3 is an end elevation, the clock-work being removed.

This invention consists in an automatic fire-lighter of simple construction, in which the throw of the arm which carries the match can be varied by means of an adjustable stop, so as to insure the contact of the ignited match with the combustible material, whereby the device is rendered applicable to any stove or fire-place without regard to the height of its grate.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the base, from the front of which rises a plate, B, to which is secured a clock, C, having an alarm attachment. D is an arm, one end of which is attached to a sleeve or hub, *a*, which is supported upon a stud, *b*, projecting out from a standard, *c*, rising from the bed A. Around this hub *a* is coiled a flat spring, *d*, one end of which is attached to the hub, the opposite end being secured to a pin projecting out from a segmental plate, *e*, at the top of the standard *c*. At the outer end of the arm D is a tubular holder, *f*, for the reception of a match, *g*, which is held in place by a clamping-screw, *h*, so that its end will be in contact with a friction-plate, E, by which it is ignited when the arm D is released and thrown up by its spring *d*, as will be presently explained. To the upper end of a pin, *i*, rising from the base A, is pivoted a lever, *k*, in which is formed a notch, *l*, into which fits a pin, *m*, projecting from the arm D, which is thus held down in the position seen in Fig. 1, against the resistance of its spring *d*. To the upper end of the lever *k* is secured a wire, *n*, the opposite end of which is attached to another lever, *p*, fixed to the end of the arbor of the alarm attachment of the clock C, which can be set to operate the lever *k* at any predetermined time, and thus liberate the arm D, which is then instantly thrown by its spring *d*, causing the match *g* to be ignited by the friction-plate E, and then brought into contact with a piece of paper or other inflammable material projecting out from under the grate of the stove or fire-place in which it is desired to kindle the fire, it being intended to place the apparatus upon the hearth in such a position that when the arm D is arrested by striking a stop-pin, *q*, the match will be in a position to ignite the inflammable material projecting out from the grate, and communicating with the fuel within.

The stop-pin *q* may be placed in any one of a series of holes, *r*, in the segmental plate *e*, and its position thus adjusted so as to vary the position of the arm D when its motion is arrested; and by this device I am enabled to adapt the apparatus for use in connection with any stove or fire-place without regard to the height of its grate, it being simply necessary to so place the pin *q* as to arrest the arm D when it has arrived in a position to bring the lighted match into contact with the inflammable material to be kindled, thus insuring the lighting of the fire.

The holder *f* is constructed to hold the match in a horizontal position, which prevents it from being extinguished by the movement of the arm D.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the adjustable stop *q*, the arm D, with its match-holder *f* and spring *d*, the lever *k*, operated by clock-work, and the friction-plate E, substantially as and for the purpose set forth.

Witness my hand this 15th day of June, A. D. 1875.

MICHAEL CURRAN.

In presence of—
H. B. SPALDING,
JOHN HALE.