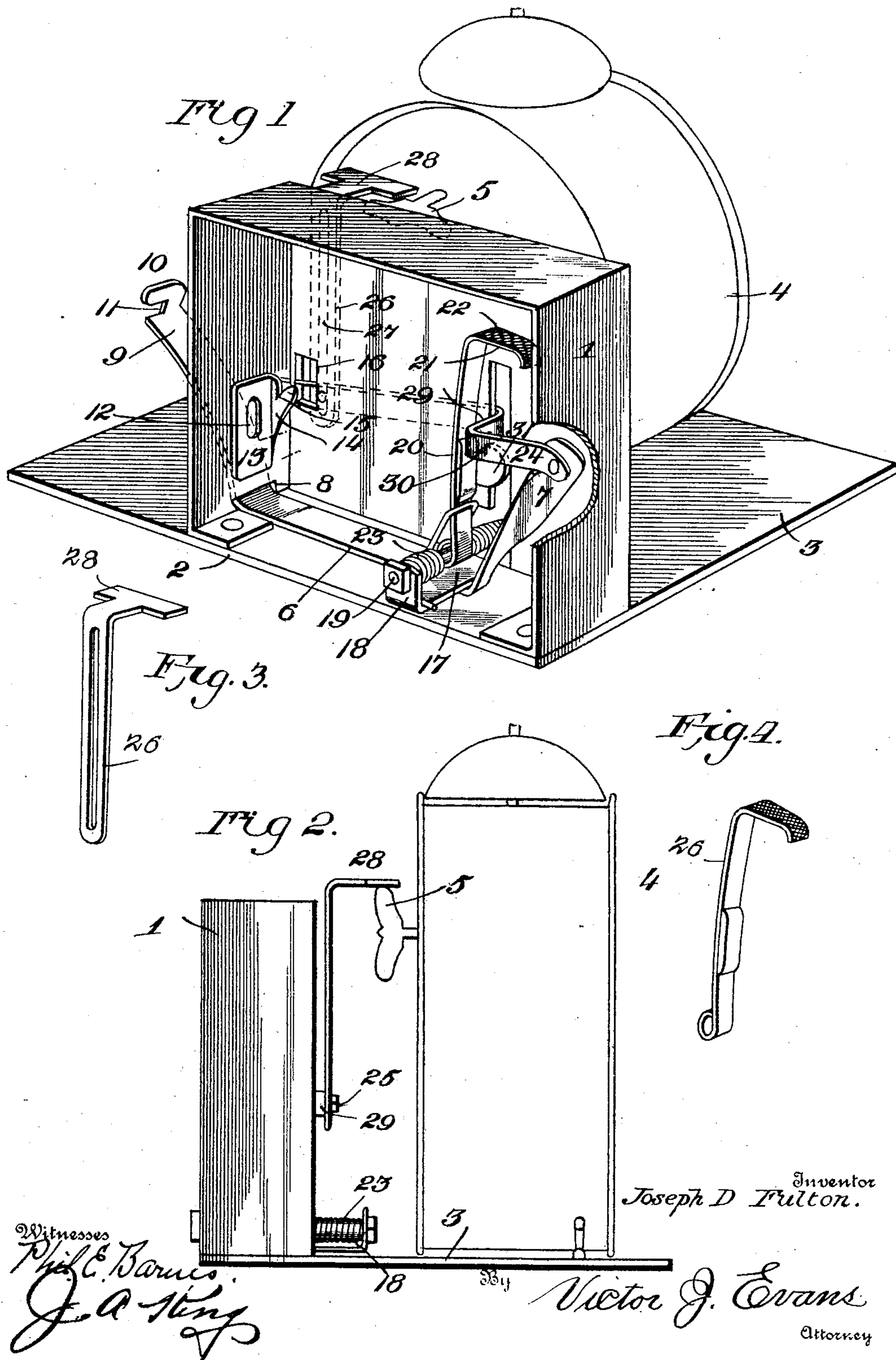


No. 779,921.

PATENTED JAN. 10, 1905.

J. D. FULTON.  
TIME FIRE LIGHTER.  
APPLICATION FILED FEB. 20, 1904.





# UNITED STATES PATENT OFFICE.

JOSEPH D. FULTON, OF CAMBRIDGE, OHIO.

## TIME FIRE-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 779,921, dated January 10, 1905.

Application filed February 20, 1904. Serial No. 194,591.

*To all whom it may concern:*

Be it known that I, JOSEPH D. FULTON, a citizen of the United States, residing at Cambridge, in the county of Guernsey and State of Ohio, have invented new and useful Improvements in Fire-Lighters, of which the following is a specification.

This invention relates to fire-lighters, the object in view being to provide a device which after being set is tripped at a predetermined time by an alarm-clock, the said device operating automatically to strike a match and ignite a torch or fuse, and thereby kindle a fire in a cooking or other stove or ignite a fire at any desired point.

With the above general object in view the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a rear perspective view of an automatic fire-lighter embodying the present invention, showing an alarm-clock in dotted lines used in conjunction therewith. Fig. 2 is an end view of the same, showing the manner in which the device is tripped by the alarm-clock, the latter being shown in dotted lines. Fig. 3 is a detail view of the lever extension. Fig. 4 is a detail view of the striker-arm.

Like reference-numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates a hood constructed of metal or other non-inflammable material, the same being mounted adjacent to one edge of a base-plate 2 and the projecting portion of which constitutes a shelf or support 3, upon which is placed an alarm-clock, (indicated at 4 in dotted lines,) the said clock being provided with the usual winder or finger-piece 5, the said finger-piece being used for tripping the fire-lighting mechanism, as will hereinafter appear.

The hood 1 is left open at the rear, as shown in Fig. 1, the said open side being placed next to the door leading to the grate or fire-box of the stove. Within the hood is arranged the frame and operating mechanism of the device. The frame preferably consists of a

metal strip which is extended lengthwise of the hood and secured to the base-plate 2. At one end the strip 6 is bent upward to form an obliquely-disposed fulcrum-post 7, while the opposite end extends through an opening 8 in the hood and thence upward at an inclination, the same being bent to form a curved terminal arm or match-holder 9, with the extremity thereof bent at an angle, as shown at 10, and formed with a laterally-opening match receiving and gripping notch 11. In the side of the hood adjacent to the match-holder 9 an opening or eye 12 is formed, said opening registering with a corresponding opening in the torch-holding plate 13, provided along one edge with a flange 14, which is notched or provided with a V-shaped slot 15, in which one edge of a torch, such as a piece of cord saturated with oil, is placed and held, the other end of the torch being led into the stove, where it will conduct the flame to the kindling. Just opposite the notch 15 the front of the hood is provided with an aperture 16, through which the end of the torch may be drawn for assisting in inserting such torch in the notch.

17 designates a cross-piece extending over the frame 6 and provided with upstanding extremities 18, which receive the opposite ends of a bolt or pin 19, upon which is journaled one end of a striker-arm 20, the opposite end of said arm being bent at an angle, as shown at 21, and roughened or serrated on its outer side to form an abrasive surface 22. A throwing-spring 23 encircles the bolt or pin 19 and engages the striker-arm 20 and acts thereon to throw the same from a substantially vertical position downward until it comes in contact with the frame 6, during which movement the abrasive surface 22 is brought into sliding frictional contact with the head of the match, causing an ignition of the same, the flame of the match being subsequently transferred to the torch, by which it is conducted to the kindling in the stove.

In order to sustain the striker-arm 20 in a substantially vertical position ready to be sprung, resort is had to a trip-lever 24, one end of which is pivotally connected to the fulcrum-post 7, as shown, and the opposite end



of which has joined thereto by means of a pin or bolt 25 a slotted lever-extension 26. The part 26 extends upward in front of the hood 1 and is slotted lengthwise, as shown at 27, to permit the up-and-down adjustment of said extension in order to bring the same into the proper relation to the finger-piece 5 of the alarm-clock. At its upper end the extension 26 is provided with a laterally-projecting head or contact-plate 28, which is adjusted so as to lie directly over the finger-piece 5 of the clock in the manner illustrated in Figs. 1 and 2. At a point intermediate its length the lever 24 is offset, as shown at 29, to form a transverse portion which engages the notch 30 of a catch 31, projecting from the striker-arm 20, as shown in Fig. 1. In this way the striker-arm is held set and sustained in a substantially vertical position against the tension of the spring 23.

When the alarm-clock mechanism is tripped, the thumb or finger piece 5 begins to rotate and coöperates with the head 28 of the lever extension, lifting the same and vibrating the lever on its fulcrum, thus lifting the offset 29 out of the notch 30. This releases the striker-arm and the latter is thrown downward by the spring, carrying the abrasive surface 22 against the head of the match and igniting the latter, which sets fire to the torch and ignites the kindling in the stove.

The match-holder 9 is made of spring material, so that it grasps the match firmly and yet enables the head of the match to be adjusted so as to bring the latter into proper relation to the abrasive surface of the striker-arm, thus insuring the striking of the match without liability of breaking the match-stem.

Having thus described the invention, what is claimed as new is—

1. A fire-lighter comprising a base-plate, an alarm-clock supported thereon, a hood adjacent to one edge of the plate and left open at one side, a frame-bar having one end extended to form a fulcrum-post, and the other end extended to form a yielding match-holder, a spring-actuated striker-arm provided with an abrasive surface adapted to move into contact with the head of the match, a trip-lever fulcrumed on said post, and adapted to hold the striker-arm set, a spring for throwing the

striker-arm when released, and an adjustable lever extension adapted to be operated upon by a portion of the alarm-clock, substantially as described.

2. A fire-lighter comprising a base-plate, an alarm-clock supported thereon, and match-striking mechanism consisting of a frame-bar extended at one end to form a fulcrum-post, and at the opposite end to form a match-holder, a spring-actuated striker-arm provided with a catch, a trip-lever fulcrumed on the post and offset intermediate its ends to engage the catch on the striker-arm, and an adjustable extension connected with the free end of said lever and adapted to coöperate with a portion of the operative mechanism of the alarm-clock, substantially as described.

3. A fire-lighter comprising a base-plate, an alarm-clock supported thereon, a frame-bar connected with said plate and extended at one end to form a fulcrum-post and at the other end to form a spring match-holder, a spring-actuated striker-arm provided with an abrasive surface, a catch on said arm, a trip-lever fulcrumed on the post and offset to extend across and engage the catch on the striking-arm, and a slotted extension adjustable transversely of the free end of the trip-lever, said extension being provided with a laterally-projecting head adapted to be operated upon by the alarm-clock, substantially in the manner and for the purpose set forth.

4. A fire-lighter comprising a base-plate, an alarm-clock supported thereon, a hood mounted on said plate and open at one side and also provided with a match-receiving aperture, a striker-arm for igniting the match, clock-operated tripping means for setting and releasing the striker-arm, and a curved spring-arm provided with a notched terminal portion and constituting a device for gripping the stem of a match and holding the head thereof in position to be operated upon by the striker-arm, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH D. FULTON.

Witnesses:

JOHN M. AMOS,  
FRED L. ROSEMOND.