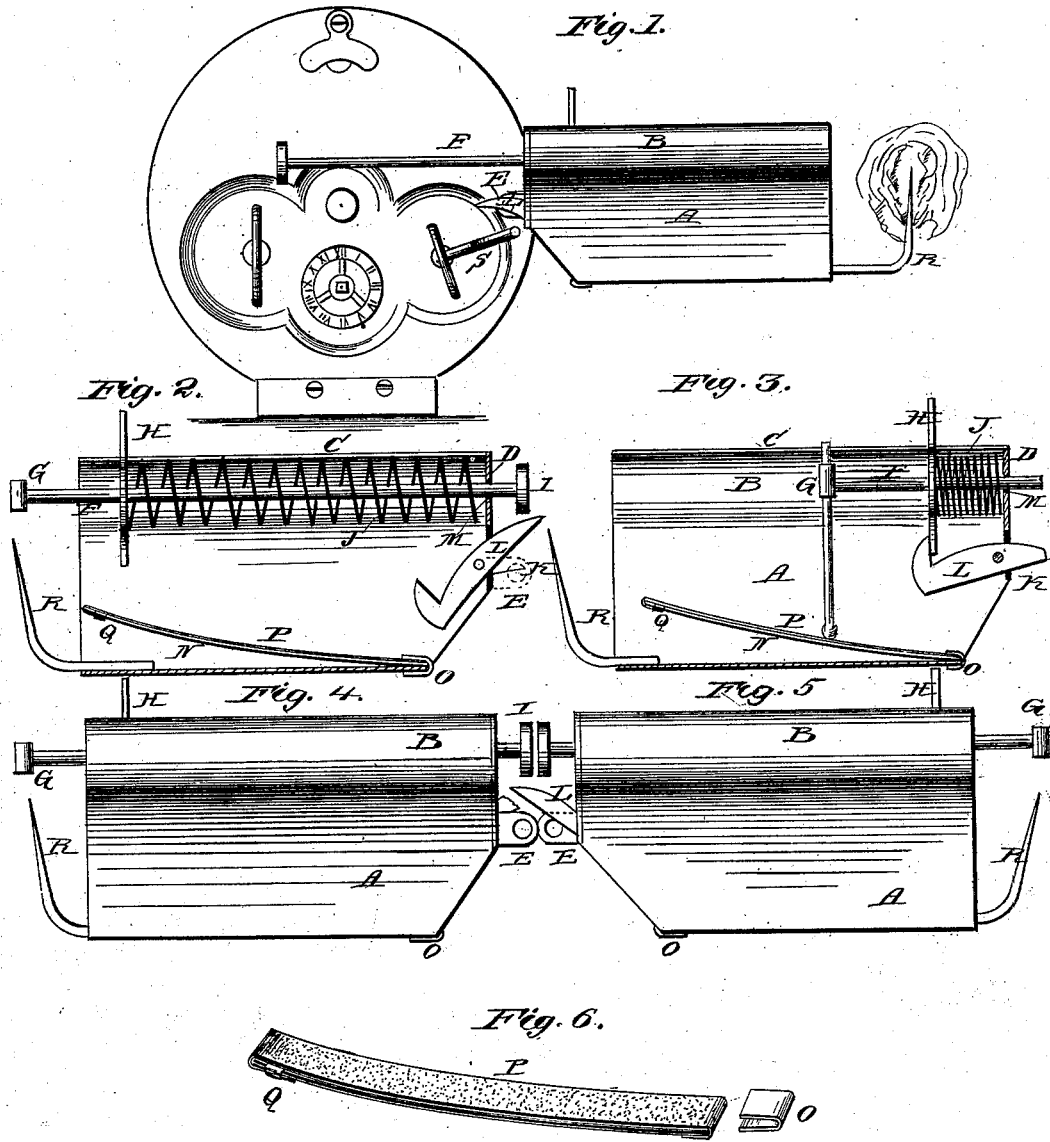


J. B. CURTIS.  
Automatic Fire-Kindler.

No. 209,383.

Patented Oct. 29, 1878.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JOHN B. CURTIS, OF CALUMET, MICHIGAN.

## IMPROVEMENT IN AUTOMATIC FIRE-KINDLERS.

Specification forming part of Letters Patent No. **209,383**, dated October 29, 1878; application filed July 23, 1878.

### *To all whom it may concern:*

Be it known that I, J. B. CURTIS, of Calumet, in the county of Houghton and State of Michigan, have invented certain new and useful Improvements in Automatic Fire-Kindlers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a rear elevation of a clock with the automatic fire-lighter attached. Fig. 2 is a view of the fire-lighter, with the front side of its case removed, showing the operating mechanism. Fig. 3 is a view, the front of the case being removed, showing the fire-lighter set. Fig. 4 is a front elevation. Fig. 5 is a rear elevation of the fire-lighter. Fig. 6 is a view of the spring covered with sand-paper, and of the clasp by which the rear end of the spring is removably connected to the case.

This invention has relation to automatic fire-lighters; and consists of the improvements in the construction of the same, hereinafter fully described, and particularly pointed out in the claim.

In the accompanying drawings similar letters of reference indicate like parts in the several figures.

The automatic fire-kindler is secured to the back of an alarm-clock, so that the discharging-lever of the lighter will be operated by an arm on the shaft of the alarm, which, of course, will liberate it at the hour set upon the alarm-dial. No improvement is claimed for the clock itself, and it is only described and shown in order to make the operation of the lighter clear.

The case A of the lighter is flat for a portion of its depth, and is circular at its top, the circular portion B being provided with a slot, C, extending throughout its entire length. The front of the case A is open; but at its rear a slotted perforated plate, D, is fastened, and extends a little more than half-way down from its top. This plate D is provided with an ear, E, for pivoting the lighter to the clock.

A rod, F, provided at its front end with a match-holder, G, and slightly back of that with a guide-plate, H, has a button or finger-piece, I, at its rear end, traverses the circular portion B of the case A, and is encircled and operated by a spiral spring, J.

The plate D and the guide-plate H serve as retainers for the spiral spring J. The plate D has the slot K, in which is pivoted the trigger L. The rod F passes through the perforation M in said plate D.

A flat spring, N, is secured to the bottom of the case A by the clasp O, so that it may be removed at will, and said spring inclines upward and forward, as shown. This spring N is covered with a strip of sand-paper, P, extending its full length, and secured at its front end by the clasp Q, the rear end being secured by the clasp O before mentioned.

The hook R at the front of the case is to hold a piece of paper, shaving, or other suitable material to be ignited by the match. The case A, being pivoted to the clock, may be set at any desired angle, and when not in use may be turned behind the clock, so as to be out of sight.

The alarm-shaft of the clock is provided with the lever or arm S, which, when the alarm is set off, strikes the trigger L and releases the rod F, which is propelled forward by the spiral spring J, causing the friction of the match T upon the sand-paper P to ignite it, and as the match is carried beneath the paper upon the hook R the flame will communicate with it, and will ignite the kindling beneath which it is placed.

The guide-plate H serves to hold the rod in a position to keep the match perpendicular, guides the rod F in its longitudinal movements, and, in conjunction with the plate D, serves to retain the spiral spring J in place.

The match-holder G permits a vertical adjustment of the match, so that it can be inserted. The rod F is drawn back and set, and the match, the upper end of which protrudes through the slot C, may be driven down upon the sand-paper to insure ignition of the match.

Having thus described my invention, what

I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

In an automatic fire-lighter, the combination of the case A, having circular portion B, provided with the slot C and plate D, the rod F, having match-holder G, guide-plate H, and button I, spiral spring J, and the flat spring N, covered with sand-paper P, and the

hook R, constructed and operating substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN B. CURTIS.

Witnesses:

JAMES GRIERSON,  
FRED. MACKENZIE.