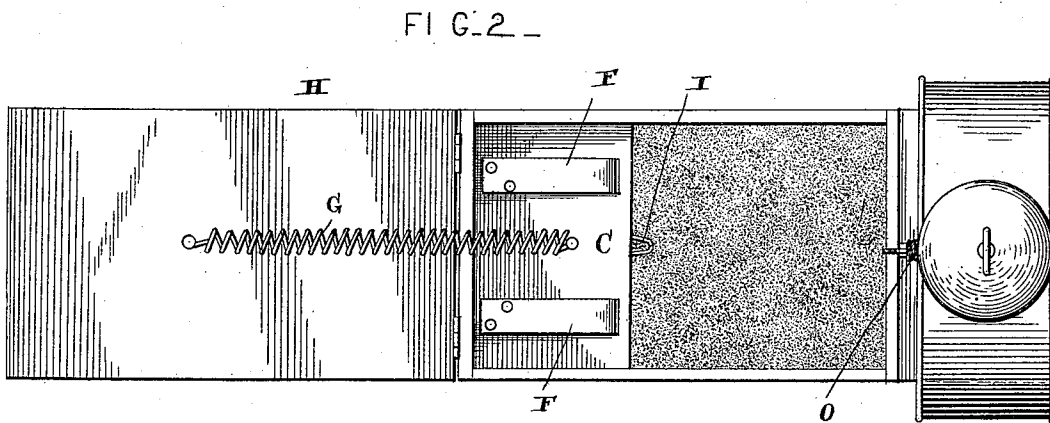
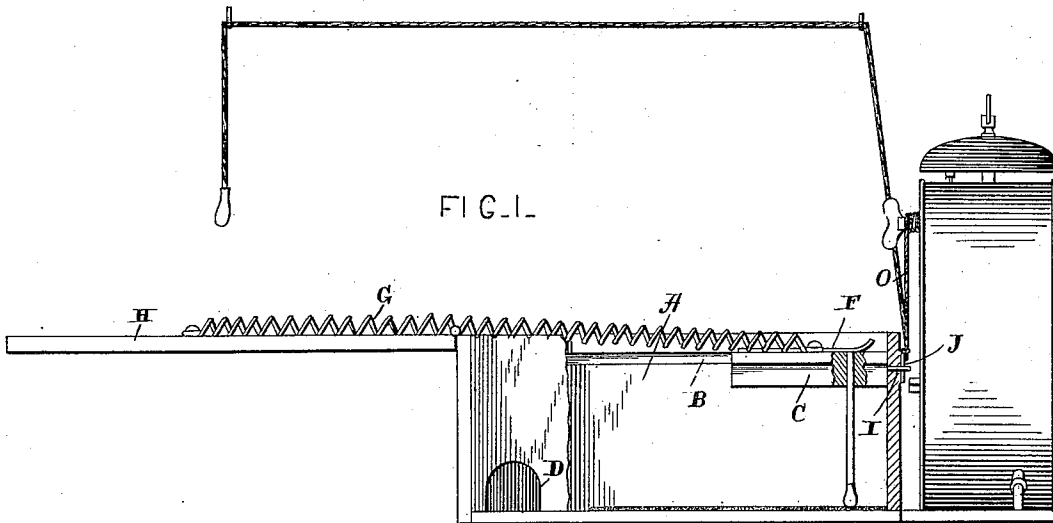


(No Model.)

L. BEACH.
AUTOMATIC FIRE LIGHTER.

No. 463,437.

Patented Nov. 17, 1891.



WITNESSES.

Geo. E. Frick.

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UNITED STATES PATENT OFFICE.

LOUIS BEACH, OF LA CROSSE, WISCONSIN, ASSIGNOR OF ONE-HALF TO
OTTO LAMBERT, OF SAME PLACE.

AUTOMATIC FIRE-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 463,437, dated November 17, 1891.

Application filed June 15, 1891. Serial No. 396,337. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BEACH, of La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Self-Acting Fire-Lighters; and I 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.

My invention relates to an improvement in self-acting fire-lighters; and it consists in the combination and arrangement of parts, which will be fully described hereinafter, and pointed out in the claims.

The object of my invention is to provide an automatically-acting mechanism, which is liberated at any regulated time by an alarm-clock or by pulling a string or cord, so that the fire will be lighted without the necessity of a person having to go to light it.

Figure 1 is a side elevation of a device which embodies my invention, partly in section. Fig. 2 is a plan view of the same.

A represents a metallic box, of any suitable shape, size, or construction, and which may be cast in a single piece or made of a number of separate pieces of iron, or from sheet-iron or any other material that may be preferred and which has a roughened bottom, or sand-paper or some similar rough material placed upon it for the purpose of igniting the matches when they are drawn across it. In the inner sides of this box are formed the grooves B, in which the slide C moves, and through one side of the box, at or near the corner and very close to where the matches stop in their movement, is made an opening D, through which the material to be lighted is placed and through which the flame burns back after the material which is to light the fire has been set in a blaze by the lighted matches. The material with which the fire is to be ignited may consist of paper, shavings, or any other inflammable substance which has one end inserted through the opening D and sufficiently near to where the matches stop to cause the material to be ignited when the matches are lit. This material extends

back into or sufficiently near the grate to light the fire in the stove when the flame burns back.

Placed in the top of the box and moving in the grooves B is the slide C, having any suitable number of perforations through which the matches are passed, so that their lower ends will bear upon the top of the roughened surface in the bottom of the box. Springs F may be attached to the top of this slide for the purpose of forcing the matches downward, so as to insure their being ignited when the slide moves them over the roughened surface. Attached to this slide is a spring G, which has its other end attached to a projection on the under side of the lid or cover H of the box A.

When this lighting device is not to be used, the cover is closed and no strain is brought to bear upon the spring; but when the cover is opened back, as shown, the spring is stretched so as to move the slide quickly and forcibly from the outer end of the box to its inner one. Secured to the front edge of this slide C is a loop I, which projects through the front end of the box A when the slide is moved up to or against this end, and then the pin J is passed down through the loop, so as to prevent the spring from drawing the slide backward until the pin is withdrawn by the action of an alarm-clock. The clock used is one of ordinary construction and has the string O fastened at one end to the shaft, which winds up the alarm-spring. When the regulated time has arrived, the alarm goes off, and then the shaft of the spring in unwinding winds the string O around its shaft and thus withdraws the pin J from the loop I, and the spring then draws the slide forcibly toward the opposite end of the box A, moving the matches rapidly over the rough surface in the bottom of the box. The matches igniting set fire to the material, which is placed in the end of the box opposite where the movement of the matches ceases, as above described.

By means of the construction here shown and described it is only necessary to set this automatically-acting lighting mechanism in front of the fire that is to be lighted, and then there is no necessity for a person having to get up in the morning to light the fire or to go to the stove when the fire is to be lighted.

While an automatic clock mechanism is here shown and described for removing the pin I, I do not wish to confine myself to this means of removing the said pin. Many other ways might be devised for accomplishing this result without departing from the spirit of my invention—as, for instance, the string which is connected to the top of the pin—may be run over some point above it and extended to the bed or any other desired place, which, with a mere pull, would set the kindler in motion and ignite the fire.

Having thus described my invention, I claim—

15 1. In an automatic fire-lighter, the box having a roughened surface upon its bottom and an opening through its side, and the spring-actuated slide, combined with an alarm-clock, and a pin which is connected to the shaft of
20 the alarm-spring by means of a cord, substantially as described.

2. In an automatic fire-lighter, the box having a roughened surface upon its bottom and an opening through its side, the cover of the
25 box, the slide placed in the box and carrying the matches, and a spring connecting the cover and slide, combined with an alarm-clock, a pin, and a cord which connects the pin to the shaft of the alarm-spring, substantially
30 as set forth.

3. In a fire-kindler, a case having a roughened bottom, a match-carrying slide adapted to move in said case, a hinged cover which opens outward in a line with the path traveled by the said slide, a spring connected at one end to the slide and at its opposite end to the said cover, whereby when the cover is open the spring is expanded, so as to pull on the slide, and a releasing device, the parts being combined to operate substantially as shown and described.

4. In a fire-kindler, a case having a roughened bottom, a spring-actuated slide adapted to move therein, a staple secured to the end of the slide and which projects through the end of the case, a pin adapted to engage said staple, an alarm-clock having a projecting spindle, and a string connected at its lower end to the pin and at its upper end to the said spindle, whereby when the spindle is revolved the pin is drawn upward and the slide released, the parts being combined to operate substantially as shown and described.

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

LOUIS BEACH.

Witnesses:

LOUIS V. BENNETT.
WILLIAM IRWIN.