

(No Model.)

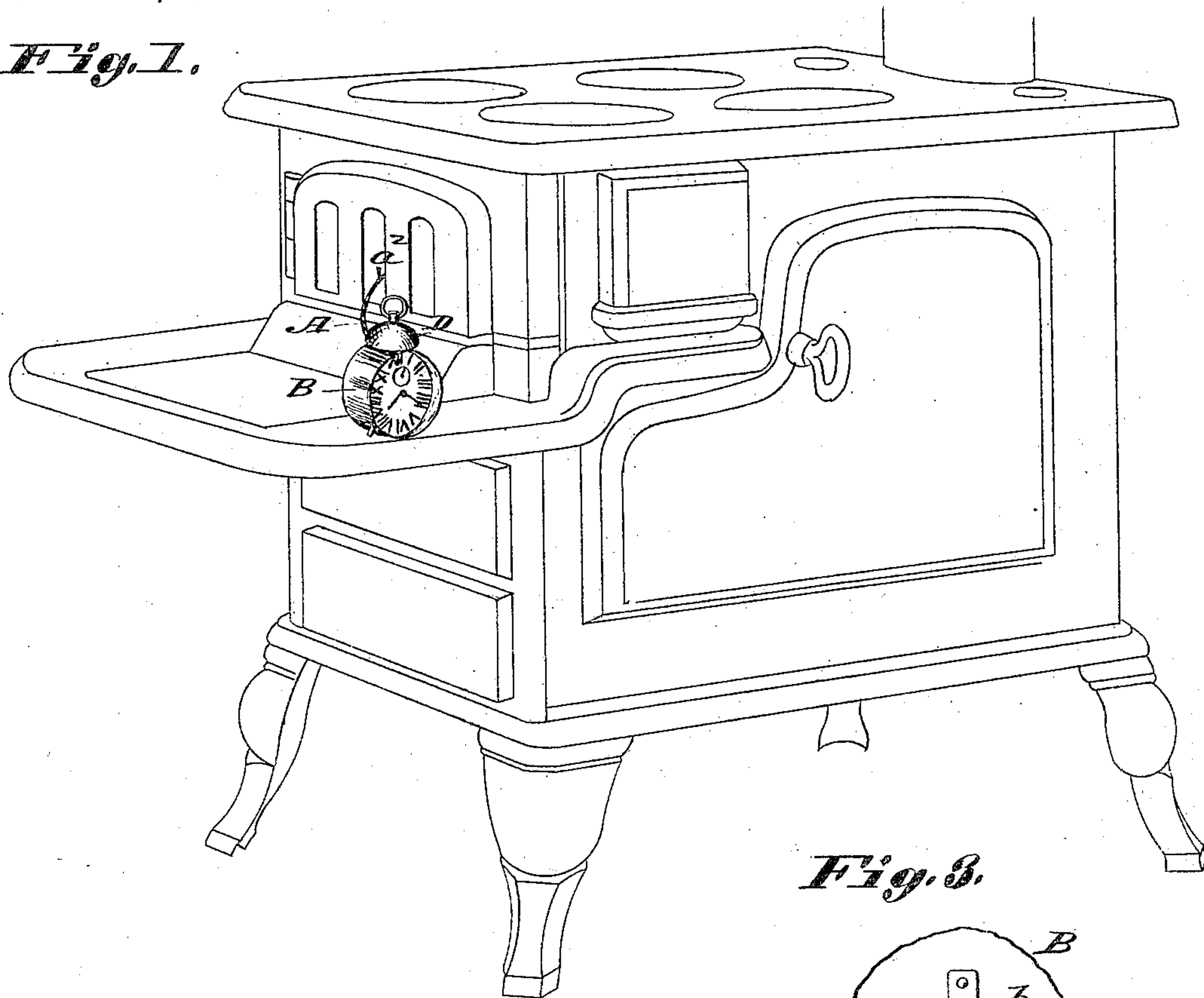
W. L. & J. A. MCGINTIE.

AUTOMATIC FIRE LIGHTER.

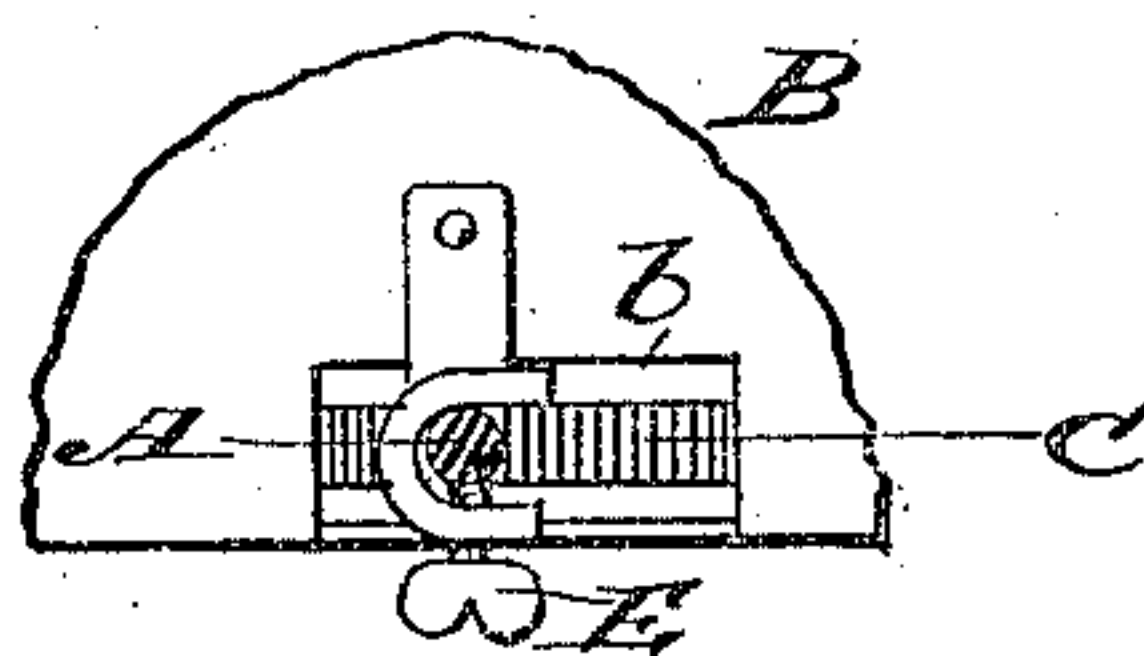
No. 309,396.

Patented Dec. 16, 1884.

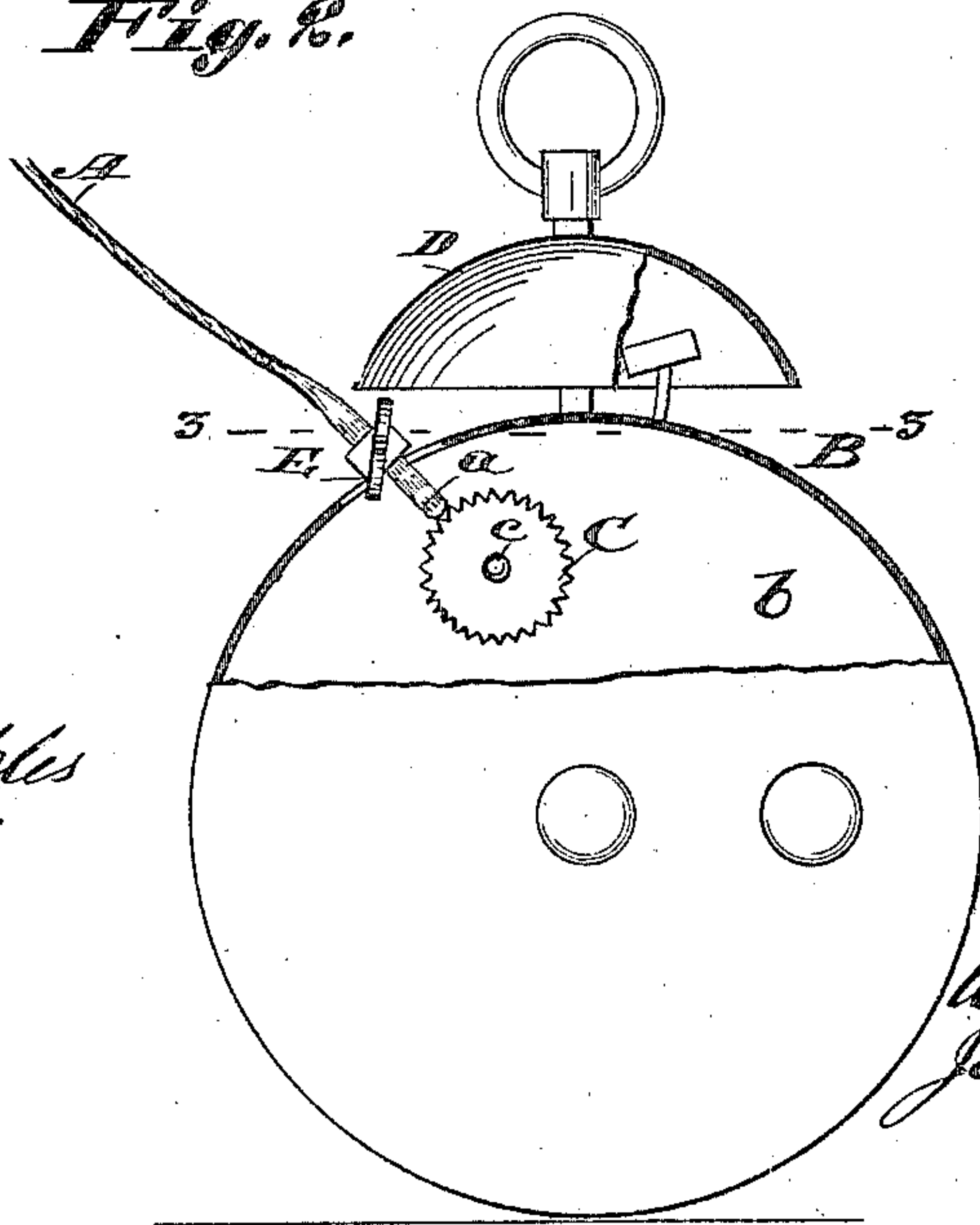
*Fig. 1.*



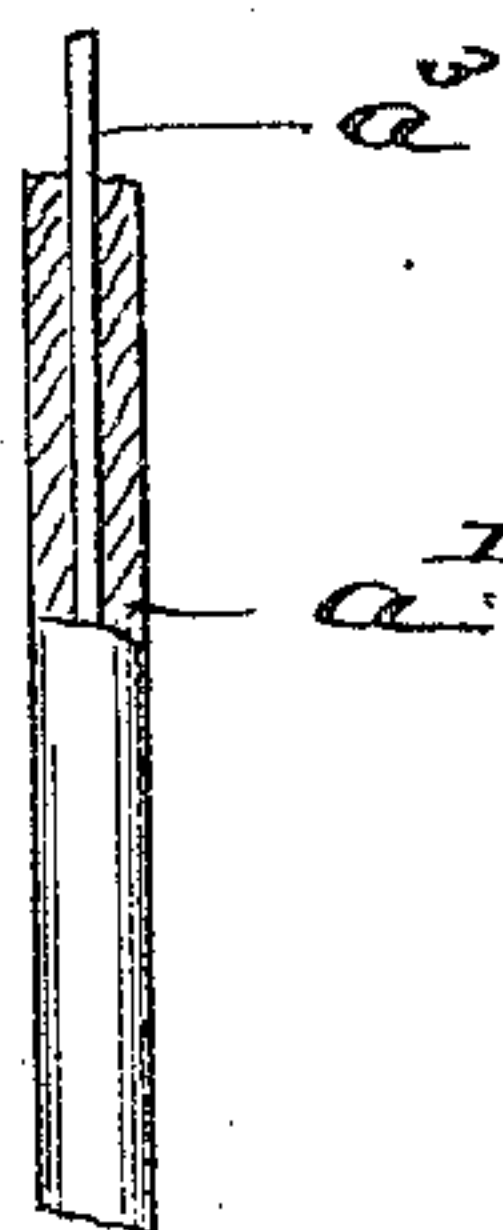
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

WILLIAM L. MCGINTIE AND JOSEPH A. MCGINTIE, OF ST. LOUIS, MISSOURI.

## AUTOMATIC FIRE-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 309,396, dated December 16, 1884.

Application filed January 10, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM L. MCGINTIE and JOSEPH A. MCGINTIE, of St. Louis, Missouri, have jointly made a new and  
5 useful Improvement in Lighting Devices, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

10 Figure 1 is a view in perspective illustrating an application of the improvement; Fig. 2, an elevation, partly in section, of the improvement; Fig. 3, a horizontal section on the line 3 3 of Fig. 2, and Fig. 4 a sectional  
15 view of a portion of the fuse.

The same letters of reference denote the same parts.

The present invention consists, substantially, of a fuse, in combination with a clock-work  
20 having an abrading-surface which at any desired time can be set in motion, and thereby caused to ignite the fuse, the fuse in turn being suitably connected with the clock-work, so that the abrading-surface can act upon it,  
25 and also being suitably extended, so that its flame when produced can be transmitted to a point remote or removed from the clock-work.

A represents the fuse, and B represents the  
30 clock-work. The abrading-surface is preferably a toothed wheel, C, which is conveniently attached to what is known as the "alarm-journal" *c* of the clock-work, for it is desirable in carrying out the improvement to  
35 employ a clock-work having an alarm, such as D. The fuse is connected with the clock-work so as to bring its end *a* in contact with the wheel C, substantially as shown in Fig. 2. The fuse can be readily inserted in this  
40 position and securely held by means of the clamp E. The clock-work should be so made as to enable the abrading-surface to be set to act at any desired time, and to this end the clock-work is preferably constructed similarly to that of an ordinary alarm-clock.  
45 When the appointed time arrives, the journal *c* is caused to rotate, and the wheel C, being attached to the journal, is rubbed against the end of the fuse, causing the fuse to ignite.  
50 The inflammable portion *a'* of the fuse extends past the clamp, and the clamp and fuse should be so made as to enable the flame as

the fuse burns to pass the clamp and not be extinguished at that point.

Fig. 1 illustrates a mode of applying the  
53 improvement. The clock-work is there seen resting upon the hearth of the stove, and the outer end, *a'*, is shown inserted through a register, so as to conduct the flame of the fuse into the stove, where it is supposed to come in con-  
60 tact with suitable material for igniting the fire in the stove.

It is desirable, for the purpose of properly sustaining the fuse, to make a fuse with a wire at *a'* at its center, as shown in Fig. 4.

To protect the mechanism of the clock-work from the action of the ignited fuse a guard-plate, *b*, is interposed between the fuse and the principal portion of the clock-work. This  
70 leaves only the abrading-wheel C exposed to the action of the heat and smoke of the fuse.

We are aware that an automatic fire-lighter wherein is clock-work, a weight operated thereby, and an abrading-surface operated  
75 by said weight has been before known and used; but these several parts are not combined in one, but are merely in connection with each other; and we make no broad claim to the features therein used.

We claim—

1. The clamps E, adapted to carry a fuse, A, in combination with clock-work B, having an  
80 abrading-surface, C, within said clock-work, and operated by its journal *c*, substantially as described.

2. The clamps E, adapted to carry a fuse, A, in combination with the clock-work B, having  
85 an abrading-surface, C, within said clock-work, and adapted to be operated at any desired time by its journal *c*, and the guard *b*, interposed between said clock-work and the fuse,  
90 substantially as described.

3. The clamps E, adapted to carry the fuse A, combined with the clock-work B, having  
95 an alarm, D, and an abrading-surface, C, placed and operated as described, and the guard *b*, all constructed and arranged substantially as shown and described.

Witness our hands.

W. L. MCGINTIE.  
J. A. MCGINTIE.

Witnesses:

C. D. MOODY,  
C. E. HUNT.