

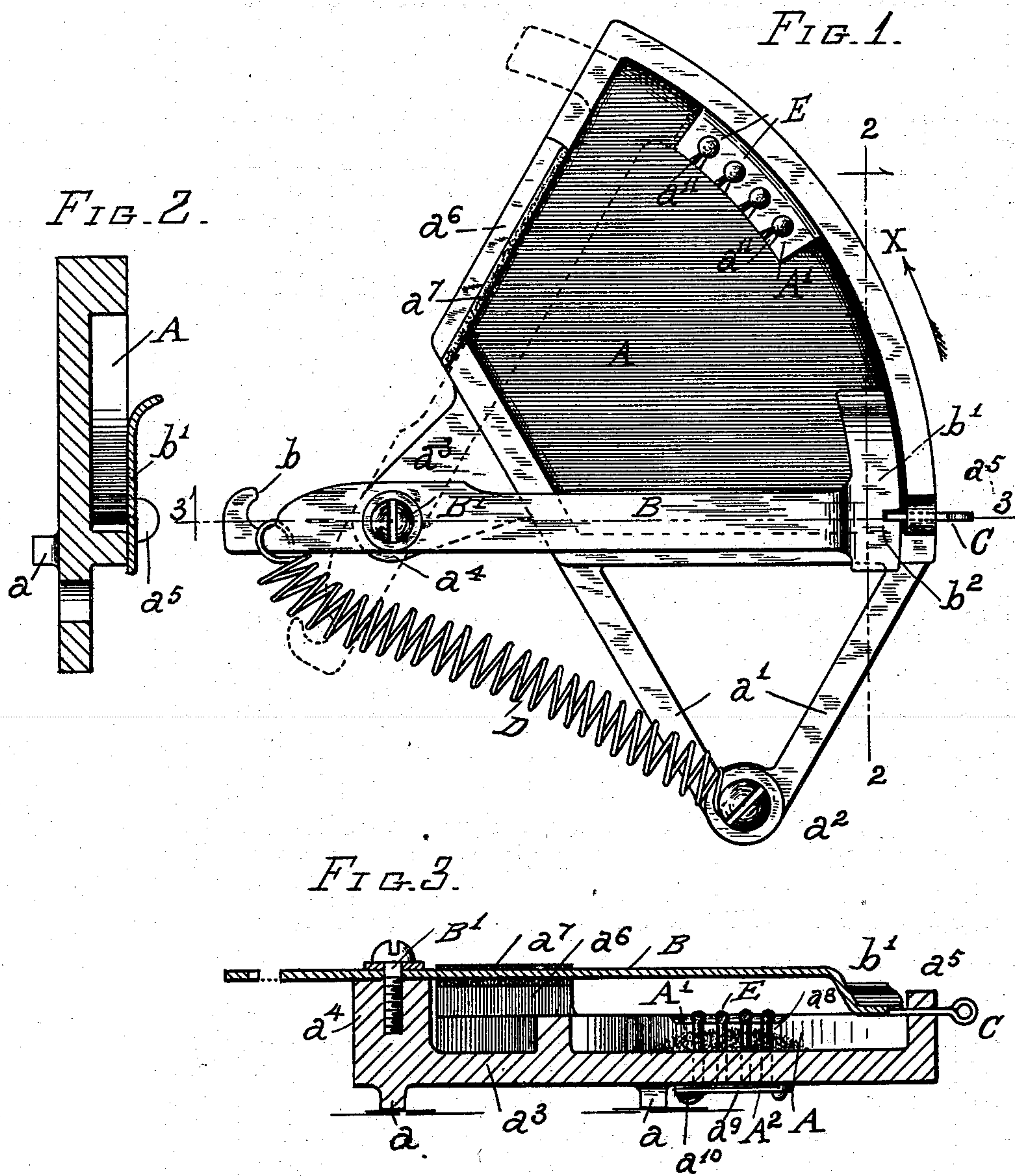
No. 651,939.

Patented June 19, 1900.

M. O. SMITH.
FUSE IGNITER.

(Application filed Mar. 15, 1900.)

(No Model.)



WITNESSES.
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UNITED STATES PATENT OFFICE.

MAURICE O. SMITH, OF SPRINGFIELD, ILLINOIS, ASSIGNOR OF ONE-THIRD
TO CHARLES KRITZBERGER, OF SAME PLACE.

FUSE-IGNITER.

SPECIFICATION forming part of Letters Patent No. 651,939, dated June 19, 1900.

Application filed March 15, 1900. Serial No. 8,833. (No model.)

To all whom it may concern:

Be it known that I, MAURICE O. SMITH, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Fuse-Igniters, of which the following is such a full, clear, and exact description as will enable others skilled in the art to which it appertains to make and use my
10 said invention.

My invention relates to devices adapted to contain combustible material, such as red fire, and provided with means for igniting same.

15 The purposes of my invention are to provide a main structure of simple and convenient construction combining stability and portability and adapted to contain a suitable amount of combustible material, to provide
20 simple and effective means for supporting ignitable fuses in proximity to the combustible material, to provide simple and effective means for igniting the fuses, to provide means for cutting the fuses to the desired length,
25 and to provide means for the timely and quick release of the igniting device.

With these ends in view my invention consists of the novel features of construction and combinations of parts shown in the annexed drawings, to which reference is hereby
30 made, and hereinafter particularly described, and recited in the claims.

Referring to the drawings, Figure 1 is a top plan of the complete apparatus. Fig. 2 is a
35 vertical longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a vertical transverse section on the line 3 3 of Fig. 1.

Similar letters of reference designate like parts in all of the views.

40 The main structure, which is preferably of metal, such as cast-iron or brass, consists of a box A, preferably of the form of a truncated sector, as shown. The box A has on its under side three integral feet a , on which the
45 box stands in such manner as to prevent rocking of the box when it is placed on an uneven floor, table, or other support. Converging extensions a' extend outwardly from one side of the box and at their juncture is
50 an upwardly-extending boss a^2 . An exten-

sion a^3 extends outwardly from the truncated side of the box and has at its outer extremity an upwardly-projecting boss a^4 . The extensions a' and a^3 and the bosses a^2 and a^4 are all preferably integral with the box A, as
55 shown. A sweep B turns on a bolt B' in the upper end of the stud a^4 and oscillates horizontally above the box A. The sweep B has at one extremity a hook b or equivalent device and at the other extremity a foot b' .
60 The under side of the foot b' has a serrated or roughened surface which rubs on the heads of the fuses usable with the apparatus and ignites the fuses. One end of the foot b' is curved upward, so as to prevent the foot from
65 striking too abruptly against and breaking off the heads of the fuses. A spring D has one end secured to the boss a^2 by a bolt or equivalent device and its other end suitably connected with the hook b . A lug a^5 on the
70 upper edge of the box A is pierced by a hole in which a pin C fits loosely, and the end of the pin enters a notch b^2 in the edge of the foot b' . When the sweep occupies the position shown in Figs. 1 and 3, the spring D is
75 stretched and the pin C, engaging in the notch b^2 , locks the sweep against movement by the spring. Upon the withdrawal of the pin C the spring D reacts to quickly throw the sweep in the direction indicated by the arrow X.
80

Projecting upwardly from the upper edge of one side of the box is a lug a^6 , faced with a cushion a^7 , of rubber or other yielding material. The lug a^6 serves to limit the throw
85 of the sweep, and the cushion serves to prevent jar and noise when the sweep stops against the lug.

The fuse-holder A' is inside of and preferably integral with the box A and lies under and within the sweep of the foot b' . Holes
90 a^8 , adapted to receive fuses E, extend through the holder A' and through the bottom of the box A. A plate A², pivotally mounted on the under side of the box A, underlies the holes
95 a^8 and prevents the fuses from falling there through. One edge a^9 of the plate A² is a knife-edge and may be used to cut the fuses to the proper length by inserting the fuses in the holes a^8 and then turning the plate on its
100 pivot, so as to cause the knife-edge to engage

with and cut off the lower parts of the fuses, which project below the bottom of the box. A lug a^{10} on the plate A^2 serves as a handle for turning the plate.

5 When it is desired to clean the holes a^8 , the plate A^2 may be turned, so as to uncover the holes and permit the contents thereof to be pushed downward and out through the holes.

10 From the foregoing it will be seen that the plate A^2 serves as a closure for the holes a^8 and also as a knife for cutting the fuses to the proper length.

Inclined ways a^{11} lead from the bottom of the box A to the holes a^8 .

15 I prefer to use wax fuses tipped with fulminate, as such fuses are convenient to handle and do not break easily; but fuses of any other suitable kind may be used.

In practical use the fuses E are placed in the 20 holes a^8 with the heads of the fuses at such height that the serrated under side of the foot b' will rub on the heads of and ignite the fuses during the passage of the shoe over the fuses. The combustible material to be ig- 25 nited by the fuses is placed on the bottom of the box A, contiguous to the fuse-holder A^2 , and the ways a^{11} are filled therewith. As the fuses burn down they ignite the material in the ways a^{11} , and thence the fire spreads to the 30 mass of material in the box A. Preparatory to igniting the fuses the sweep B is brought to the position shown in Fig. 1, and the pin C is inserted to temporarily retain the sweep in that position. When all is in readiness, the 35 sweep may be released by quickly withdrawing the pin C. This is preferably accomplished by means of a thread or wire fine enough to be not easily visible at a distance—say ten paces from the apparatus. One end 40 of the thread or wire is secured to the eye of the pin, and the operator jerks the thread or wire to withdraw the pin. When the pin is withdrawn, the spring D reacts to throw the sweep quickly to the position indicated by 45 dotted lines in Fig. 1, in which position it comes to rest with the edge of the sweep in contact with the cushion a^7 . During this movement of the sweep the shoe b' rubs on the top of and ignites the fuses, causing them 50 to set on fire the combustible material contained in the box A.

Having fully described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a fuse-igniter, the combination of a 55 sweep having a serrated and upturned foot, a box above which said sweep is oscillative, a fuse-holder adapted to support fuses in position to be engaged by the serrations on foot of said sweep, and means for operating said 60 sweep, substantially as set forth.

2. In a fuse-igniter, the combination of a box adapted to contain combustible material; a fuse-holder within said box, having holes 65 for fuses and ways leading to said holes; and a sweep having a serrated and upturned foot and oscillative above said fuse-holder, as set forth.

3. In a fuse-igniter the combination of a box, a fuse-holder integral with said box and 70 having holes extending therethrough, and a combined cutter and closure having a knife-edge and mounted on said box contiguous to the holes through the fuse-holder as set forth.

4. In a fuse-igniter, the combination of a 75 sweep having a serrated and upturned foot, a box above which said sweep is oscillative, a fuse-holder adapted to support fuses in position to be engaged by the serrations on the foot of said sweep, a spring actuating said 80 sweep and means for engaging and disengaging said sweep, as set forth.

5. In a fuse-igniter, the combination of a 85 notched sweep having a serrated and upturned foot, a box above which said sweep oscillates, a fuse-holder adapted to support fuses in position to be engaged by the serrations on the foot of said sweep, a spring actuating said sweep, and a pin on said box en- 90 gaging in the notch in said sweep, as set forth.

6. In a fuse-igniter the combination of a box, a sweep oscillative above said box, a spring actuating said sweep, means for setting 95 and releasing said sweep and a lug on said box limiting the movement of said sweep, as set forth.

In witness whereof I have hereunto subscribed my name, at Springfield, Illinois, this 15th day of February, A. D. 1900.

MAURICE O. SMITH.

Witnesses:

S. R. POLLARD,
M. S. HUDSON.