

E. HUSSON.
AUTOMATIC LIGHTER.
APPLICATION FILED APR. 10, 1911.

1,006,557.

Patented Oct. 24, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

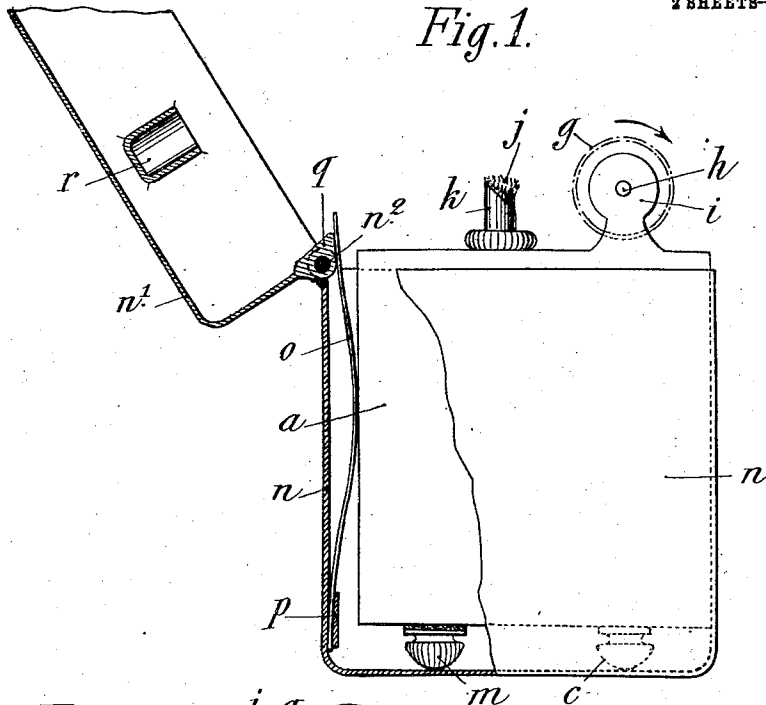


Fig. 2.

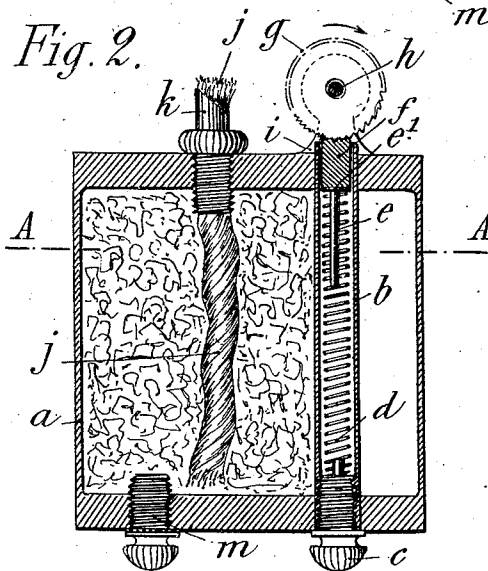


Fig. 3.

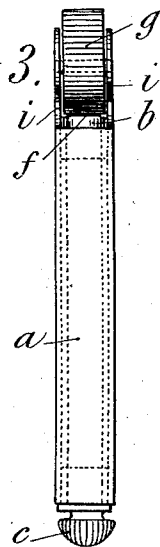


Fig. 4.

Witnesses:

Charles Frank
Charles Burger

Inventor

Edouard Husson

by *Attorney*
his Attorney

E. HUSSON.
AUTOMATIC LIGHTER.
APPLICATION FILED APR. 10, 1911.

1,006,557.

Patented Oct. 24, 1911.

2 SHEETS—SHEET 2.

Fig. 5.

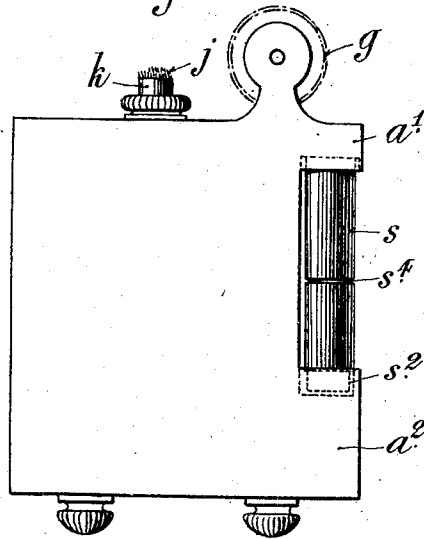


Fig. 6.

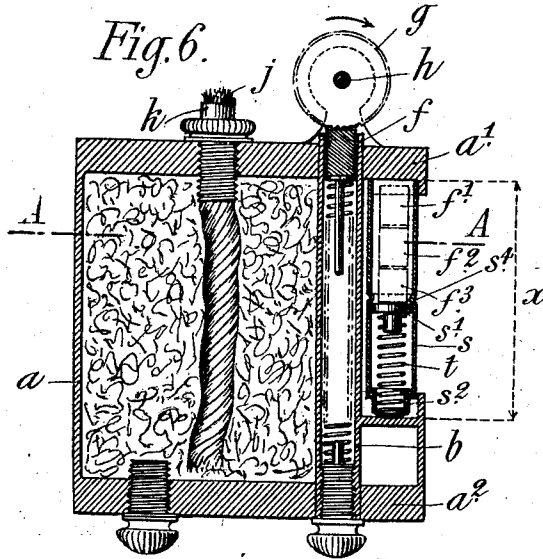
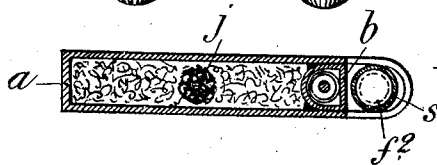


Fig. 7.



Witnesses:
E. Louis Frank
Clara Conger

Inventor
Edouard Husson
by *Chas. H. H. H.*
his Attorney

UNITED STATES PATENT OFFICE.

EDOUARD HUSSON, OF PARIS, FRANCE.

AUTOMATIC LIGHTER.

1,006,557.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed April 10, 1911. Serial No. 619,945.

To all whom it may concern:

Be it known that I, EDOUARD HUSSON, citizen of the Republic of France, residing at 29 Rue du Quatre-Septembre, Paris, France, have invented certain new and useful Improvements in Automatic Lighters, of which the following is a specification.

This invention relates to automatic lighters. In these devices a block of ferro-cerium or other like alloy is used which on rubbing against a milled wheel gives rise to a spark for igniting the wick, the mechanism for actuating the milled wheel, the reservoir for the spirit, the wick tube, the plug of the reservoir and the supporting mechanism of the sparking block being carried by the casing of the lighter. This casing has therefore several projecting members, namely the button for actuating the mechanism, the hinge of the cover and the threaded plug for the spirit reservoir. The attachment of all these members to the casing of the lighter has the result that any damage to the mechanism or one of the parts generally causes the whole lighter to be rendered useless, which is a considerable drawback especially when the lighter is made of one of the precious metals. Moreover, if the plug of the spirit reservoir is not perfectly tight fitting leakage may occur and the friction of the end of the plug in the pocket may cause unscrewing of the plug even if this latter does not fit tightly.

The object of the present invention is to provide an improved automatic lighter in which all these drawbacks are removed.

The essential feature of the improved automatic lighter consists in that the sparking block, milled wheel, spirit reservoir, wick tube, plug and all the actuating mechanism of the lighter are mounted in or on a rectangular box which fits with a certain amount of friction inside a second element forming an outer casing with a cover, the first element carrying all the above working parts being easily removable from the second element or casing. Inside the cover of the outer casing is provided a cap for covering the wick which projects from the first element which may be conveniently secured within the outer casing by means of a spring situated between the first element and a side wall of the outer casing. The whole when the cover of the casing is closed resembles in form the usual automatic lighters but without any projecting member; the outer

casing may be made of a precious metal and can last indefinitely as should any damage occur to a part of the mechanism carried by the removable element this latter may, if necessary, be easily and cheaply replaced.

The invention is illustrated by way of example in the accompanying drawings in which:

Figure 1 is an elevation partly in section of the entire automatic lighter with the cover open. Figs. 2, 3, and 4 illustrate the removable first element in sectional elevation, end elevation, and sectional plan on the line A—A of Fig. 2 respectively. Fig. 5 is an elevation of a modified form of first member. Fig. 6 is a sectional elevation of the same and Fig. 7 a sectional plan on the line A—A of Fig. 6.

The element carrying the mechanism is constituted of a completely closed box *a* through which passes in the vertical direction a tube *b* the bottom end of which is closed by a threaded plug *c*. The inner end of this plug acts as support for a spring *d* which forces upward a small rod *e* on the head *e'* of which is carried the usual ferro-cerium block *f*. The spring *d* thus presses the block *f* constantly against a milled wheel or roller *g* pivoted on a pin *h* mounted in two small lugs *i* which are formed by extensions on the top of the sides of the box. The greater part of the box *a* forms a reservoir in which the wick *j* is lodged and the end of the wick passes through a tube *k* screwed through the top of the box.

The spirit is poured into the box through a hole in the bottom of the same normally closed by a threaded plug *m*. The mechanism carrying element constructed in this manner fits into the protective outer casing *a* the distance between the side walls of the casing being very slightly greater than the thickness of the box *a*. The width of the box *a* is preferably made less than that of the casing and the box is secured in the latter by a spring *o* one end of which is suitably attached at *p* to the inside of the outer casing. This same spring may also be used to provide the suitable spring closing of the cover *n*¹ which is hinged at *n*² and provided with a lug *q*. In the cover *n*¹ of the casing a cap *r* is provided which, when the cover is closed, fits over the wick tube *k*.

It will be readily understood that the casing *n* may be made of a precious metal while

the element carrying the mechanism which is completely and easily removable may be manufactured at small cost. The casing completely shelters all the members of the mechanism and particularly the plugs m and c so that no unscrewing of these latter by friction against the sides of the pocket need be feared thereby eliminating leaks, and other accidents which such unscrewing or poor fitting of the plug might cause.

The constructional details of the two elements may obviously vary without altering the principle of the invention, for example, the cover of the casing instead of being hinged may be simply made a sliding fit on the casing, or the spring for securing the box carrying the mechanism may be eliminated. The re-filling plug m may be arranged on the top of the box a instead of at the bottom, and thus be sheltered inside the cover of the casing instead of being lodged at the bottom thereof. The removable member carrying the mechanism may also be lodged within a suitable compartment of a casing which also serves for containing other objects, for example, the inclosing walls of the casing may be extended in such a manner that one portion of them incloses the automatic lighter while another portion of the casing forms a cigarette case or the like. With reference to the modification of the mechanism element shown in Figs. 5-7, a denotes the box as before, a^1 a^2 denote extensions of its walls which serve as a holder for a small sleeve s containing spare spark blocks. The mounting of the sleeve s in the box a is preferably effected in the simple manner illustrated in the drawing.

The sleeve s has a false bottom s^1 and an elastic bottom s^2 formed of a plug having a flange which is prevented from dropping out by an internal flange on the sleeve s . A spring t is lodged between the false bottom s^1 and the plug s^2 . The false bottom may be formed of a disk which is continu-

ously pressed against a shoulder s^4 in the wall of the sleeve s . The sleeve s is open at the top and is held in place between the suitably recessed extensions a^1 a^2 , the distance x between the faces of these recesses being less than or equal to the length of the entire sleeve s when the spring t is completely extended. To insert the sleeve s in position it is only necessary to insert the plug s^2 in its recess and to force in the spring t far enough to allow the top of the sleeve to pass underneath the lower edge of the projection a^1 whereupon the subsequent extension of the spring causes the sleeve to be safely held between the two extremities a^1 and a^2 . f^1 , f^2 , and f^3 denote spare spark blocks one of which may be taken out and inserted in working position when the initial spark block f becomes worn out.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In an automatic lighter, a box member containing all the actuating mechanism and accessories, a sleeve containing spare spark blocks removably mounted between extensions of the top and bottom of the box, and a separate outer casing with a cover within which casing the box member is lodged.

2. In an automatic lighter, a box member containing all the actuating mechanism and accessories, a sleeve containing spare spark blocks removably mounted between extensions of the top and bottom of the box, a separate outer casing of greater width than the box member and adapted to contain the latter, and means for releasably retaining the box member in the casing.

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

EDOUARD HUSSON.

Witnesses:

LOUIS FAUTRAT,
H. C. COXE.