(No Model.)

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MATCH IGNITING DEVICE.

No. 602,593. Patented Apr. 19, 1898.

Fig. 1.

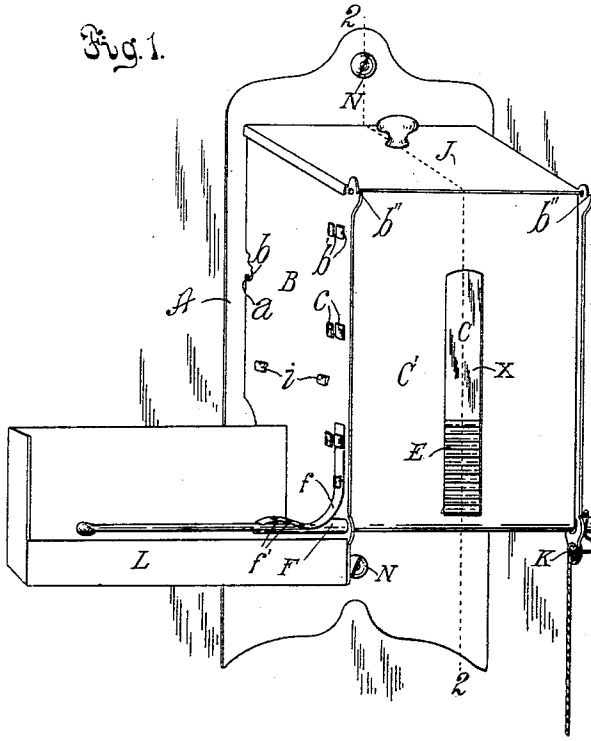


Fig. 5.

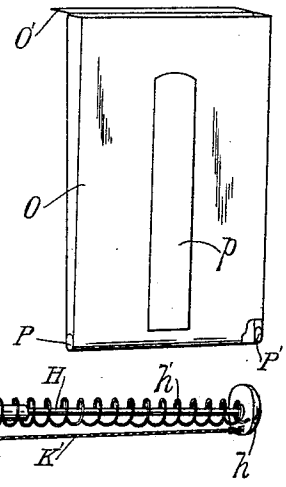


Fig. 2.

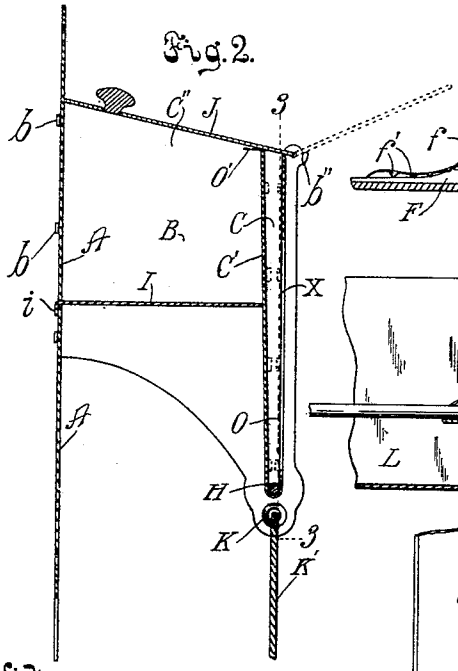


Fig. 3.

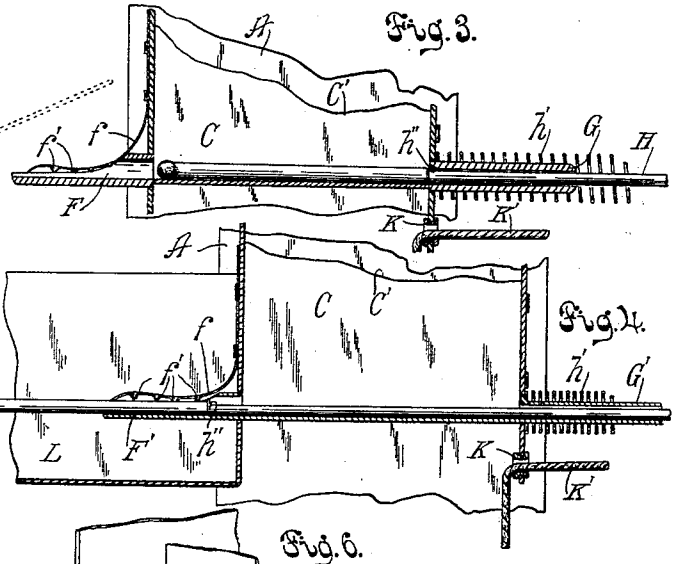
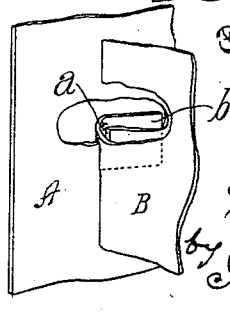


Fig. 4.

Fig. 6.



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CHARLES F. AXELSON, GUSTAVUS A. AXELSON, AND ROBERT W. GUNN, OF LOS ANGELES, CALIFORNIA.

MATCH-IGNITING DEVICE.

SPECIFICATION forming part of Letters Patent No. 602,593, dated April 19, 1898.

Application filed June 1, 1897. Serial No. 639,052. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. AXELSON, GUSTAVUS A. AXELSON, and ROBERT W. GUNN, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Match-Igniting Devices, of which the following is a specification.

Our invention relates particularly to those devices which are designed to hold matches and to be operated to project a single match at a time from a receptacle and to ignite such match while it is being projected.

One special object of our invention is to provide a device of this kind which will be suitable for attaching to the walls of dwellings or other places or other supports, will be extremely light and rigid, may be formed of sheet metal and stamped by dies into form ready to be placed together, so that the various parts may be assembled by unskilled labor, and a device possessing the utmost rigidity and strength be produced, so that although the igniting device is secured at a distance from the base the attachment will be so rigid and strong as to avoid any liability of wrenching or racking of the device when it is operated. We thus provide an igniter which is always in order and whereby matches may be ignited and held in convenient position to be grasped and used by the operator, thus avoiding all necessity or liability of any one disfiguring walls by scratching matches thereupon.

A further object of our invention is to provide means whereby the device may be secured to a support, and a string, cord, or other flexible device may depend therefrom within convenient grasp of a person sleeping in a bed, so that in case of emergency by simply pulling the string a match or several matches in succession may be ignited and held in position to illuminate the room without requiring that the operator arise from the bed.

Our invention also comprises a match-igniter having arranged below the discharge-tube a receptacle to receive the burned and unburned ends of matches and to also receive a lighted match in case it should be inadvertently projected from the igniting-tube so far as to release the grasp of the igniting device upon the match. By this means we avoid all liability of fire.

Our invention also relates to means whereby the supply-chamber may be readily refilled with matches.

Our invention comprises the various features of construction and combination of parts hereinafter fully set forth and claimed, whereby we accomplish the objects hereinbefore set forth.

The accompanying drawings illustrate our invention.

Figure 1 is a perspective front elevation of a combined igniter and match-safe embodying our invention. Fig. 2 is a longitudinal sectional view of the same on line indicated by 2 2, Fig. 1. Fig. 3 is a fragmental sectional view on line indicated by 3 3, Fig. 2. Fig. 4 is a like view showing the guide-tube for the plunger and the igniting-tube therefor formed integral with the sheet-metal strip which forms the match-supply chamber. Fig. 5 is a perspective view showing our improved auxiliary supply-chamber, which is adapted to be filled with matches and inserted into the main match-supply chamber. Fig. 6 is a fragmental view showing the slotted base and a tongue in place therein.

In the drawings, A represents a metallic base, preferably formed of sheet metal and provided with slots *a* to receive tongues *b*, which are provided upon the rear edges of the side members or supports B of the igniting device. The side members or supports B are also provided with slots *b'*.

C is a match-supply chamber, which is formed by a single strip of sheet metal C' returned upon itself to form a chamber adapted to hold a single row of matches E in position to be successively fed to the igniting-tube. This strip C' is provided upon its side edges with tongues *c* to project through the slots *b'*, provided in the side members B.

F is an igniting-tube or discharge-outlet arranged at one end of the bottom of the match-supply chamber C.

f is an igniting device, formed of spring metal, projecting into the discharge-tube and

having projecting points f' to engage and ignite the head of the match as it is forced through the discharge-tube.

G is a guide-tube projecting from the other end of the chamber C and adapted to receive and support a plunger H, which reciprocates therethrough to carry matches successively from the chamber C and to force them through the discharge-outlet F. The plunger H is provided with a head h, and a spiral spring h' encircles the plunger and is adapted to normally hold it retracted from the chamber C.

As shown in Fig. 3, the igniting-tube F and the guide-tube G are formed separate from the match-supply chamber C and are secured to the side members B. In Fig. 4 the igniting-tube F′ and the guide-tube G′ are formed integral with the sheet-metal member C′ and project through suitable openings provided in the side members or supports B.

I is a bottom for the match-box C″. This bottom is formed of sheet metal and provided upon its edges with tongues i, which project through slots in the base member and in the side members B.

J is a cover adapted to close the top of the chamber C″, which forms a match-box, in which may be stored the matches to be placed in the supply-chamber C. This cover may be swung upon its pivots until it engages with the stops b'', provided upon the side members B, which stops hold the cover in the position indicated in dotted lines in Fig. 2. The matches may then be laid upon the cover and the supply-chamber C readily filled by allowing the matches to fall from the edge of the cover into the supply-chamber.

X is a slot in the front of the supply-chamber, through which may be observed the matches in the chamber, so as to determine when the supply of matches needs to be replenished.

K indicates a cord-guide secured to one of the side members B or to any other suitable support, and K′ is a cord having one end secured to the head of the plunger, its body passed through the guide and its other end hanging free below the cord-guide and adapted to be grasped by the person desiring to operate the igniter.

L is a receptacle or box arranged below the igniting-tube and adapted to receive the unburned match ends as well as the ashes from the burned matches. This box also serves to prevent a match falling upon the floor while ignited, and thereby avoids all danger of fire in case the operator should become excited and ignite a second match while the first match is still burning.

In practice the various parts are stamped from sheet metal by means of dies, the operation being very cheap and quickly performed.

The various tongues are stamped at the same time the blanks are formed, and the slots are afterward formed. Then the box L, which is formed integral with one of the side members B, is bent into shape to project below the igniting-tube, as shown, the match-supply chamber is formed, and the tongues thereof are slipped through the slots provided therefor in the side members B. At the same time the bottom I is placed in position with the tongues i passing through the slots provided therefor. The igniting device f, which is formed of a strip of spring metal, is also slotted and is placed upon two of the tongues, as shown in Fig. 1, so that when such tongues are bent down to prevent their withdrawal from the slots the spring is thereby rigidly held in position.

The various tongues may be riveted, clenched, or bent down upon the side members B, as shown in the drawings, and thereby a rigid connection made between the various parts. The plunger is placed in position in the guide-tube before the side members B are secured to the bottom and the supply-chamber. The head h of the plunger is removable, so that the plunger may be inserted from the inner end of the guide-tube, an enlargement h'' being provided upon the end of the plunger to prevent it from being withdrawn from the tube. The coiled spring h' is arranged encircling the plunger, and the head h is secured upon the outer end of the plunger. Then the base-plate or back A is placed in position with the tongues provided upon the side members and the bottom passing through the slots in such base, after which the tongues are riveted, bent, or clenched down upon the base and the device is ready for operation.

When it is desired to use the device, it is secured by means of screws N to the wall of a building or other suitable support and the match-supply chamber C is filled with matches, each match having its head presented toward the discharge-tube. When it is desired to ignite a match, the plunger is pushed inwardly, thus carrying one match from the supply-chamber out through the discharge-tube, the igniting device scratching the head and igniting the match. The plunger forces the match into the position indicated in Fig. 4, and the spring h' then retracts the plunger, thus leaving the end of the match within the igniting-tube and firmly gripped by the igniting device, whereby the match is held free from obstacles while it is burning. The match may then be removed and used for lighting a lamp, cigar, or any other article, or it may be left in the holder, in which case it will burn down to the outer end of the igniting-tube and will then go out. The next time the plunger is operated the match will force the burned end from the tube, and it will fall into the receptacle, the end of this match remaining in like manner within the igniting-tube until it is forced therefrom by the next match ignited.

It is necessary that the igniting device be supported at some little distance from the

wall in order to avoid liability of smoking the wall by the burning match and also to avoid the inconvenience of operating the plunger when such plunger is arranged close to the wall. By our improved construction, the match-supply chamber being formed of two side members arranged at a distance from each other and both members rigidly secured to the sides or supports B, a brace is thus formed which will receive any sidewise strain exerted when the operator is forcing the plunger inward to ignite a match. The bottom further stiffens this construction, so that although the match-supporting device is arranged at a considerable distance from the wall, so as to be entirely free therefrom, and the various parts are very light and thin, still the device is absolutely rigid, and even under severe usage there can be no racking or straining of the parts.

In case burglary is anticipated the igniting device may be so arranged as to cast a light away from the bed that the occupant may be in obscurity and a person in any other portion of the room will be plainly visible.

In Figs. 2 and 5 we have shown our improved auxiliary magazine, which is a case O, formed of thin sheet metal returned upon itself, provided with a sight-opening *p*, corresponding to the sight-opening X in the front of the chamber C, and having its ends closed excepting at the bottom, where an opening P is left at one end for the exit of the match from the magazine into the discharge-tube, and an opening P′ at the other end for the plunger to enter the magazine. This magazine is of such a size as to hold a single row of matches, to fit closely within the main chamber C and, by means of the projecting lip O′, to be readily removed therefrom. A number of the auxiliary magazines may be supplied with the igniting device and they may be filled with matches and arranged in a convenient place ready to be inserted into the match-chamber. When the matches are exhausted from the match-supply chamber, which can be readily observed through the sight-slots X and *p*, the empty auxiliary magazine may be removed therefrom and one previously filled with matches quickly slipped into place therein, when the device will again be ready for operation. The separate or auxiliary magazine may be more easily filled than can the chamber C, and therein the convenience of the device is increased. The metal of which the auxiliary magazine is made is so thin that such magazine may be used in the chamber C, or the chamber C may be used independent thereof, the thinness of the metal making no appreciable difference in the operation of the plunger.

Now, having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a match-box the combination set forth of a base-plate provided with slots: a match-supply chamber formed of an integral strip of sheet metal returned upon itself and adapted to hold a single row of matches and provided upon its edges with projecting tongues: a bottom provided upon its sides with projecting tongues: side members or supports each provided upon its rear edge with tongues to fit within slots in the base member, and provided with slots to receive the tongues upon the side edges of the match-supply chamber, and the bottom: a cover for the top of the match-supply chamber and the match-box: an igniting-tube projecting from the bottom of one end of the match-supply chamber: a guide-tube projecting from the other end of such chamber: a plunger arranged to reciprocate in the guide-tube and to successively carry matches from the match-supply chamber through the igniting-tube: and a spring arranged to return the plunger to its normal position.

2. The combination set forth of a base-plate provided with the projecting supports having slots therein: a supply-chamber comprising an integral strip of sheet metal returned upon itself and provided at the bend with projecting tongues curved into a tubular shape to form upon one end a discharge-tube and upon the other end, a guide-tube for a plunger, and also provided upon its edges with projecting tongues, the tongues being passed through the slots in the supports and secured.

3. In a match-igniting device, the combination set forth of a sheet-metal base adapted for attachment to a wall and provided with slots: sheet-metal side members each provided with tongues to pass through the slots in the base and also provided with slots for the reception of tongues: a match-supply chamber adapted to hold a single row of matches: a discharge and igniting tube leading from one end of the bottom of such chamber: a guide-tube projecting from the other end of the bottom of such chamber: tongues projecting from the edges of the chamber and passed through the slots in the supports: a plunger arranged to reciprocate in the guide-tube: a coiled spring encircling the guide-tube and arranged to retract the plunger: a cord-guide secured to the support: a cord secured at one end of the outer end of the plunger, passed through the cord-guide and depending therefrom, substantially as set forth.

4. In a match-igniting device, the combination set forth of a base arranged for attachment to a wall: a match-supply chamber secured to the base and adapted to supply matches to a plunger: a discharge-tube leading from one end of the bottom of the supply-chamber: an igniting device projecting into the discharge-tube: a guide-tube projecting from the other end of the bottom of the supply-chamber: a plunger arranged to reciprocate in the guide-tube and adapted to carry matches from the bottom of the chamber out through the discharge-tube: and a receptacle

arranged beneath the igniting-tube to receive the burned match ends.

5. In a match-igniting device the combination set forth of a base arranged for attachment to a wall, a match-supply chamber secured to the base and adapted to successively supply matches to a plunger: a discharge and igniting tube projecting from one end of the bottom of such chamber: a guide-tube projecting from the other end of the bottom of such chamber: a plunger arranged to reciprocate in the guide-tube and to carry matches from the bottom of the chamber out through the discharge-tube: a spring arranged to retract the plunger: a cord-guide secured to the chamber: a cord attached at one end of the outer end of the plunger, passed through the cord-guide and depending from the igniting device.

6. In a match-igniting device, the combination set forth of a chamber provided at one end with an igniting-tube and at its other end with a projecting guide-tube: a plunger arranged in the guide-tube: and an auxiliary magazine adapted to contain a single row of matches and to fit within the supply-chamber, and provided with openings in its ends for the entrance of the plunger and the exit of the match.

7. In a match-igniting device, the combination of a match-supply chamber; an igniting-passage through which matches are successively forced from the supply-chamber; means for forcing matches through the igniting-passage; means arranged at the end of the igniting-passage to hold the ignited match; and a receptacle arranged below the match-holder to receive the ashes and match ends of the burned matches.

8. A match-igniting device having a chamber provided in its front wall with a sight-slot, and a removable magazine adapted to fit within such chamber and provided in its ends with openings for the entrance of a plunger and the exit of a match, and having in one side a sight-slot corresponding to the sight-slot in the wall of the chamber.

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