(No Model.)

F. M. WIRTZ.

CIGAR CLIPPER AND LIGHTER.

No. 343,746. Patented June 15, 1886.

Fig 1.

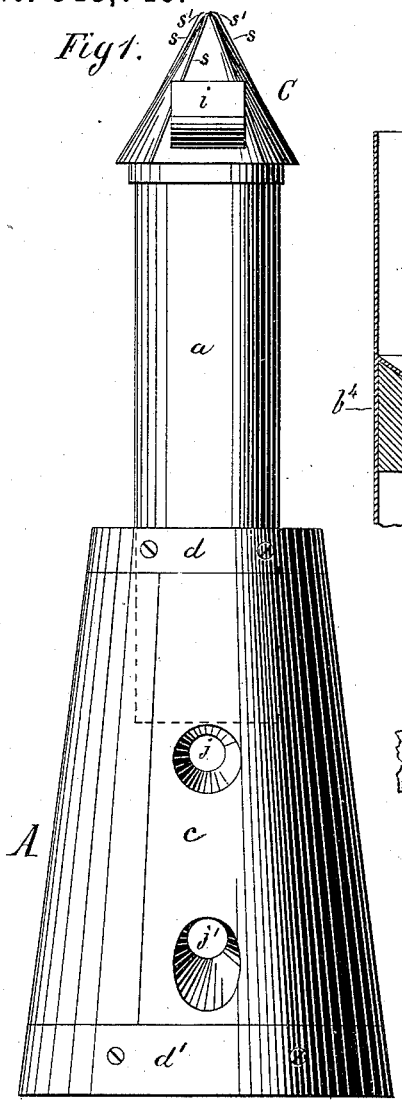


Fig 4.

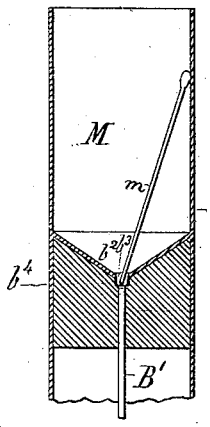


Fig 2.

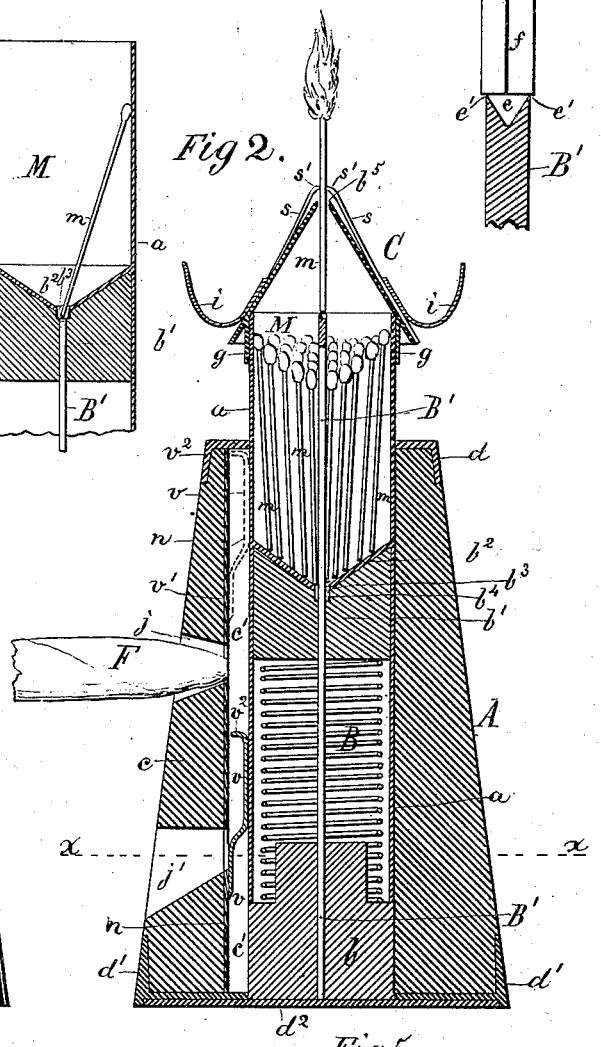


Fig 7.

Fig 6.

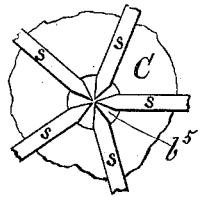


Fig 3.

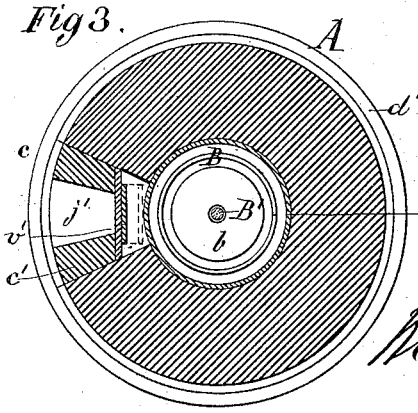
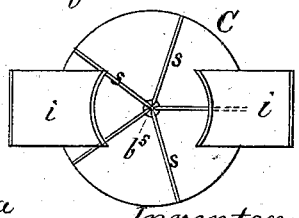


Fig 5.



Witnesses:
R L Fenwick
B C Fenwick

Inventor:
Frederick M. Wirtz
by his attys
Mason, Fenwick & Lawrence

UNITED STATES PATENT OFFICE.

FREDERICK M. WIRTZ, OF COLUMBUS, OHIO.

CIGAR CLIPPER AND LIGHTER.

SPECIFICATION forming part of Letters Patent No. 343,746, dated June 15, 1886.

Application filed January 5, 1886. Serial No. 187,676. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK M. WIRTZ, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Cigar Clippers and 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 appertains to make and use the same.

In the accompanying drawings, Figure 1 is an elevation of my cigar clipper and lighter, the same being shown in normal condition for operation. Fig. 2 is a vertical central section of Fig. 1, and exhibits the machine at the instant it has performed its work. Fig. 3 is a cross-section in the line *x x* of Fig. 2. Fig. 4 is a broken detail view of a portion of the match-containing cylinder, which is depressed into the position shown in Fig. 2 when the machine is operated, and illustrates how a match automatically seats itself in position to be operated upon after said cylinder has returned from said depressed position, shown in Fig. 2, to its normal position, shown in Fig. 1. Fig. 5 is a plan view of a conical cap, shown in working position upon the match-cylinder in Figs. 1 and 2. Fig. 6 is a broken enlarged view of a portion of said cap, and shows in magnified size a nest of the points of springy match-scratchers, through which nest centrally a match is forced, as signified in Fig. 2, such act causing the match to become ignited; and Fig. 7 is a broken enlarged longitudinal sectional view of the upper end of the metal rod, against which a match will seat itself preparatory to being thrust up through the conical cap on top of the match-cylinder, as shown in Fig. 2, and an enlarged view in elevation of a portion of a "split" or square-bodied match in contact with the upper end of said rod.

In the drawings, A indicates the main body portion of the machine, which may consist of a block of wood bored through centrally to receive therein, but loose enough to be easily moved up and down, a metal tube or cylinder, *a*, the bottom of which rests upon a stop-block, as *b*, at the base of the machine, as shown, only when said cylinder has been fully depressed, as signified in Fig. 2, said cylinder rising out of contact with said block and up to an elevation indicated by the dotted lines in Fig. 1, when the cylinder is allowed to return from its depressed condition (shown in Fig. 2) to its normal position, (shown in Fig. 1,) ready for operation. This body portion A may be of solid wood throughout, and conical form, as shown, but with a longitudinal portion cut out from top to bottom, in order to receive in the space left a corresponding but tight-fitting longitudinal strip or section, as *c*, of reduced diameter, so as to leave a space, *c'*, between the strip or section *c* and the cylinder *a* when the same are in working position, as signified in Figs. 1, 2, and 3. A cast-metal cap, as *d* and *d'*, applied and in any proper manner secured to the top and bottom of the body portion A, serve to bind the parts together, the top cap, *d*, having a proper opening to admit of the travel of the cylinder *a* up and down therein, while the bottom of the stop-block *b* occupies a like opening through the cap *d'*, and is held in place by the downward pressure of the coil-spring B on top of same, and by the disk-plate d^2 at bottom thereof, as shown.

B indicates a coil-spring of less diameter than the cylinder *a*, and working therein, its lower end resting upon the stop-block *b* and surrounding an upper reduced portion of same, whereby the spring is held from undue lateral displacement, while the upper end of the spring abuts against a block, *b'*, fixedly seated in the cylinder *a*, as shown, the tension of the coil-spring B being such as to force the cylinder *a* from its position shown in Fig. 2 to its position shown in Fig. 1, on removal of the pressure, whereby said cylinder may have been forced down from its normal position (shown in Fig. 1) to its position shown in Fig. 2.

B' indicates a steel rod which extends upward centrally from the stop-block *b*, in which it is permanently seated. This rod is of such length with reference to the full upward "throw" of the cylinder *a* from off the stop-block *b* that when said cylinder has risen to its normal height, as in Fig. 1, the extreme upper end of the rod will occupy its position, as shown in Fig. 4, in and centrally of the

block b', and through which block it is made to pass in the operation of the machine. Above the block b' is a division-plate, b^2, in the form of an inverted cone, and which serves as a bottom of a match box or receptacle, M, for matches, at the upper end of the cylinder a. Centrally and at its bottom this plate b^2 is perforated, as at b^3, the hole or perforation b^3 being of a diameter slightly greater than the diameter of the rod B', and at the same time just large enough to freely admit the passage through it of the lower end of a single match, m, as signified in Fig. 4, and immediately under and exactly registering with the hole b^3, I form a cup-shaped cavity, b^4, of same diameter at its top as hole b^3, and which, as well as the perforation b^3, is in vertical line with the upper end of the rod B', and as said end of the rod B' is made "dishing," as at e in Fig. 7, a single match having a round body, as m, or one of a bunch of such matches, when dropped into the box or receptacle M at a time when the cylinder a is fully elevated, as in Fig. 1, will automatically slide down the plate b^2 and seat itself on top or in the cavity e of the rod B', as signified in Fig. 4. If, however, square-bodied matches are used, as indicated at f in Fig. 7, and happen to be of a diameter somewhat greater than the diameter of the steel rod B', but not so great as to prevent their lower ends, one at a time, from entering the cavity b^4, then in such case, when the cylinder a is forced down to its position shown in Fig. 2, the sharp circular edge e' of this rod will engage with the lower end of such match and force it up out from the box M.

To further enable the rod B' to perform its function, I provide a conical metal cap, C, as shown, for the cylinder a, the lower cylindric portion, g, of which tightly, but removably, fits around the upper end of the cylinder, as shown. This cap is provided at opposite sides with curved finger-plates $i\,i$, as represented, so that the operator may by placing one finger of his hand upon each plate readily depress the cylinder a. This cap at its apex is made with a perforation, b^5, of suitable size to allow a match to just easily pass through, and at spaced distances apart the rear ends of metal but springy match-scratchers $s\,s\,s\,s\,s$ are soldered or otherwise suitably attached to the surface of the cap C. The working or forward ends, s', of these scratchers are tapered to a sharp point, as clearly shown in enlarged view, Fig. 6, and made to slope upward on their under surface, so that a match can be thrust between them from below, and are so placed in juxtaposition as to form a nest of sharp points almost but not quite touching each other at a point over the hole b^5, and central thereof, as shown.

We will suppose the match-box M to be filled with round-bodied matches m, as in Fig. 2, and that the machine is in normal position, as in Fig. 1. We now place a finger on each of the curved plates i and force down the cylinder a until its lower end strikes upon and is arrested by the stop-block b. This act compresses the coil-spring B and causes the rod B' to pass through the block b' and the cavity b^4, carrying with it a single match, m, the bottom end of which has become seated in the dishing portion e of said rod while the machine was out of action, as in Fig. 1. If there should be but a single match in the box M, as in Fig. 4, it will have the inclined position there shown, and on being shoved up by the rod B' will travel up, with its upper end against one side of the cylinder a, until it reaches the cap C, when said upper end will be unerringly guided to the hole b^5, and through it to the center of the nest of scratchers s, through which nest it will be forced, and ignited in its passage by the frictional contact of the sharp edges or points of the scratchers. If, however, the box M should be full of matches, a single match will be forced up from such number, and if in rising the top of the match should strike against the inner surface of the conical cap C it will in like manner be forced onward and ignited while being forced through the nest of scratchers s, as illustrated in Fig. 2.

As before stated, the body portion A is constructed with a section, c, which, when in position, leaves a space, c', from top to bottom of the machine, as shown.

To one side of the cylinder a a knife, v, is fixedly secured, which has a chisel-edge, as at v', on a horizontal line with the lower end of the cylinder a. This knife at its top is made with a bend, as v^2, which, on the upward throw of the cylinder, strikes against the cap-plate d, and so arrests the further and undue projection of the cylinder after it has attained its normal height, as in Fig. 1, at which height it will come to rest, with the rod B' occupying its relative position, as indicated in Fig. 4, and in which position the knife v will have risen, with the cylinder a, up to a point in the space c' indicated by dotted lines in Fig. 2.

The section c is perforated with varying proper-sized holes, as at $j\,j'$, into which the end of a cigar, as F, may be inserted, so as to project more or less beyond a metal face-plate, n, applied to the inner surface of the section, and against which the cutting-edge of the knife travels, and thus have its inserted end cut off by the cutting-edge v' of the knife v, when the cylinder a is forced down to its position shown in Fig. 2, such act of cutting also simultaneously elevating and igniting a match with which to light the cigar.

In practice there may be a proper aperture through the plates d' d^2 in line with the space c', through which the nibs or cut-off ends of cigars can be discharged from the machine when desired.

What I claim is—

1. In a machine for cutting off the end of a cigar and igniting a match with which to light the cigar, the combination of a main body portion, A, vertically-movable cylinder a, having

a match-receptacle, M, spring B, rod B′, stop-block *b*, knife *v*, and a portion perforated, as at *j*, substantially as described.

2. The body portion A, provided with an inserted section, *c*, having openings *j j′*, and an inner plate, *n*, in combination with the movable cylinder *a*, the knife *v*, attached to said cylinder, and spring B, substantially as and for the purpose described.

3. The combination of a perforated body portion, A, reciprocating cylinder *a*, provided at its upper end with a match-receptacle, M, spring match-scratchers *s s′*, the rod B′, and a knife, *v*, substantially as and for the purpose described.

4. The combination, with body portion A and rod B′, of reciprocating match-receptacle having conical cap C, provided with pointed spring-strips *s s′*, attached to said conical cap and extending over the aperture in the same, said spring-strips being placed at different points around the said cap, coming together about the aperture in the cap, and being inclined on their under sides at that point, substantially as and for the purpose described.

5. Spring-scratchers *s s′* and conical cap C, having an aperture, b^5, in combination with a reciprocating match-receptacle, M, rod B′, knife *v*, and a perforated body portion, A, substantially as and for the purpose described.

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

FREDERICK M. WIRTZ.

Witnesses:

JOSEPH HEIMANN,

FREDERICK BUEHNE.