

H. WELLINGTON & W. BOURKE. Cigar-Lighter.

No. 203,805.

Patented May 14, 1878.

Fig. 1.

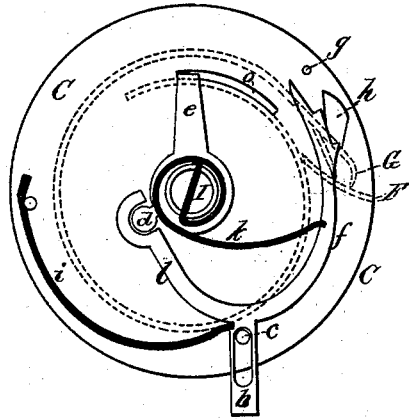


Fig. 3.

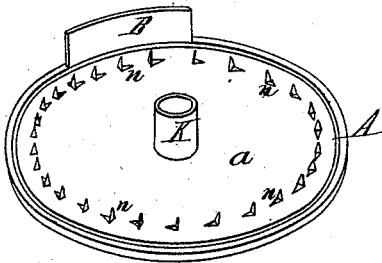


Fig. 4.

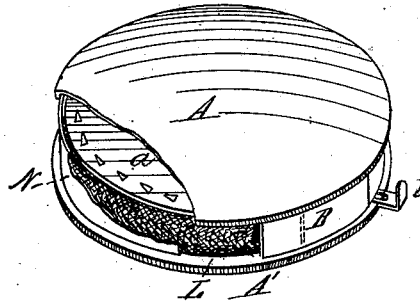
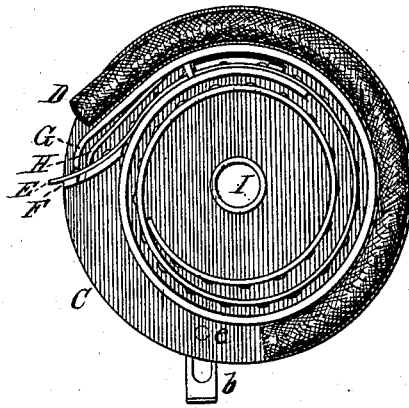


Fig. 2.



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Fig. 5.

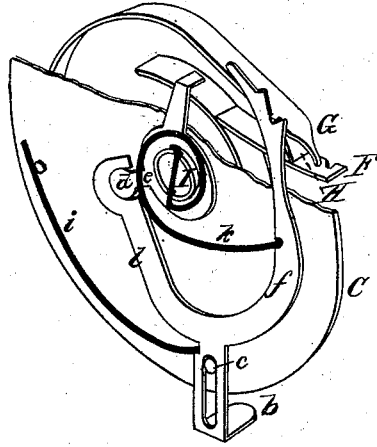
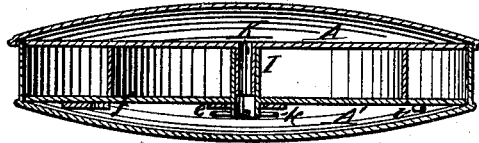


Fig. 6.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CIGAR-LIGHTERS.

Specification forming part of Letters Patent No. **203,805**, dated May 14, 1878; application filed
January 28, 1878.

To all whom it may concern:

Be it known that we, HENRY WELLINGTON and WILLIAM BOURKE, respectively of Green Point, county of Kings, and New York city, and county of New York, in the State of New York, have jointly invented certain new and useful Improvements in Cigar-Lighters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a plan view of the under side of the intermediate plate employed in the construction of our improved device, showing the relative arrangement and location of the parts intended to operate other elements which are placed upon the opposite side of said plate. Fig. 2 is a plan of the top of the intermediate plate, representing the fuse, the percussion-tape, and the feed and striking mechanism in position. Fig. 3 is a perspective view of the cover as it appears when detached from the outer portion of the lighter. Fig. 4 is a perspective view of the lighter with its parts assembled for use, a portion of the vertical wall and of the top plate being broken out to illustrate the means adopted for uniting the box and cover and the location of the fuse within the case. Fig. 5 is a perspective view of the mechanism attached to the intermediate plate, a portion of said plate being broken off to show the relative positions of the works upon both sides, and the top and bottom plates being entirely omitted. Fig. 6 is a vertical section of the lighter, the several parts being assembled for use.

Like letters in all the figures indicate corresponding parts.

Our invention has for its object to simplify and improve the ordinary forms of pocket cigar-lighters, rendering them more convenient to handle or operate, more effective in producing the desired light, not liable to get out of order, and less complicated and expensive than those of any previously existing forms known to us.

To accomplish these several objects we have produced the novel arrangements or combinations of parts specified below, and afterward pointed out in the claims.

The lighter being intended to be carried in the pocket, there is, properly speaking, no permanent bottom or top; but for convenience in description we have denominated the part A the "top plate" and A' the "bottom plate." C is a plate intermediate between the two, which is made to support the operating mechanism, or to confine it in proper place.

At *b* is the projecting thumb-piece, which, being forced inwardly, causes the feeding of the percussion-tape and the explosion of the percussion-pellet thereon, from which fire is communicated to the fuse.

Upon the under side of the plate C the thumb-piece *b* is divided into two arms, *f* and *l*, one of which, *l*, engages with the arm *d* of lever *e*, which lever is made to move about the projecting end of standard I. The end of lever *e* is bent up and passed through slot *o* in plate C, serving as the feed-finger, by means of which the percussion-tape is fed along after the blows of the hammer.

G is the hammer, located above plate C, but provided with a spur projecting down through slot *h*, with which spur the arm *f* engages.

By inspection of Fig. 1 it will be seen that whenever the thumb-piece *b* is pushed inwardly the feed-lever *e* is carried over toward the hammer, and at the same time the hammer is elevated or pushed away from the anvil-plate F. Now, in order to trip the hammer for the purpose of affording the requisite blow, we locate the stud *g* so that it will turn arm *f* about the pin *c*, thus causing said arm to release the hammer and permit it to snap back to its normal position, by reason of its elasticity, or under the action of a suitable spring connected therewith.

The two springs shown at *i* and *k* operate to return thumb-piece *b* and the attached arms to their normal position, and, in addition, spring *k* serves to crowd arm *f* up against the hammer-stud, so as always to insure the proper working of the hammer.

The top plate A is provided with a series of teeth, *n n*, which, for the sake of making the said top plate smooth, we prefer to attach by means of a thin plate, *a*. The teeth may be easily formed in this thin plate by simply punching them out, as is indicated at Figs. 3

and 4, and the plate is then soldered or otherwise attached to the said top plate. The teeth engage with the wick or fuse D when the cover is in position, and by revolution of the cover the wick is brought forward to the proper point for receiving the fire.

The vertical wall joining the top and bottom plates is permanently connected with the bottom plate, and is cut away to leave the opening L where the fuse is exposed. This opening is covered by simply revolving the top plate until the portion B registers with said opening; and to facilitate this turning of the top plate the wall of the lower plate is made to fit in the narrow space between plates A and a, and the centrally-located standard K telescopes with a corresponding standard, I.

This construction permits the ready removal of the cover when desired, and at the same time confines the two parts with sufficient certainty to prevent danger of their becoming accidentally detached in the pocket or elsewhere.

The hammer G is located near the line of the outer or vertical wall, and when the cover is so revolved as to close the opening L the portion B arrests the hammer, so that it is impossible to strike the percussion-pellet until the box is properly opened. The hammer G carries with it a second plate, H, the operation of which is to prevent communication of fire to other pellets than the one being struck, and the anvil-plate F, suitably notched to admit of the passage of teeth *n n*, closes the communication with the wick-chamber at the part in front of the hammer.

The fuse-chamber is formed between the vertical wall and the continuation of the hammer-spring G, which may be made in one or more pieces, as desired, and the receptacle for the tape is formed by the same spring, which divides the box into two compartments, as shown in Fig. 2.

It will be observed that the different parts of the device are comparatively few in number, and that they are so arranged as to be little liable to get out of order.

To light the fuse, it is only necessary to turn the cover, which opens the box and brings the fuse in proper position at the one operation, then to press the thumb-piece inwardly.

In previous forms of lighters the construction has been such as to require the box to be first opened, then the wick to be brought forward by a separate feeder, and then the tape to be fired by the appropriate mechanism. Considerable difficulty has been experienced in feeding the fuse forward, and withdrawing it at the desired times. This difficulty has been successfully overcome herein, inasmuch as the fuse is by the teeth practically connected with the cover, and must move therewith both in opening and closing the box.

In further acknowledgment of the state of the art, we desire to explain that we are aware that a circular cigar-lighter having a remova-

ble top has before been constructed, and also that a cast or molded plate has been located between the top and bottom plates, to which the working mechanism has been secured by means of lugs and studs, rendering the intermediate plate so thick as to take up too much room in the box, and also making it difficult and expensive to repair or replace any desired part of the works.

In the present illustration it will be seen that all the operating parts which fall beneath the intermediate plate are readily detachable, and are held in place by the bottom plate A'. The parts above the intermediate plate are secured thereto in a semi-permanent manner, since they are in such position as that they would otherwise be liable to be displaced.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In a cigar-lighter, the combination, with the box, of a revolving cover, adapted to feed the wick forward or backward, substantially as shown and described.

2. In a cigar-lighter, the combination of the top and bottom plates and the vertical wall uniting the two, a portion of said wall being attached to the upper plate for the purpose of closing the opening in the remaining portion, substantially as shown and described.

3. In combination with the top plate of a cigar-lighter, a toothed or indented plate connected therewith, and leaving an opening between the rim of the first and the perimeter of the second to accommodate the edge of the vertical wall, substantially as shown and described.

4. In a cigar-lighter, the combination, with the top and bottom plates, of a removable intermediate plate, made of thin metal, to which the overlying mechanism is secured in a semi-permanent manner, and from which the underlying parts are readily detachable, said underlying parts being held in place by the bottom plate, and the cover or top plate being secured by a telescopic joint, the whole arranged substantially as shown and described.

5. The combination of the thumb-piece *b*, arm *l*, feed-finger *e*, and the retracting-spring, substantially as shown and described.

6. The combination of the thumb-piece *b*, arm *f*, hammer G, and retracting-spring, substantially as shown and described.

In testimony that we claim the foregoing we have hereunto set our hands in the presence of witnesses.

HENRY WELLINGTON. [L. S.]
WILLIAM BOURKE. [L. S.]

Witnesses to signature of Henry Wellington:

WORTH OSGOOD,
GEO. F. GRAHAM.

Witnesses to signature of Wm. Bourke:

TRUMAN P. DOANE,
O. R. STANDFORD.