G. S. ELDRED.

CIGAR LIGHTER.

APPLICATION FILED JULY 22, 1911.

1,038,735.

Patented Sept. 17, 1912.

3 SHEETS—SHEET 1.

Fig. 1.

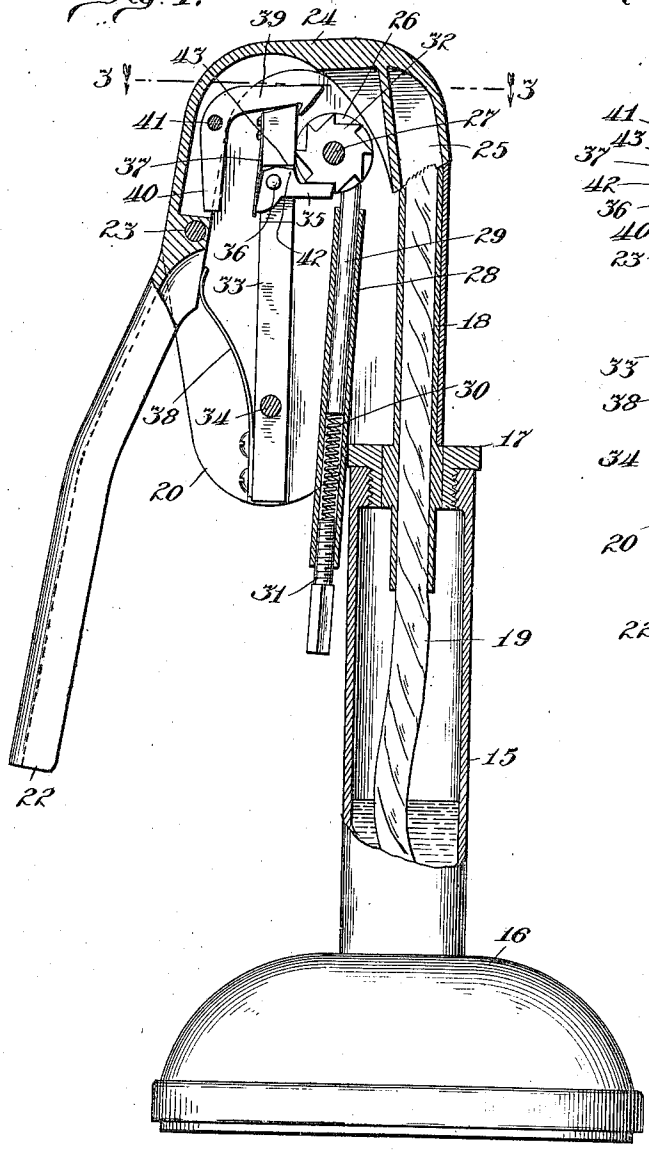

Fig. 2.

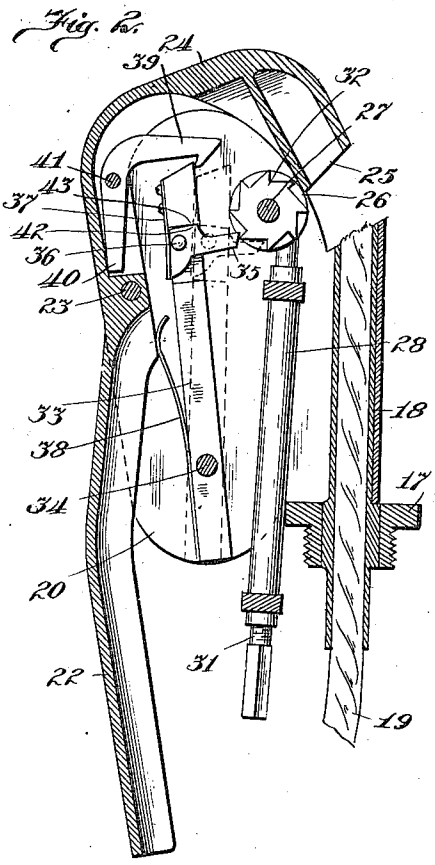

Fig. 3.

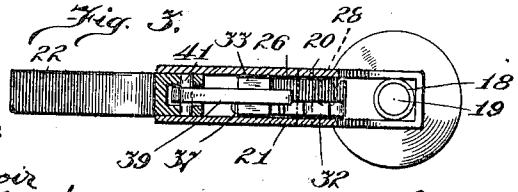

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Fig. 4.

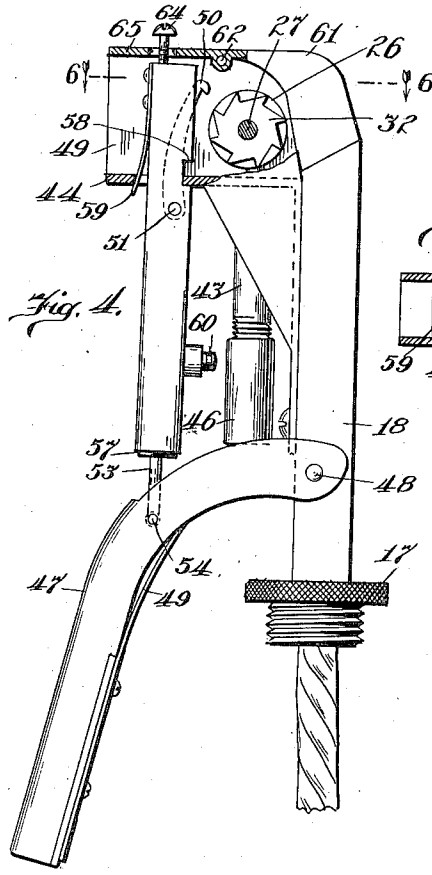


Fig. 6.

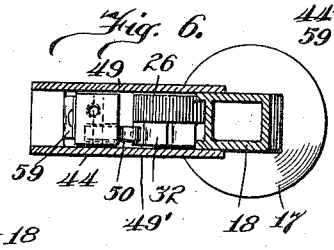


Fig. 5.

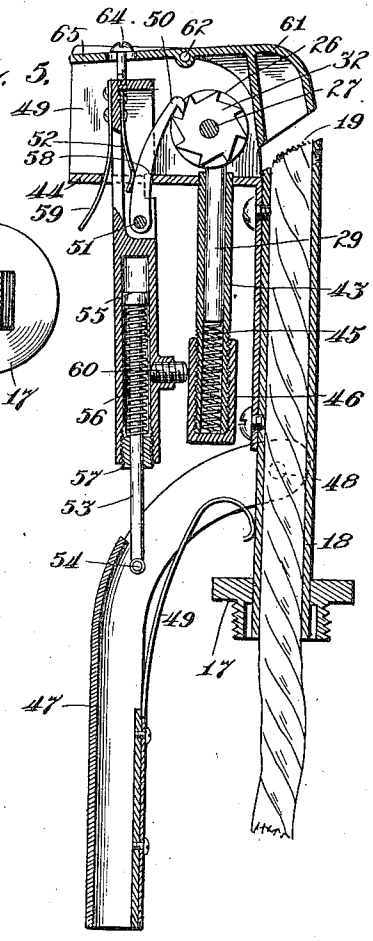
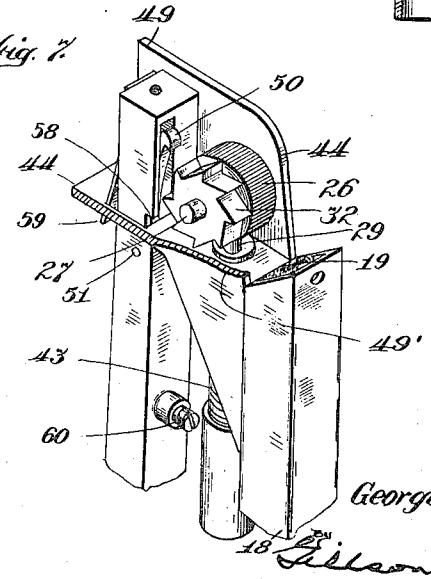


Fig. 7.



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3 SHEETS—SHEET 3.

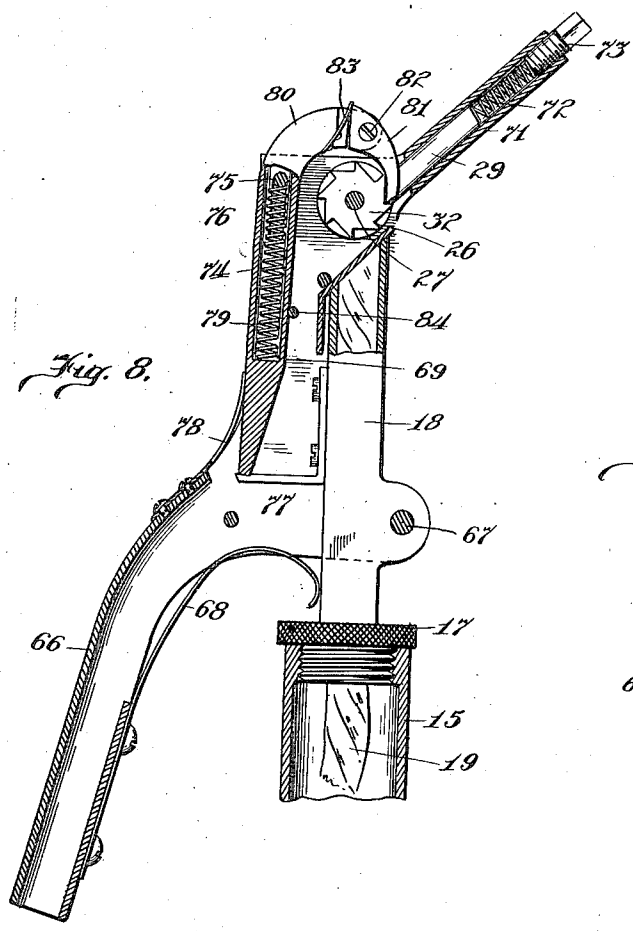


Fig. 8.

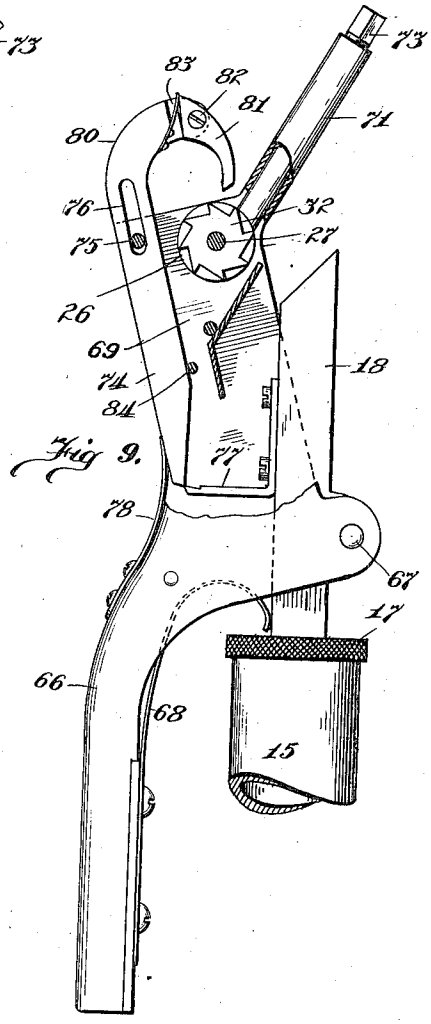
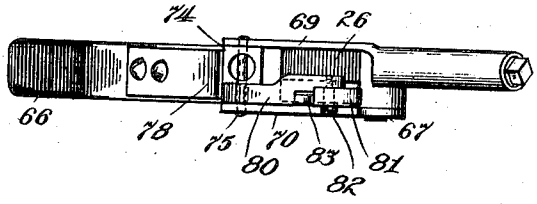


Fig 9.

Fig. 10.



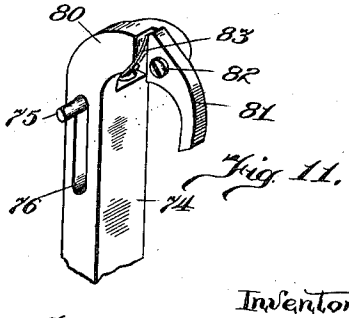


Fig. 11.

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UNITED STATES PATENT OFFICE.

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CIGAR-LIGHTER.

1,038,735. Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed July 22, 1911. Serial No. 640,042.

To all whom it may concern:

Be it known that I, GEORGE S. ELDRED, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Cigar-Lighters, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to devices for lighting cigars, devices such as are usually employed at cigar stands and which comprise a fluid burning lamp with means for igniting the lamp and for automatically extinguishing the same after each use.

The object of the invention is to provide a simple and reliable device of the character named in which the igniting agent is a spark struck by the frictional contact of two metals.

Various exemplifications of the invention are hereinafter described and are illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of the preferred form of construction. Fig. 2 is a vertical sectional detail of the head of the device as shown in Fig. 1, the parts being shown in different position. Fig. 3 is a transverse section on the line 3—3 of Fig. 1. Fig. 4 is a detail elevation partly in section of the head of the lighter showing a modified form of construction. Fig. 5 is a vertical section of the parts shown in Fig. 4, positions being different; Fig. 6 is a transverse section on the line 6—6 of Fig. 4. Fig. 7 is a detail perspective of the head of the device as shown in Figs. 4, 5 and 6, the extinguisher being removed; Fig. 8 is a vertical section of the upper portion of the lighter showing a still further modification; Fig. 9 is a similar view showing the parts in different position; Fig. 10 is a plan view of the device as shown in Figs. 8 and 9, being partly in section; and Fig. 11 is a detail perspective of the pawl and its carrier for actuating the movable member of the friction elements.

In all of the forms of the device there is provided a lamp for burning a fluid, such as gasolene; a piece of material from which a spark may be struck by abrasion; a rotary abrading element or file for engaging the spark-yielding material, these parts being so positioned that the spark will be thrown upon the burner of the lamp; a ratchet wheel associated with the file; a spring-actuated pawl and carrier for rotating the file; a handle for compressing the pawl-actuating spring and controlling a detent for releasing the pawl carrier when the spring is under tension, the handle also controlling an extinguisher, and a spring for returning the handle and other parts to their normal position. The lamp is shown in full only in connection with the preferred form of construction.

The lamp may take any desired form but is shown as an upright tube 15 rising from a base 16 and closed at its upper end by a screw-cap 17, through which there projects upwardly a wick-tube 18, the wick being shown at 19. A frame is carried by the wick-tube 18 and may be of any suitable construction, but is here shown as formed of a plate of sheet metal folded to U-shape about the wick-tube to which it is attached by any suitable means, such as solder. It thus provides a pair of side plates 20, 21, between which a downwardly projecting handle 22 is pivoted at 23. The upper end of the handle 22 is bowed forwardly over the upper end of the wick-tube, as shown at 24, its extreme end constituting the extinguisher 25 which normally fits down against the end of the wick-tube 18 and is preferably chambered, as shown, in order that it may not press down the end of the wick. The abrading element is shown in the form of a circular or wheel file 26, mounted upon a pivot 27 set in the side plates 20, 21, the wheel being located adjacent the upper end of the wick-tube 18. A tube 28 is secured between the plates 20 and 21, as shown being parallel with the wick-tube, its lower end projecting beyond the lower edges of the side plates and its upper end being slightly below and in line with the file wheel 26.

Within the tube 28 there is placed a piece of spark-yielding material, it being proposed to use a metal rod 29, the character of the metal being such that its abrasion by the file wheel will strike sparks from it. The upper end of the rod 29 is held in engagement with the file wheel by means of a spiral spring 30 within the tube, and adjustably seated upon a screw-plug 31 fitted into the lower end of the tube 28. A ratchet wheel 32 is mounted upon the pivot 27 be-

side and fixed to the file wheel 26. A pawl carrying bar 33 is pivoted at 34 between the plates 20 and 21, and projects upwardly back of the ratchet wheel 32. A pawl 35 is pivoted to the bar 33 at 36, its nose being held in engagement with the ratchet wheel 32 by means of a spring 37. A spring 38 reacts between the handle 22 and the bar 33, being so disposed that when the handle is pressed inwardly toward the lamp the upper end of the bar is pressed inwardly or toward the ratchet wheel 32.

A trigger 39, pivotally attached to the upper end of the handle 22, hooks over the upper end of the bar 33 and has a downwardly projecting stem 40 which normally is spaced apart from the handle. As the lower end of the handle 22 moves inward the upper end of the bar 33 is carried backward by the trigger 39. The engagement of the trigger with the bar causes the former to rock on its pivot 41 until the handle makes contact with its stem 40. Further movement of the handle raises the trigger as indicated in Fig. 2, automatically disengaging it from the bar 33, whereupon the upper end of the latter is thrown toward the ratchet wheel by the action of the spring 38, the pawl 35 turning the ratchet wheel and file wheel with a quick movement and thus creating the necessary sparks to ignite the wick, which is now exposed by the raising of the extinguisher 25 with the handle. The flame will continue to burn until the user releases the handle 22, permitting it to be thrown back by the spring 38, thereby closing the extinguisher 25 down upon the end of the wick-tube and restoring all of the parts to their normal position. The pawl 35 is limited in its upward movement by a shoulder 42 engaging a shoulder 43 on the bar 33. The lighter is here shown as portable but may, of course, if desired, have its base fixed to a table.

In the form of construction illustrated in Figs. 4 to 7 there is present a wick-tube 18 carried by a screw-plug 17 adapted to fit into the upper end of the lamp body. The metal bar 29 from which the sparks are struck is housed within the tube 43, carried by a suitable frame 44 supported by the wick-tube, and, as in the form of construction already described, is forced upwardly by means of a spiral spring 45, this spring being adjustably supported in this instance by a screw cap 46 fitting upon the lower end of the tube 43. There is also present a file wheel 26 and a ratchet wheel 32 mounted upon a pivot 27 set between the side plates 49, 49′, of the frame 44, the parts being so disposed that the upper end of the bar 29 is held in contact with the peripheral face of the file wheel. The handle 47 is pivoted at 48 to the wick-tube and projects downwardly so that it may be grasped with the body of the lamp, a spring reacting between the handle and the wick-tube urging the former outwardly.

A pawl 50 is pivoted upon a reciprocating bar 51, and by means of a spring 52 is held in engagement with the ratchet wheel 32. A plunger rod 53, pivotally attached at 54 to the handle 47, projects into the lower end of the bar 51, which is made hollow for the purpose of receiving it. The upper end of the plunger rod 53 is headed, as shown at 55, and the spiral spring 56 coiled about the rod reacts between its end and an annular screw plug 57 fitted into the lower end of the bar 51. The bar 51 projects upwardly through a suitable aperture in the lower plate of the frame 44 and is provided with a lateral shoulder 58 which hooks over this bottom plate and prevents the downward movement of the bar, this engagement being insured by the pressure of a spring 59 carried by the bar and projecting downwardly and outwardly through the aperture in the floor of the frame. As the handle 47 is pressed inwardly toward the lamp it draws down the plunger rod 53, compressing the spring 56. Continued inward movement of the handle swings the lower end of the bar 51 inwardly until a boss 60, projecting laterally from the bar and here shown as a screw plug, makes contact with the tube 43 or rather, as shown, with the screw cap 46. Further inward movement of the handle causes the bar 51 to rock on the boss 60 as a pivot, forcing its upper end backwardly and thus disengaging its shoulder 58 from the floor of the casing 44, whereupon the bar is drawn downward with a quick movement by the action of the spring 56, the pawl 50 turning the ratchet wheel 32 and file wheel 26 and striking the sparks from the bar 29 upon the end of the wick 19. The extinguisher 61 is pivoted at 62 between the plates 47, 48, and is normally held against the upper end of the wick-tube 18 by the action of gravity. A screw 64 set in the upper end of the bar 51 projects loosely through the tail plate 65 to the extinguisher 61. The descent of the bar 51 under the action of the spring 56 brings the head of the screw 64 against the upper face of the tail-piece of the extinguisher and thus raises the extinguisher from the wick-tube just as the sparks are produced for igniting the wick.

In the construction illustrated in Figs. 8 to 11 there is present the same form of lamp body 15, screw cap 17, wick-tube 18, file wheel 26, ratchet wheel 32 and metal bar 29. The handle 66 is pivotally attached at 67 to the tube 18 and projects downwardly beside the body 15 of the lamp, and is normally urged away from the latter by means of a spring 68 reacting against the wick-tube. A frame comprising a pair of side plates 69, 70, which normally inclose the upper end

of the wick-tube 18 is fixed to and rises upwardly from the handle 66. The file wheel 26 and ratchet wheel 32 are pivotally carried by this frame and are normally held immediately above the end of the wick-tube. The tube 71 for carrying the metal bar 29 is also mounted upon the frame rising from the handle and is here shown as projecting obliquely upwardly its lower end being adjacent the file wheel, the metal base being held in engagement with the file wheel by a spiral spring 72 within the tube 71 and reacting against the screw plug 73 set into the end of the tube 71. A reciprocating tubular bar 74 is mounted between the plates 69, 70 and slides upon a pin 75 set in these plates and projecting through a longitudinal slot 76 in the bar, the bar being capable of a pivotal movement on this pin. The lower end of the bar 74 normally rests on a bracket 77 secured to the wick tube 18 and is held thereupon by means of a spring 78 attached to the handle and bearing inwardly against the lower end of the bar. A spiral spring 79 inclosed within the chamber of the bar 74 reacts between the pin 75 and the lower end of the bar. The upper end of the bar carries a forwardly projecting overhanging arm 80 to which a pawl 81 is pivoted at 82, this pawl coöperating with the ratchet wheel 32 and being held in engaging position by a spring 83. A pin 84 set in the side plates 69, 70 limits the inward movement of the lower end of the bar 74. When the user swings the lower end of the handle 66 inward the spring 76 is compressed by the downward movement of the pin 75, the bar 74 being prevented from moving downward by the bracket 77. As the frame 69, 70 is moved outward to the position shown in Fig. 9 the lower end of the bar 74 is released from the bracket and the bar is drawn downward with a quick movement by the action of the spring 76, throwing the pawl 81 into engagement with the ratchet wheel 32 and thus turning the file wheel to develop the spark necessary for igniting the wick. The extinguisher in this construction is shown as taking the form of a plate 84, 85 obliquely held between the plates 69, 70 and making contact with the end of the wick tube 18 when the parts are in their normal position, to which they are restored by the action of the spring 68 when the handle 66 is released.

The operation of the several forms of construction has already been explained in connection with their description and it will be seen that the lamp is ignited by merely grasping it with the hand so as to press the controlling handle toward the lamp body and when the flame is no longer required it is automatically extinguished by merely releasing the grasp upon the lamp.

While the device is shown as comprising a lamp having a wick, the invention is of sufficient scope to include any lamp adapted to produce a flame. The spark developing material is here shown and described as a bar of metal. The metal I have used for this purpose is a commercial article known to the trade as spark metal. I do not wish, however, to be limited to this particular material as any material whether metallic or otherwise from which a spark may be developed by abrasive action may be employed.

I claim as my invention—

1. In a cigar lighter, in combination, a lamp, means for developing a spark for igniting the lamp and comprising two elements arranged for frictional engagement, a spring-actuated striker for moving one of the said elements, an extinguisher, a handle for simultaneously removing the extinguisher from the lamp and moving the striker to set position and being arranged to automatically release the striker when set.

2. In a cigar lighter, in combination, a lamp, a spring-actuated means for frictionally developing a spark for igniting the lamp wick, a spring-retracted handle, and means connecting the handle with the spark-developing means whereby the spring of the latter means is brought to tension and released by the advance of the handle.

3. In a cigar lighter, in combination, a lamp, spring-actuated means for frictionally developing a spark for igniting the lamp wick, a spring-retracted handle, means connecting the handle with the spark-developing means whereby the spring of the latter means is brought to tension and released by the advance of the handle, and an extinguisher carried by the handle and normally covering the burner of the lamp.

4. In a cigar lighter, in combination, a lamp having a wick-tube, a piece of spark-yielding material located adjacent the end of the tube, a file wheel bearing on the spark-yielding material, a pivoted lever arranged to rotate the file wheel, a handle, a trigger carried by the handle and normally engaging the lever and being releasable therefrom by the advance of the handle, and a spring reacting between the handle and lever for advancing the lever and retracting the handle.

5. In a cigar lighter, in combination, a lamp having a wick-tube, a piece of spark-yielding material located adjacent the end of the tube, a file wheel bearing on the spark-yielding material, a pivoted lever arranged to rotate the file wheel, a handle, a trigger carried by the handle and normally engaging the lever and being releasable therefrom by the advance of the handle, a spring reacting between the handle and lever for advancing the lever and retracting the handle, and an extinguisher carried by

the handle and adapted to normally cover the wick-tube.

6. In a cigar lighter, in combination, a lamp having a wick tube, a piece of spark-yielding material located adjacent the end of the tube, a file wheel bearing on the spark-yielding material, a ratchet wheel mounted with the file wheel, a pivoted lever, a pawl carried by the lever, a handle, a trigger carried by the handle and normally engaging the lever and being releasable therefrom by the advance of the handle, and a spring for advancing the lever and retracting the handle.

7. In a cigar lighter, in combination, a lamp having a wick tube, a piece of spark-yielding material located adjacent the end of the tube, a file wheel bearing on the spark-yielding material, a ratchet wheel mounted with the file wheel, a pivoted lever, a pawl carried by the lever, a handle, a trigger carried by the handle and normally engaging the lever and being releasable therefrom by the advance of the handle, a spring reacting between the handle and lever for advancing the lever and retracting the handle and an extinguisher carried by the handle and adapted to normally cover the wick tube.

8. In a cigar lighter, in combination, a lamp having a wick tube, a piece of spark-yielding material located adjacent the end of the tube, a file wheel bearing on the spark-yielding material, a spring-advanced lever arranged to move the file, a movable handle, means normally connecting the handle with the lever and being automatically released as the handle travels in a direction to move the lever in opposition to its spring.

9. In a cigar lighter, in combination, a lamp having a burner, a piece of spark-yielding material located adjacent the burner, a file bearing on the spark-yielding material, a lever arranged to move the file, a handle manually movable in one direction, means connecting the handle with the lever and being automatically released as the handle travels, an extinguisher actuated by the handle, the handle and lever being spring-advanced in the direction reverse of that in which they are movable by manual action.

10. In a cigar lighter, in combination, a suitable fluid burner, an igniting device located adjacent the burner and comprising a piece of spark-yielding material and a rotary abrader bearing thereupon and being movable in one direction only; a spring-advanced striker for turning the abrader, a handle for retracting the striker, and a trip for releasing the striker when retracted.

11. In a cigar lighter, in combination, a lamp having a burner, a piece of spark-yielding material located adjacent the burner, a file bearing upon the spark-yielding material and having a movement in one direction only, a lever arranged to move the file, a handle manually movable in one direction, means connecting the handle with the lever and being automatically released as the handle travels, the handle and lever being spring-advanced in a direction the reverse of that in which they are movable by manual action.

12. In a cigar lighter, in combination, a lamp, means for developing a spark for igniting the lamp and comprising two elements arranged for frictional engagement, a spring actuated striker for moving one of the said elements, an extinguisher, a handle for simultaneously removing the extinguisher from the lamp and moving the striker to set position and being arranged to automatically release the striker when set, and a shield movable with the extinguisher for protecting the spark developing means from the flame of the lamp.

13. In a cigar lighter, in combination, a lamp, means for developing a spark for igniting the lamp and comprising two elements arranged for frictional engagement, a spring actuated striker for moving one of the said elements, a shield for protecting the spark developing means from the flame of the lamp, and a handle for moving the striker to set position and being arranged to automatically release the striker when set.

14. In a cigar lighter, in combination, a chambered casing having an external opening, a burner external of the casing and being adjacent to its opening, spark-developing means comprising an abrading element within the casing and arranged to throw a spark upon the the burner, the casing being provided with an upwardly directed air passage between the burner and the spark-developing means and arranged to deflect the flame away from the latter, and means for actuating the spark-developing means.

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