

(No Model.)

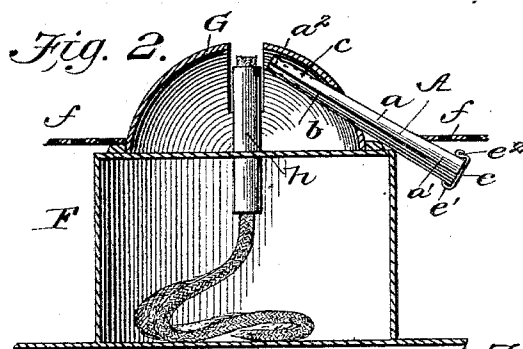
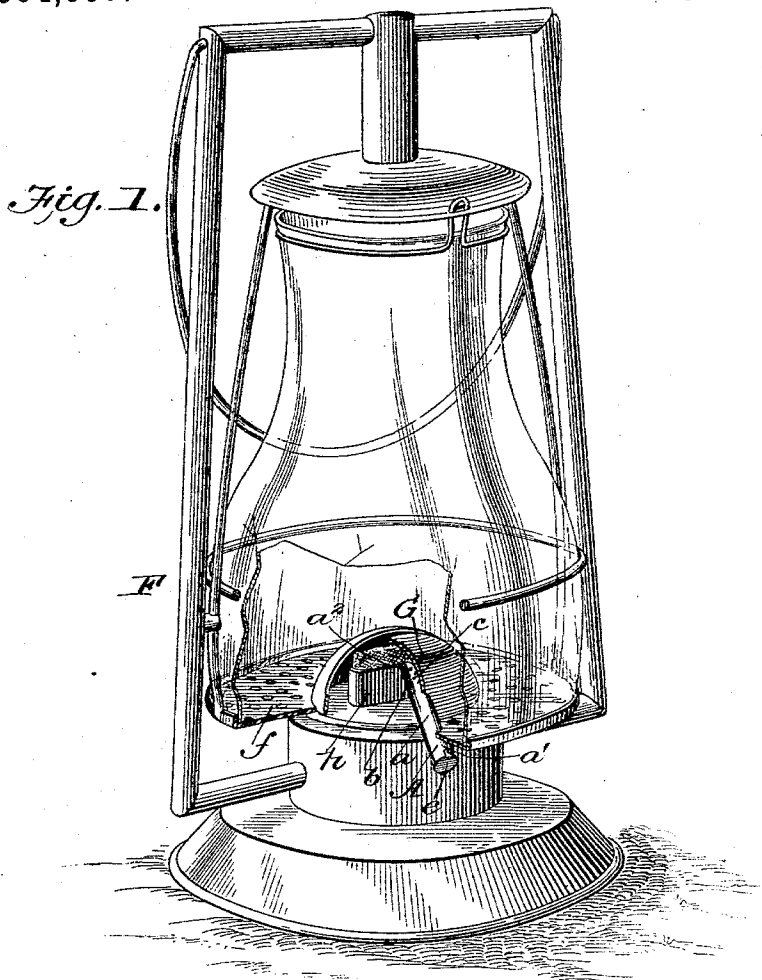
2 Sheets—Sheet 1.

F. HILL.

MATCH LIGHTING ATTACHMENT FOR LANTERNS, &c.

No. 564,997.

Patented Aug. 4, 1896.



**WITNESSES:**

F. C. Stebbins,  
Chas. M. Boyle.

INVENTOR

Francis Hill.

BY

BY J. R. Little  
his ATTORNEY.

(No Model.)

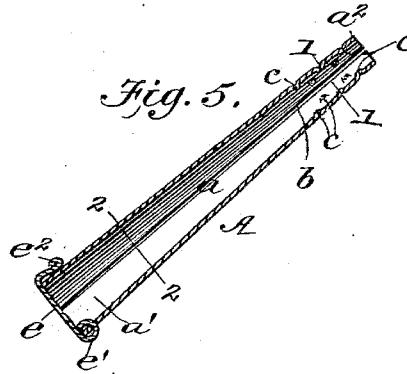
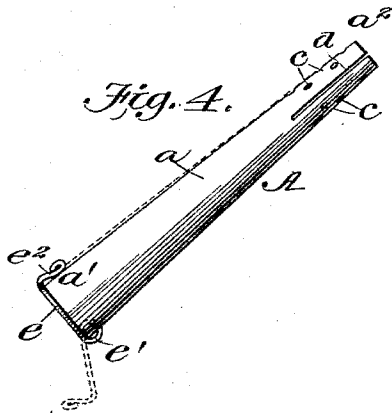
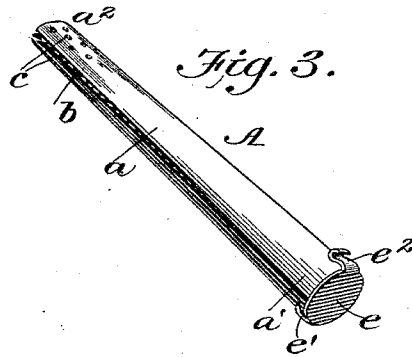
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# UNITED STATES PATENT OFFICE.

FRANCIS HILL, OF SANDUSKY COUNTY, OHIO.

## MATCH-LIGHTING ATTACHMENT FOR LANTERNS, &c.

SPECIFICATION forming part of Letters Patent No. 564,997, dated August 4, 1896.

Application filed June 1, 1895. Serial No. 551,380. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS HILL, a citizen of the United States, residing in the county of Sandusky and State of Ohio, have invented a new and useful Match-Lighting Attachment for Lanterns, &c., of which the following is a specification.

This invention relates to that class of devices which are adapted to be attached to lanterns, lamps, or the like in relation to the wick, and serve to ignite matches, and which embody a tube having match-igniting devices at its end.

The object of my invention is to provide a simple and improved device of this character which can be readily attached to various forms of lanterns, lamps, &c., and will effectually serve to automatically light the match and ignite the wick, which will adapt itself to various sizes of match-heads, which can be also employed for extinguishing the lantern or lamp, and which will possess advantages in point of convenience, simplicity, inexpensiveness, adjustability, effectiveness, and general efficiency.

In the drawings, Figure 1 is a perspective view showing a lantern embodying my invention. Fig. 2 is a detail transverse vertical sectional view of the same. Fig. 3 is a detail perspective view of my improved device. Fig. 4 is a detail side elevation of the device. Fig. 5 is a detail longitudinal sectional view. Fig. 6 is a detail end view. Figs. 7 and 8 are detail transverse sectional views taken, respectively, on the lines 1 1 and 2 2, Fig. 5.

Referring to the drawings, A designates my improved match-lighting device, which comprises a tube *a*, preferably constructed of spring-metal, and having a large outer end *a'* and smaller inner end *a<sup>2</sup>*, to provide for which construction the tube is preferably of conical form, as shown. The ends of the conical tube *a* are open and the larger outer end *a'* and main portion of the tube are preferably circular or cylindrical in cross-section, the tube at its smaller inner end *a<sup>2</sup>* being likewise approximately cylindrical in cross-section, but preferably somewhat flattened into an elliptical shape, as shown at *a<sup>3</sup> a<sup>3</sup>*, which is best adapted for binding upon the match-head.

One side of the conical tube *a* is slitted longitudinally, as shown at *b*, which provides for the spring office or action of the tube, and in carrying out this construction and arrangement I prefer to roll the tube from a single plate of spring metal, so that the opposing ends of the plate form the longitudinal slit or slot *b*.

At its smaller inner end portion *a<sup>2</sup>* the walls of the tube are interiorly provided with projections or serrations *c* or roughened in any suitable manner, this construction being preferably secured by indentations in the tube, as herein illustrated. At its smaller inner end the tube is provided, diametrically opposite to the longitudinal slit or slot *b*, with a longitudinally-disposed slit or slot *d*, which extends only a part of the way up the tube, and thus provides a double-spring igniting end. Upon the larger outer end *a'* of the tube is provided a cap or cover *e* for closing said end opening. This cover may be formed by a plate or disk hinged at one side to the wall of the tube, as shown at *e'*, in a position at right angles to the longitudinal slit *b*, the other edge of said plate or disk being provided with an angular extension or finger *e<sup>2</sup>*, adapted to exteriorly clasp the wall of the tube at a point diametrically opposite to the hinge, a spring connection between the clasp *e<sup>2</sup>* and the tube being permitted by the longitudinal slit *b*, which latter may be thus closed when the cap or plate *e* is sprung into position over the end of the tube.

In applying the tube to a lantern or lamp it is inserted diagonally up through the screen or bottom *f* of the lantern *F*, with its smaller end projecting through the cap *G*, surrounding the wick-tube *h* and adjacent to the top end of the latter, as shown in Figs. 1 and 2. The match-lighting tube *a* can be secured in this position in the lantern in any suitable or desired manner.

The operation and advantages of my invention will be readily understood. It is simply necessary to pass the match up through the conical spring-tube *a*, and the interiorly-roughened smaller spring end *a<sup>2</sup>* will automatically ignite the match directly at the wick, an effective operation being secured in this way, even in a high wind. The match can then be withdrawn from the tube, which

operation will result in the extinguishing of the match, when the cap or cover *e* at the projecting outer end may be closed. To extinguish the lantern, it is only necessary to open the cap *e* and blow through the tube, which readily extinguishes the light by reason of the proximity of the inner end of the tube to the edge of the wick.

My invention is designed to effectually prevent smoking of the chimney of the lantern, the slit or opening in the side of the tube serving to afford a draft to the light, which will prevent smoking. The conical shape of the tube, in conjunction with its spring construction and the slits *b* and *d*, adapts the device for various sizes of matches and match-heads, and insures in all cases an effectual ignition of the head of any size match.

It will be understood that my invention is adapted to be attached to various kinds of lanterns, lamps, or the like, and that it may be connected with the latter in any suitable or adapted manner.

I claim as my invention—

1. A device of the class described, embodying a tube formed of spring metal and having the longitudinal slit or slot, *b*, and the interiorly-roughened igniting end, substantially as and for the purpose set forth.

2. A device of the class described, embodying a spring-tube having the longitudinal slit or slot, *b*, and the supplementary slit at its igniting end and interiorly roughened at said slitted end, substantially as and for the purpose set forth.

3. A device of the class described, comprising the conical tube formed of spring metal and having the longitudinal slit or slot, *b*,

the diametrically opposite slit, *d*, at its smaller end, and the projections or interiorly-roughened surface at the smaller double-slitted end, substantially as and for the purpose set forth.

4. A device of the class described, embodying a tube formed of spring metal with the longitudinal slit or slot, *b*, and provided with an igniting surface or means at its inner end, in combination with a hinged disk or cap mounted at its outer end and adapted to embrace the spring-walls of said tube, substantially as and for the purpose set forth.

5. The herein-described device, comprising the conical spring-acting tube having the longitudinal slit or slot *b* and the auxiliary slit at its smaller end and interiorly roughened at said smaller end, in combination with a cover or cap hinged at the larger end and adapted to embrace the spring-walls of said tube, substantially as and for the purpose set forth.

6. In combination with a lantern or similar device, a conical spring-acting tube connected with the same and having its inner smaller end adjacent to the wick or light devices and its larger end projecting from the lantern, the inner smaller spring-acting end of said tube being slitted in a longitudinal plane, substantially as set forth, and having its walls interiorly roughened, substantially as and for the purpose set forth.

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

FRANCIS HILL.

Witnesses:

W. A. FISHER,  
J. B. STAHL.