

(No Model.)

J. E. BARLOW.  
LIGHTING DEVICE.

No. 505,185.

Patented Sept. 19, 1893.

FIG. 1.

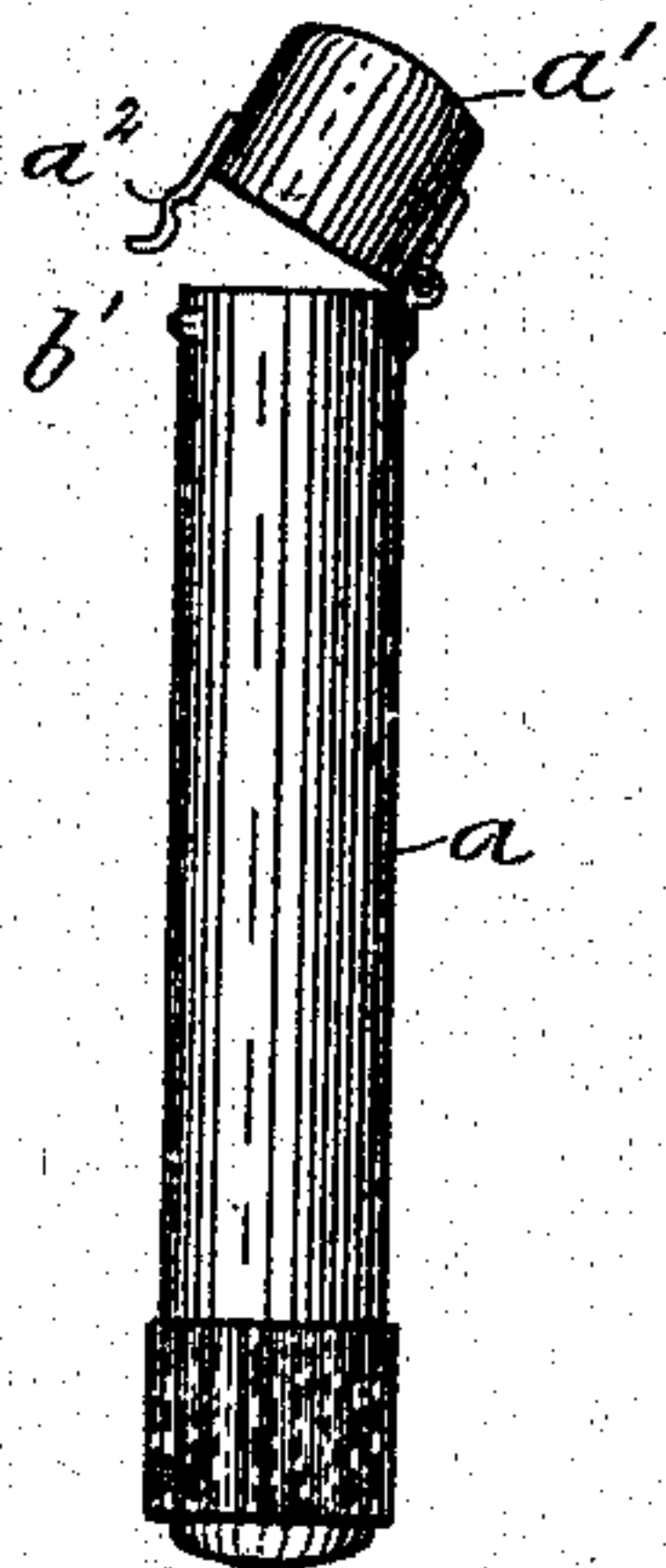


FIG. 2.

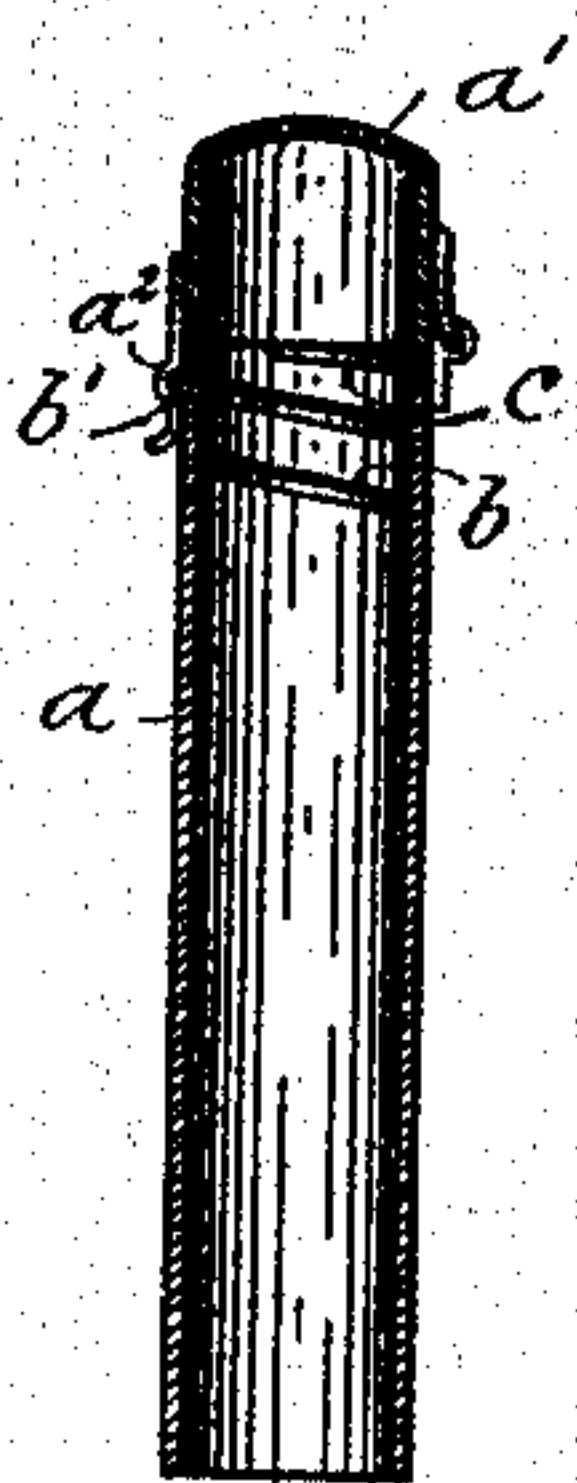


FIG. 3.

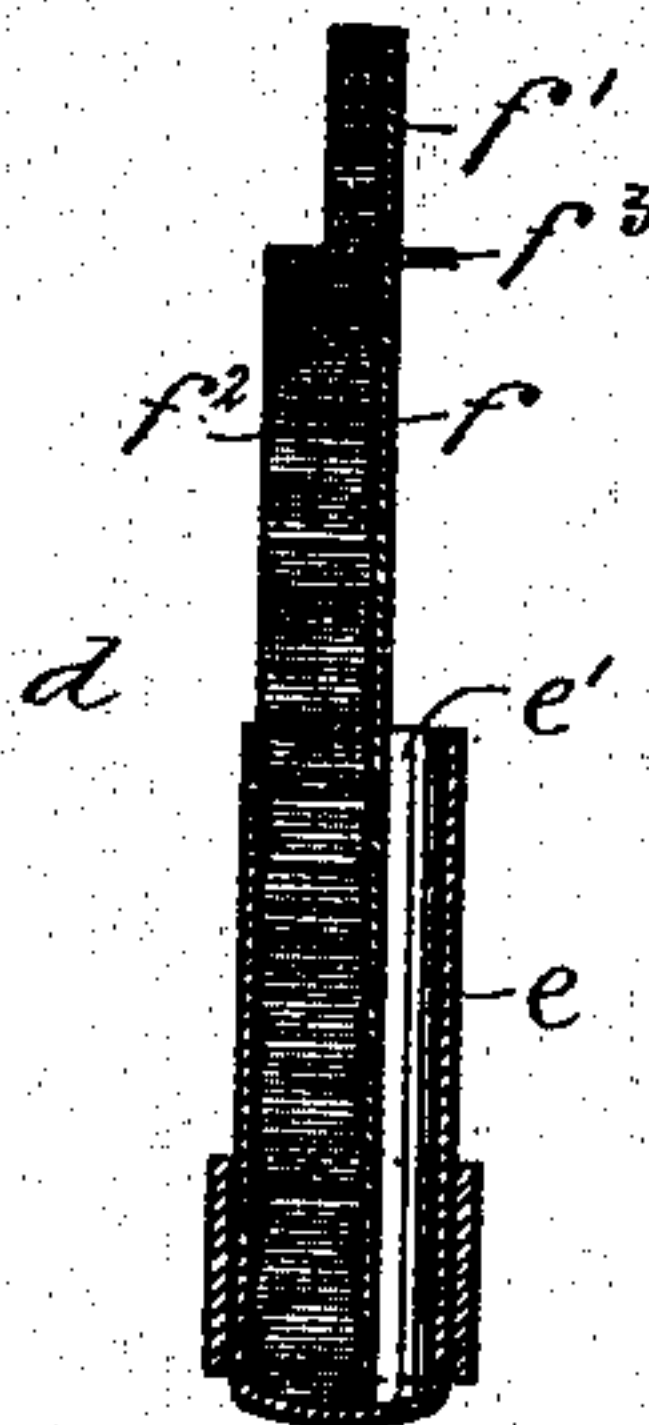


FIG. 4.



FIG. 5.

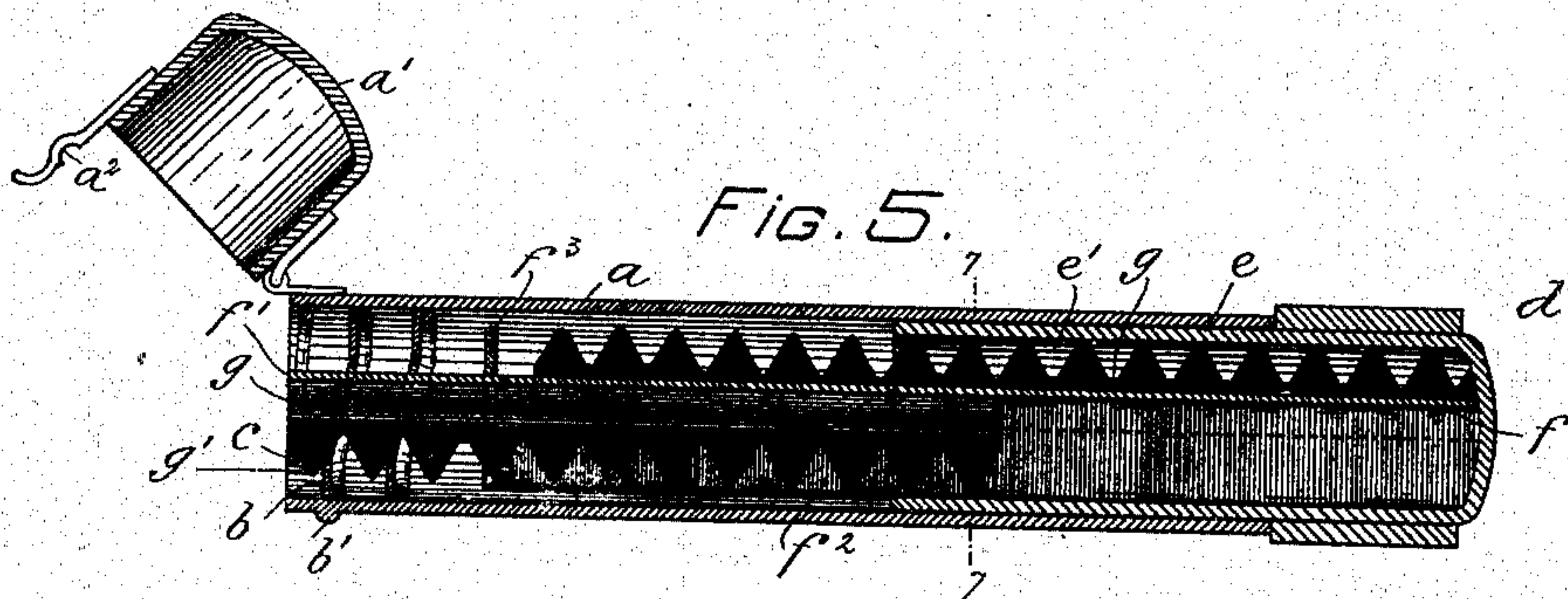


FIG. 6.

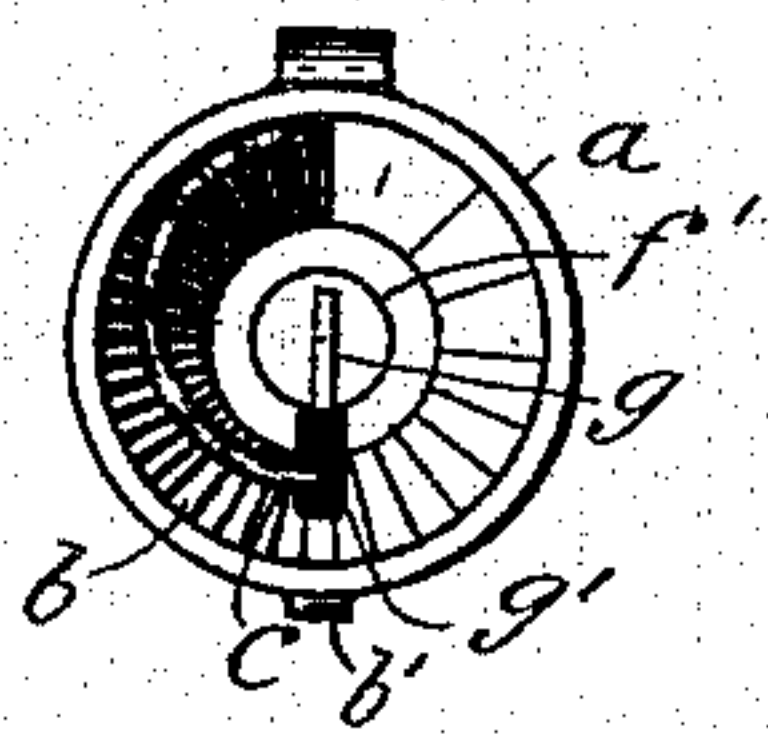


FIG. 7.

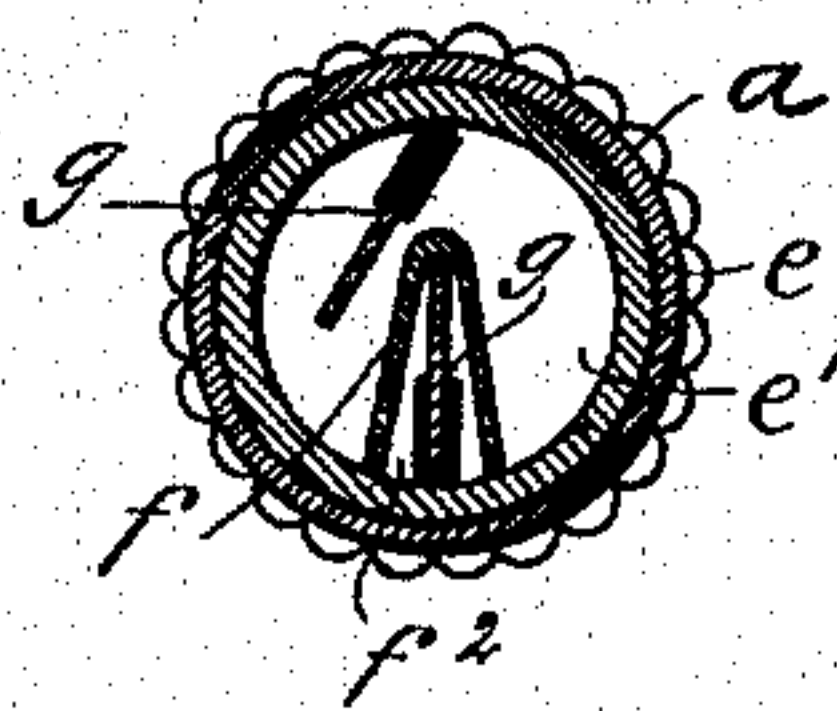
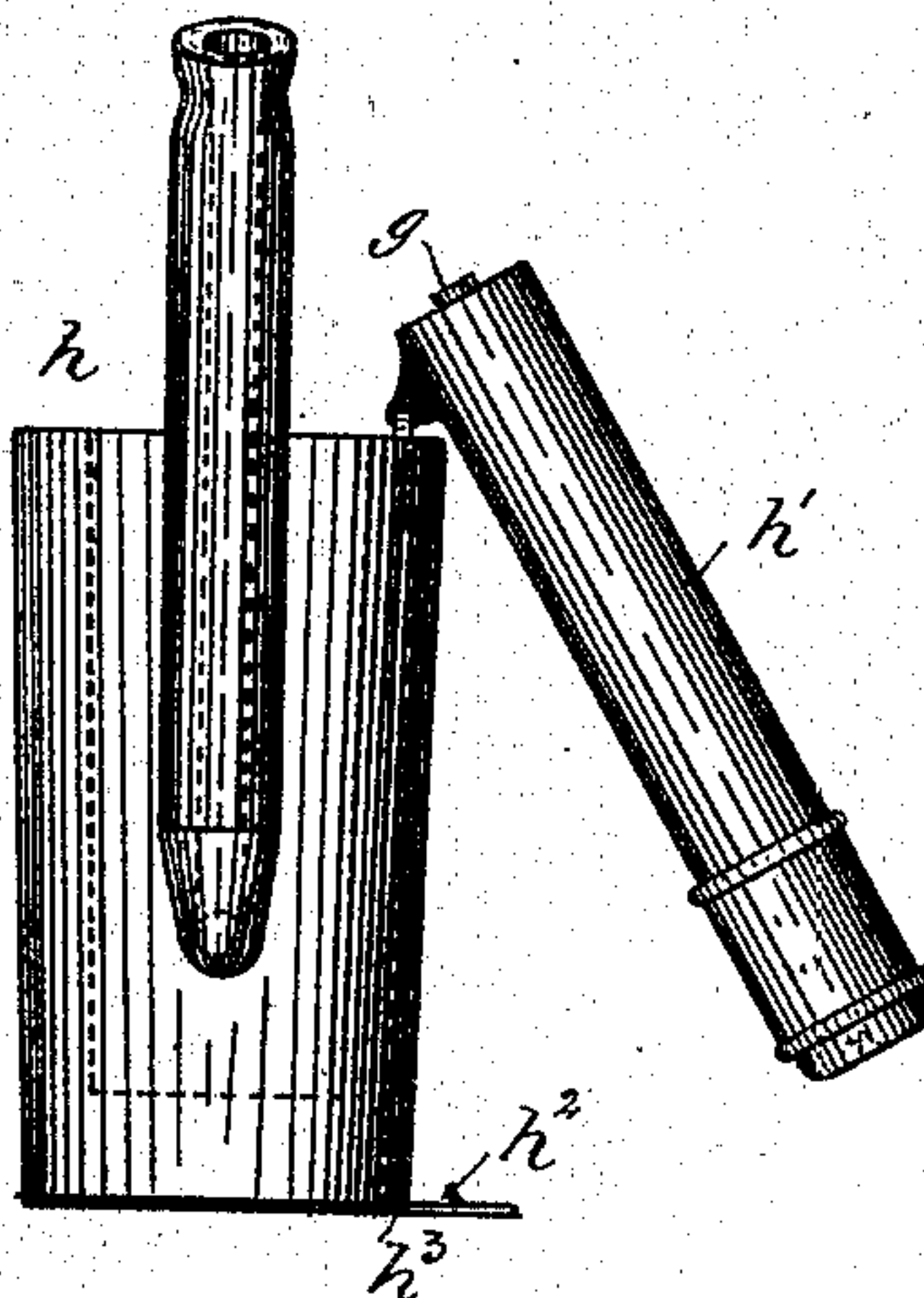


FIG. 8.



WITNESSES:

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ATT'Y.



# UNITED STATES PATENT OFFICE.

JOHN E. BARLOW, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO CHARLES R. PAUL, OF SAME PLACE.

## LIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 505,185, dated September 19, 1893.

Application filed September 5, 1892. Serial No. 445,045. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. BARLOW, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Lighting Devices, of which the following is a specification.

The principal objects of my invention are, first, to provide a durable, neat, compact and comparatively inexpensive lighting device adapted either to be carried in the pocket and used as means for producing light and for igniting cigars and cigarettes, or to be applied to gas burners, tobacco pipes and other like articles and used as means for lighting the same; second, to provide simple and efficient devices for feeding an ignitable light producing and consuming strip, tape or ribbon to an ignitor or scratcher with a positive and uniform motion; third, to construct and arrange the working parts of the device in such manner that the ignitable light producing and consuming strips, tapes, or ribbons may be readily inserted into position for use without danger of accidental ignition; fourth, to provide means whereby the ignition of the light producing and consuming strip is rendered certain; fifth, to provide a lighting device without a wick-holder and wick that is adapted to produce a flame of sufficient duration to be communicated to an article, substance or fluid to be ignited; sixth, to provide a lighting device with a serrated ignitable light producing and consuming strip, tape or ribbon adapted to be frictionally or otherwise ignited by the hand operation of a rotary carrier; seventh, to construct and combine the various parts of the device for operation in such manner that a portion of the ignitable and light producing strip is permitted to be consumed after each ignition and without accidentally igniting the remaining portions thereof; and, eighth, to provide a chamber for retaining a supply of ignitable light producing and consuming strips, tapes or ribbons in such manner that the same are readily accessible and are protected from accidental explosion or ignition.

My invention consists of the improvements hereinafter described and claimed.

The nature, characteristic features and

scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1, is a side elevational view of a lighting device embodying features of my invention and showing the cover in open position. Fig. 2, is a detached sectional view of the housing of the lighting device, showing the revoluble carrier removed and also showing the cover in closed position. Fig. 3, is a similar view of the revoluble carrier showing means for retaining a supply of extra tapes, strips or ribbons. Fig. 4, is an elevational view of an ignitable, light producing and consuming tape, strip or ribbon of my invention. Fig. 5, is a view partly in central section and partly in elevation drawn to an enlarged scale in order to illustrate a lighting device embodying features of my invention. Fig. 6, is a top or plan view of the lighting device illustrated in Fig. 5. Fig. 7, is a transverse section taken on the line 7—7, of Fig. 5; and Fig. 8, is a rear elevational view of a tobacco pipe illustrating a lighting device embodying the features of my invention in application thereto.

In the drawings *a*, is a housing having a lid or cover *a'*, hinged to the upper portion thereof and provided with a latch *a<sup>2</sup>*, adapted to engage the catch or projection *b'*, provided on the surface of the housing *a*. The lower portion of the housing is left open for a purpose to be presently fully explained.

*b*, is a spiral or screw thread located within the housing *a*, and *c* is an ignitor or scratcher. In the present instance the spiral *b*, comprises a continuous coiled strip of metal soldered or otherwise secured to the interior of the tubular housing *a*, and having a continuous coiled wire soldered or otherwise secured to the under faces or surfaces of the spiral *b*, in such manner that one extremity of the coiled wire projects upward and is left free, as shown, to constitute the ignitor or scratcher *c*.

*d*, is a revoluble carrier. In the present instance this carrier comprises a milled thimble or cap *e*, adapted to be detachably fitted into the lower portion of the housing *a*, and revolved therein by a hand operation, and this carrier is provided with an axially grooved spindle or shank *f*, secured to the cap *e*, and



mounted eccentrically in respect thereto, so that a chamber  $e'$ , is provided for the reception of a supply of extra ignitable, light producing and consuming tapes, strips or ribbons.

5 The upper portion of the shank  $f$ , that penetrates the spiral  $b$ , is cut away and rounded as at  $f'$ , for a purpose to be presently described, and the groove  $f^2$ , in the lower portion thereof, is provided with flaring side walls

10 in order to facilitate the insertion of the ignitable light producing and consuming tapes, strips or ribbons  $g$ , so as to protect the same against premature ignition and accidental displacement.

15  $f^3$ , is a collar or disk which may be mounted upon the spindle or shank  $f$ , and adapted to protect the supply of extra tapes, strips or ribbons from accidental ignition as well as displacement. Each of the strips, tapes or

20 ribbons  $g$ , is serrated along one of its edges and tipped with ignitable or combustible material so as to form at the points or summits of the teeth thereof ignitable pellets, bits or drops  $g'$ , adapted to be frictionally ignited to

25 produce a flame sufficient to consume entirely the exposed portions of the tape, strip or ribbon.

In use the carrier  $d$ , is withdrawn from the housing  $a$ , and an ignitable, light-producing

30 combustible or consuming strip, tape or ribbon  $g$ , is fitted into the groove thereof in such manner that the serrations of the strip, tape or ribbon project beyond the reduced or upper portion  $f'$ , of the spindle or shank  $f$ ,

35 thereof. The carrier  $d$ , is then fitted to place in the housing  $a$ , as shown in Fig. 5. When the carrier  $d$ , is revolved by hand the teeth along one of the edges of the strip, tape or ribbon  $g$ , in regular sequence, mesh with the

40 spiral  $b$ , in such manner as to permit of the same being fed in an upward direction. This movement of the tape, strip or ribbon causes the serrated surface of the same to be presented to the scratcher or ignitor  $c$ , in such

45 manner as that by its resiliency the drops, bits or pellets of the tape, strip or ribbon in regular sequence are ignited so as to produce a light at the portion of the tape, strip or ribbon extending beyond the carrier or housing,

50 and which continues until the exposed portion of the tape, strip or ribbon, is consumed. The continued revolution of the carrier  $d$ , causes the ignitable drops, bits or pellets of the serrated strip, tape or ribbon to be fed

55 and ignited one after another, and such ignition is imparted to the combustible portion of the strip  $g$ , so that the latter projecting above the upper extremity of the shank  $f$ , is consumed and consequently emits light and

60 heat, which may be utilized in any required manner.

In Fig. 8, is illustrated one of the many uses to which the hereinabove described lighting device may be advantageously applied. In

65 this figure  $h$ , is the bowl of a tobacco pipe.  $h'$ , is a lighting device of the type hereinabove described, but without a hinged lid or cover.

The housing of the lighting device  $h'$ , is pivotally connected with the rim of the bowl  $h$ , and is adapted to be turned into position for

70 lighting the contents thereof and also into a recess cut or otherwise formed in the bowl, in which position it may be locked by means of a spring catch  $h^2$ , projecting from a plate  $h^3$ , applied to the lower portion of the bowl.

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It will be observed that the lighting device hereinabove explained is not provided with a wick-holder or wick, for the flame is produced by the ignition of the consuming strip, tape or ribbon  $g$ , in substantially the manner de-

80 scribed.

In practice the required flame is produced and of sufficient duration to light a pipe, gas or article by the ignition by means of the scratcher of the bits, pellets or drops of the

85 serrated strips.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lighting device, a spiral, an ignitor,

90 a serrated consuming tape, strip or ribbon tipped with ignitable material, a revoluble shank provided with a slot for the reception of the tape, strip or ribbon and having the

95 upper portion cut away to permit the serrations of the tape, strip or ribbon to mesh with the spiral and to be brought into contact with the ignitor to permit of the ignition of the serrated portions of the tape, strip or ribbon

100 in regular sequence to cause a flame to be produced and the exposed portion of the tape, strip or ribbon to be consumed, substantially as and for the purposes set forth.

2. A lighting device comprising a housing provided with a spiral having a coiled wire

105 applied thereto and the free extremity forming an ignitor or scratcher, a serrated ignitable light producing and consuming tape, strip or ribbon, and a revoluble carrier adapted to present the serrated portion of the tape, strip

110 or ribbon to the spiral and the ignitor, substantially as and for the purposes set forth.

3. A lighting device comprising a housing provided with a hinged cover, a revoluble cap mounted on said housing and provided with

115 a recessed carrier arranged concentrically with respect to a spiral having a coiled wire applied thereto and the free extremity of the wire forming an ignitor or scratcher and a

120 serrated ignitable light producing and consuming strip, tape or ribbon, the construction being such that the rotation of the carrier causes the serrated tape, strip or ribbon to be fed to the ignitor for producing a flame

125 and consuming the exposed portion of the tape, strip or ribbon, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN E. BARLOW.

Witnesses:

THOMAS M. SMITH,  
RICHARD C. MAXWELL.