

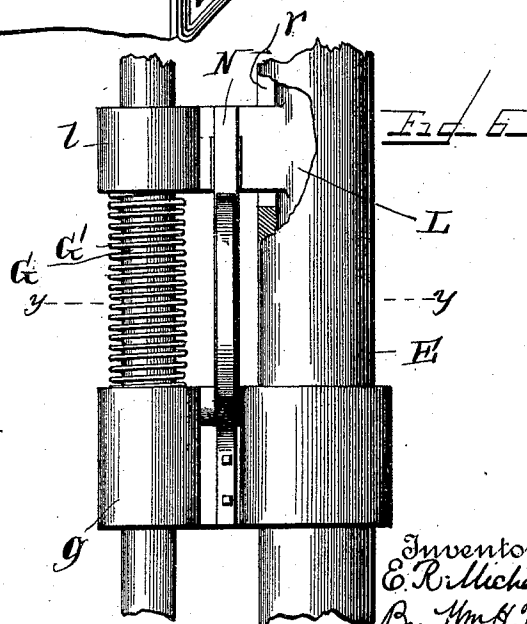
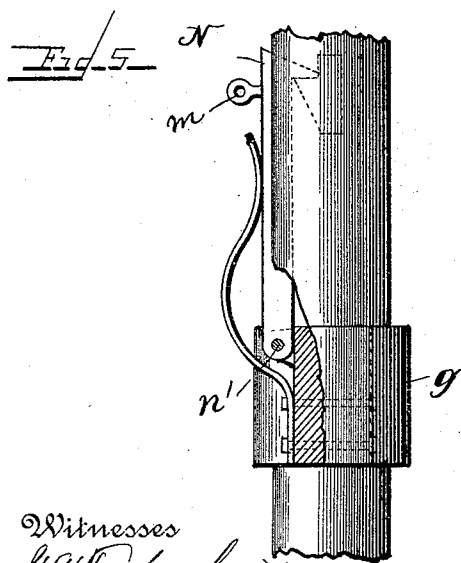
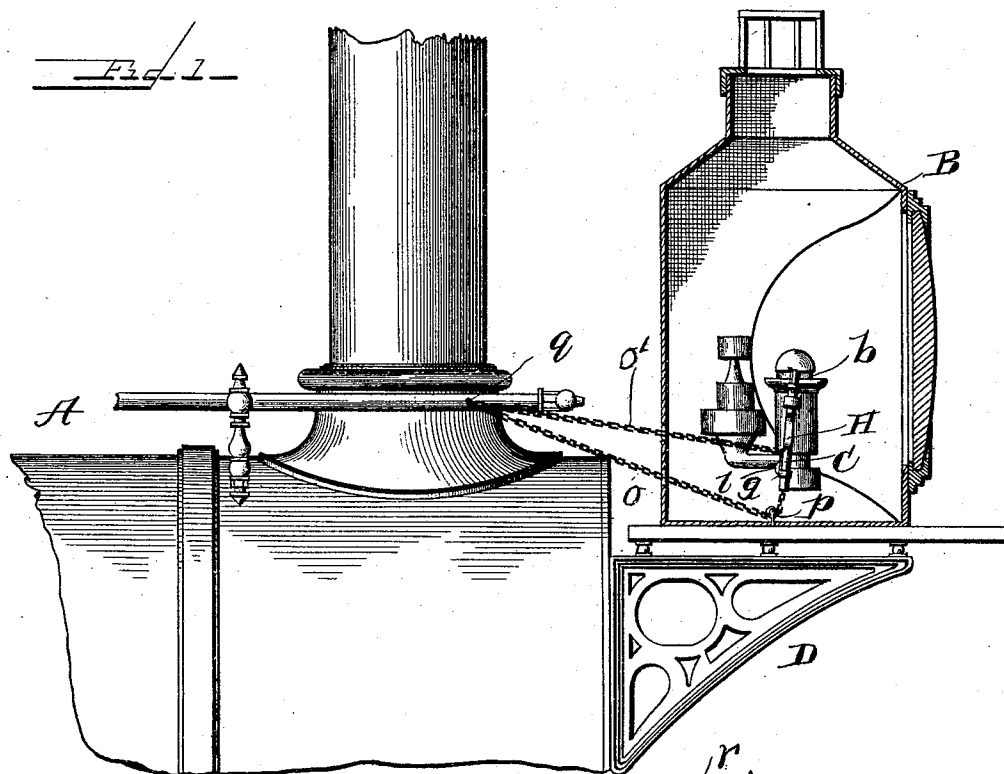
(No Model.)

2 Sheets—Sheet 1.

E. R. MICHAELIS.
LAMP LIGHTING DEVICE.

No. 496,662.

Patented May 2, 1893.



Witnesses
G. A. Tauberschmidt
J. M. Coppershawer.

Inventor
E. R. Michaelis
By M. A. Bates

Attorney

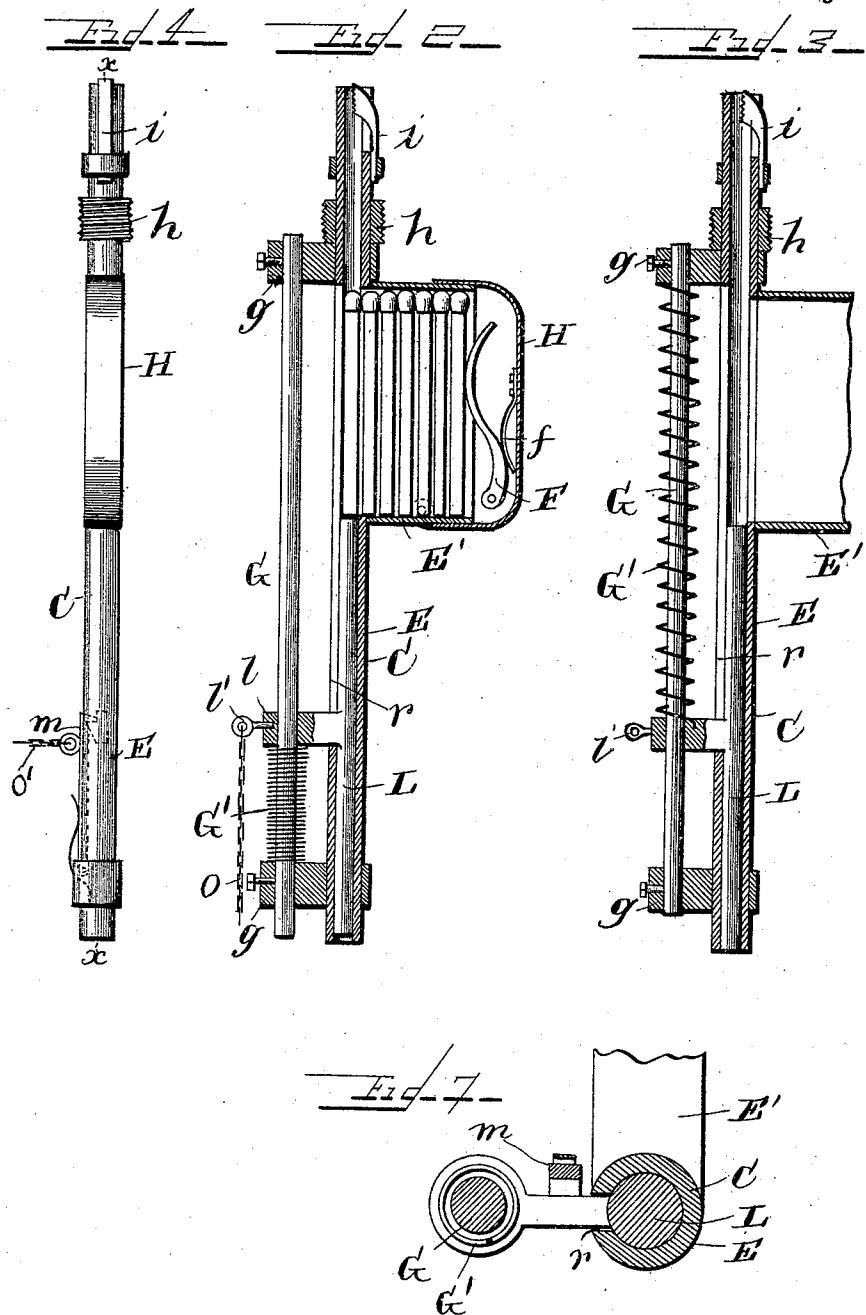
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E. R. MICHAELIS.
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Witnesses
J. A. Tauberschmidt,
J. M. Copenhaver.

Inventor
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By Wm. H. Bates
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UNITED STATES PATENT OFFICE.

ERNEST R. MICHAELIS, OF BUCYRUS, OHIO.

LAMP-LIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 496,662, dated May 2, 1893.

Application filed July 28, 1892. Serial No. 441,506. (No model.)

To all whom it may concern:

Be it known that I, ERNEST R. MICHAELIS, a citizen of the United States, residing at Bucyrus, in the county of Crawford and State of Ohio, have invented a new and useful Improvement in Lamp-Lighting Devices, which is more particularly adapted to be used in connection with railway-locomotives for lighting the headlights thereof; and I hereby declare the following to be such a full, clear, and exact description of my invention as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates more particularly to lamp lighting devices and is more especially designed for use in lighting the lamps of the head lights of locomotives by the engineer or fireman without the necessity of either one having to leave the cab for that purpose, and it is further designed to overcome the necessity of having to stop a train on a long run to light the lamp or require a person to depend upon the uncertainty of the hand rail as a support while lighting the lamp when the train is in motion and it consists in the novel combination of parts which will be hereinafter set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view showing a section of a locomotive with my improved lighting device attached to the head light thereof. Fig. 2, is a view illustrating the match safe and the plunger mechanism. Fig. 3, is a modification thereof. Fig. 4, is an elevation at right angles to Fig. 2. Figs. 5, and 6, are details thereof on an enlarged scale. Fig. 7 is a cross section on the line $y-y$ Fig. 6.

Referring to the drawings, which form a part of this case A, represents a locomotive or other object to which my improved lighting device is attached.

B, represents a locomotive head light; C, the lighting device which will be described in detail farther on.

D, represents the bracket supporting the head light, all of which parts will be readily understood.

The lighting device which is generally des-

ignated by the letter C, consists of a tube E, having a longitudinal slot r , therein which is located between the brackets g . These brackets which are located at the extremities of the tube E, support a rod G, and about this rod is coiled the spring G' . Within the tube E, is a piston or plunger L, which has an offset l , projecting from the slot r and sliding on the rod G, and operated by the spring G' . This offset is provided with an eye l' , for engaging the actuating chain or cord, O. Upon the upper side of the tube C, is located the match box or safe E' , which is provided with a suitable cover and a hinged depressor F, and a spring f , for actuating the said depressor all suitably secured within said cover, this depressor serves as a follower and keeps one match always in the tube ready for use. The forward end of tube E, is provided with a screw threaded collar h , which is adapted to engage a nut in the surface of the reflector B. At the extremity of the tube is the frictional spring i , the use of which will be explained hereinafter. At the opposite end of the tube E, is located the hook N, which is pivoted at n , on the bracket g , and which extends forward and has a hooked end engaging a recess in the plunger offset. This hook is connected by means of an eye m , and chain or cord O' with the cab. Both actuating chains are passed by preference through an opening therein along the interior of the tubular hand rail and for the very obvious reason that in this relation they have a reliable guide and are not apt to be interfered with in any manner. A pulley P is secured to the head light itself and over this passes the chain or cord O, and this cord serves as a retractor, drawing back as it does, the plunger head after it has been released to do its work. The companion chain or cord O' is connected with the hook m and when drawn upon disengages the hook from the plunger offset and this renders the spring G' free to act.

In Fig. 3, of the drawings I have shown a modification of part of my mechanism. In this instance the spring is secured to the plunger offset and the forward bracket and is kept constantly extended when the plunger is in operative position and is only compressed when the hook is withdrawn, while in the

mechanism shown in Fig. 2, the spring is constantly compressed when the plunger is in its operative position.

The operation is simple and can be readily understood. The safe is loaded with matches, one upon the other and the lid closed and the depressor bearing upon the topmost one forces it down and through it all the others to the under one which has its butt in contact with the head of the plunger. As soon as the hook is withdrawn the spring forces the plunger forward and this carries the lowermost match with it and the head of this coming in contact with the serrations or irregularities on the frictional device is ignited and being in contact with the lamp wick this is at once lighted.

It will be observed that the tube passes through the reflector at such an angle as to bring the end of the tube in contact or approximately so with the lamp wick.

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

25 1. In combination with a slotted tube hav-

ing a piston or plunger therein, an offset on said piston and extending through said slot, lugs on said tube supporting a guide bar, and with which the offset engages, a coiled spring on said bar for actuating the piston, an igniting device at the extremity of said tube and means for reciprocating the plunger to ignite a match.

2. In a lighting device the combination of a casing for holding matches, a cover with depressor and spring attached for automatically feeding the matches, a tube and serrated spring igniting device thereon, a plunger and guide with spiral spring for forcing a match through said tube, a ratchet or hook for holding said plunger in position for lighting, and a chain or cord for setting the plunger from the cab, and a companion chain or cord for releasing the same.

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

ERNEST R. MICHAELIS.

Witnesses:

C. J. SCROGGS,
J. BLAND.