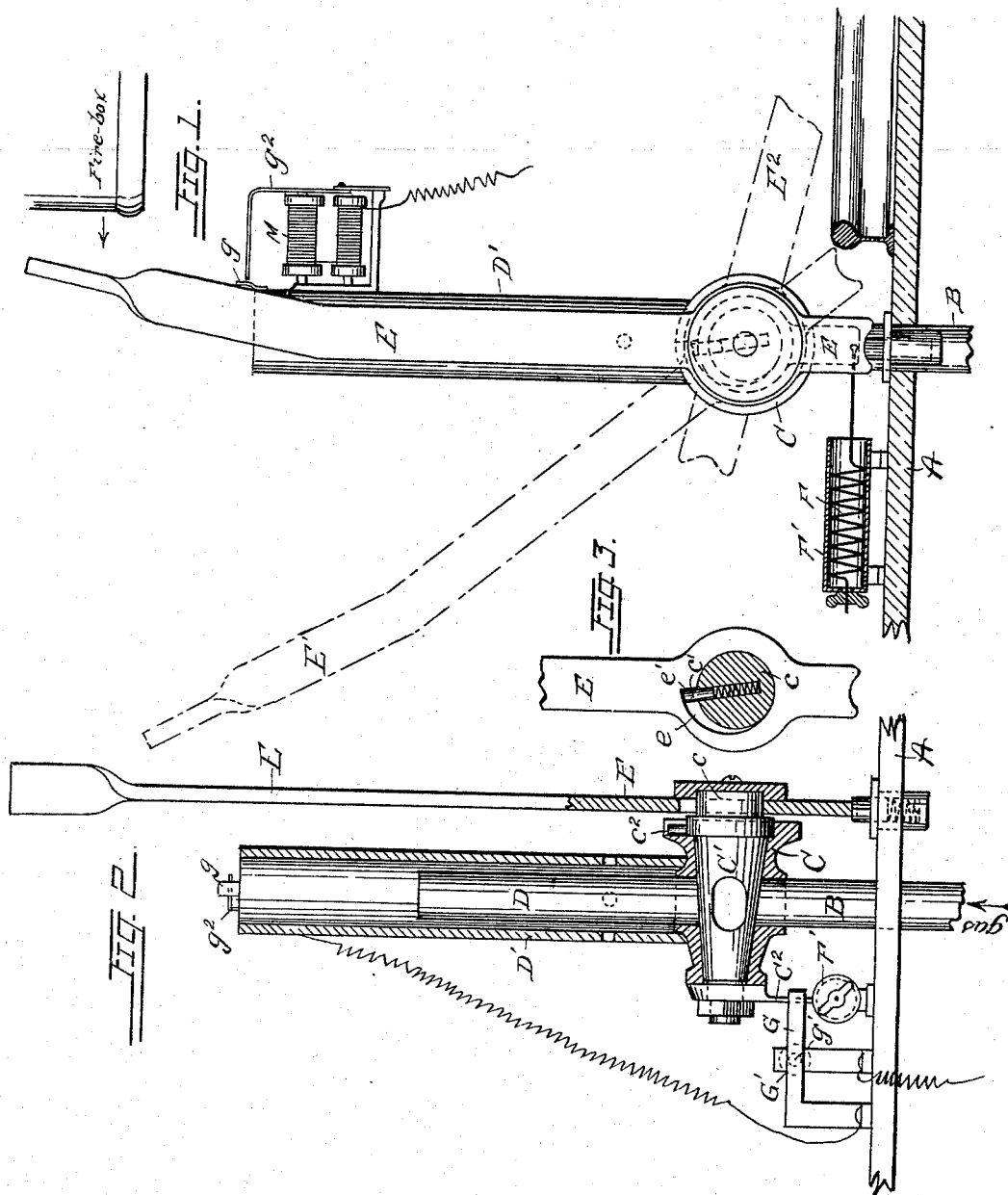


(No Model.)

W. C. MATTHIAS & W. HARTMAN.  
ELECTRIC IGNITING APPARATUS FOR FIRE ENGINES.

No. 526,723.

Patented Oct. 2, 1894.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM C. MATTHIAS AND WILMER HARTMAN, OF READING, PENNSYLVANIA.

## ELECTRIC-IGNITING APPARATUS FOR FIRE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 526,723, dated October 2, 1894.

Application filed October 2, 1893. Serial No. 487,003. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM C. MATTHIAS and WILMER HARTMAN, citizens of the United States, residing at Reading, in the county of Berks, State of Pennsylvania, have invented certain Improvements in Electric-Lighting Apparatus for Fire-Engines, of which the following is a specification.

Our invention relates to an electrical igniting apparatus adapted particularly for use in fire engine houses for the purpose of automatically lighting a fire under the engine boiler.

Our purpose is to provide a simple and satisfactory apparatus by means of which the movement of the engine from its place in the house will turn on and instantaneously light a jet of gas; and when the engine has passed over it will automatically extinguish the same.

The apparatus is further adapted to at all times permit the return of the engine without interference with the apparatus.

The invention is fully described in connection with the accompanying drawings and is specifically pointed out in the claims.

Figure 1 is a side elevation of an apparatus showing the lever in its vertical operative position and indicating in dotted lines its forward and backward positions. Fig. 2 is an end view of the same. Fig. 3 is a detail view of the operating lever.

A represents the floor of the engine house to which our device is attached; it being placed between the rails on which the engine runs forward of the fire-box as the engine ordinarily stands.

B is a gas pipe passing up to the burner and provided with a cock C. The burner D is preferably inclosed by a casing D' provided with air inlets *d* and adapted to serve as a blow pipe.

To one end *c* of the spigot C' an operating lever F is secured. Instead of being positively fixed however it is provided with an extension *e* of the opening, forming a shoulder *e'*. A projecting stop *c'* on the spigot enters the extended opening or slide way *e* and engages the shoulder *e'*. This stop occupies a radial hole in the spigot and is backed by a coiled spring which normally

pushes it outward while the eccentric shape of the extension *e* of the opening presses it inward when the shoulder *e'* of the lever is moved away from it. The spigot is provided with a stop *c'* to limit its movement. To the other end of the spigot is fixed an arm C<sup>2</sup> which vibrates with it. This arm is connected to a coiled spring F which is inclosed in a case F' attached to the floor and arranged to permit adjustment of the spring tension.

The electric igniting attachment may be in the main of any desired form. The igniting spark is produced at the point *g* above the burner when the lever E is moved forward, by the closing of the circuit at *g'*, the spring G which normally rests upon the spigot arm C<sup>2</sup> being allowed to come in contact with the screw G' when the cock is opened. The current from the battery passes through the magnets M giving a vibratory motion to the electrode *g*<sup>2</sup> thus producing a succession of sparks which insures the lighting of the gas.

When in vertical position as indicated in the drawings the top of the lever E is above the level of the bottom of the fire-box and as the latter is moved forward it comes in contact with it and moves it to the dotted position E' thus automatically turning on the gas and igniting it, and so lighting the inflammable material in the fire box as the latter passes over it. After the engine has passed the spring F returns the spigot to its normal position against the stop *c'* thus shutting off the gas and opening the circuit. When the engine is returned to its place in the house the lever F can in no case interfere nor will it act either to turn on the gas or close the circuit. It can swing back to the dotted position E<sup>2</sup> independently of the spigot and so permit the free movement of the engine when desired but will be normally held when set for action in vertical position by a spring catch H engaging the lower end of the lever.

What we claim is—

1. In an electric igniting device the combination with the gas burner and electric attachment thereto, of a gas cock spigot provided with a stop *c'* and vibrating arm C<sup>2</sup>, a spring F connected to said arm and an operating lever E arranged to turn the spigot against the tension of the spring F in moving

forward from its vertical position and to move rearward from said position independently of the spigot, substantially as and for the purpose set forth.

5 2. In an electric igniting device the combination with the gas burner and the electric igniting attachment thereto, of a gas cock having a stop  $c^2$ , a vibrating arm  $C^2$  and connected spring F, an operating lever E having  
10 a limited independent movement and a separate spring to normally hold said lever in operative position, substantially as set forth.

3. In an electric igniting device the combination with the gas burner and electric igniting attachment thereto, of a gas cock having  
15 a stop  $c^2$ , a vibrating arm  $C^2$  and connected spring F, an operating lever E having an independent limited movement and a magnet and contact spring G operated by said vibrating arm, substantially as set forth.

20 4. An apparatus for automatically lighting the fire of a fire engine comprising a gas

burner and cock, an electric igniting attachment thereto, placed in the path of the engine, and mechanism substantially as described for automatically operating the cock  
25 and electric mechanism by the passage of the engine over the same, substantially as set forth.

5. In an electric igniting device the combination with the gas burner and electric igniting attachment thereto, of a gas cock having a stop  $c^2$ , a vibrating arm  $C^2$  and connected spring F, an operating lever E formed  
30 with a shoulder  $e'$  and slide way  $e$  and a radial spring stop  $c'$  arranged to engage said shoulder, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM C. MATTHIAS.  
WILMER HARTMAN.

Witnesses:

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F. PIERCE HUMMEL.