E. L. MEGILL.

Automatic Lighter for Gas-Burners.

No. 160,932 Patented March 16, 1875.

Fig. 1.

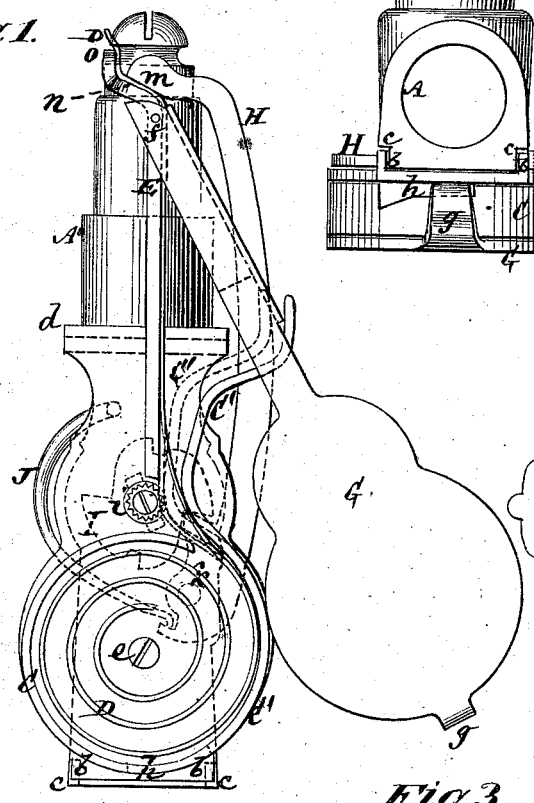


Fig. 4.

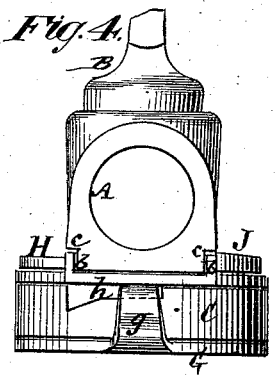


Fig. 2.

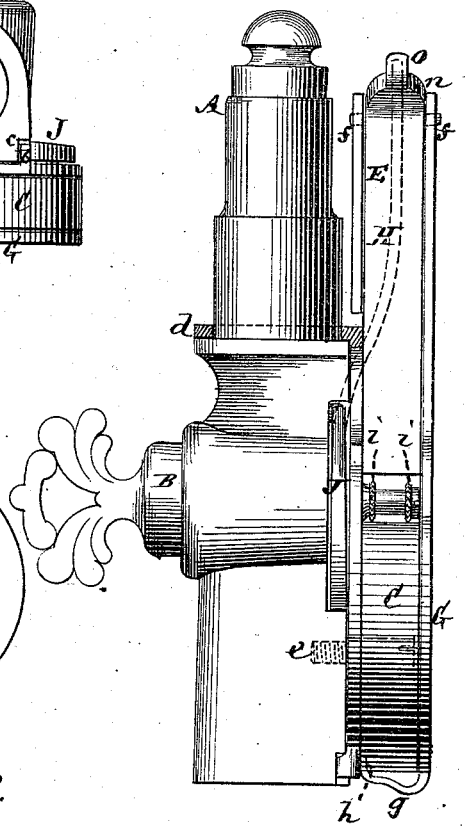
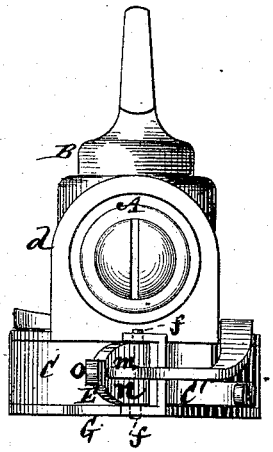


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD L. MEGILL, OF BROOKLYN, NEW YORK, ASSIGNOR TO WILLIAM G. MORGAN, OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC LIGHTERS FOR GAS-BURNERS.

Specification forming part of Letters Patent No. **160,932**, dated March 16, 1875; application filed March 4, 1875.

To all whom it may concern:

Be it known that I, EDWARD L. MEGILL, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automatic Lighters for Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents an elevation of a gas-burner having my improved automatic lighter attached, with the combined magazine-cover and ribbon-cover swung back or open. Fig. 2 is an elevation of the same, at right angles to the former figure; Fig. 3, a top view thereof, and Fig. 4, an inverted plan or under view.

This invention relates to that description of automatic lighters for gas-burners for which Letters Patent No. 155,770 were issued October 6, 1874, to W. G. Morgan as assignee of myself and Henry B. Stockwell, and in which the automatic lighter that forms an attachment to the burner is mainly composed of a fulminate tape or ribbon magazine, one or more feed-wheels actuated by the cock of the burner to raise the fulminate-ribbon by or through a conducting-tube to an anvil in proximity with the burner, and a swinging hammer operated by the cock and a spring combined to ignite the fulminate when the gas is turned on by the cock.

The invention consists in a novel construction of certain of the details of such an automatic lighting-attachment to gas-burners, including a peculiar construction of the hammer and anvil, a novel mode of attaching the combined magazine-cover and ribbon-guide, and an extended spring-like construction of the magazine, whereby a more effective blow is obtained for the hammer, the necessity of an attached shield to concentrate the flame is avoided, the flame and ribbon are more perfectly directed to the burner without risk of the flame extending downward, the construction of the apparatus generally is simplified, an effective spring-pressure is applied to the fulminate-ribbon to keep it in proper contact with the feed wheel or wheels, and the opening of the lid or cover of the magazine not only removes such spring-pressure, but enlarges in a positive manner the capacity of the magazine and facilitates the insertion and removal of the fulminate-ribbon.

A is the burner or socket thereof, and B its plug or cock. C is the magazine for the fulminate-ribbon. This magazine is arranged on one side of the socket, and is connected with the latter by lips *b b*, entering notches *c c* in the bottom of the socket, and by a strap, *d*, incasing the pillar of the burner. Such forms a ready means of fitting the automatic lighter to its place in relation with the burner, after which it may be securely attached thereto by a screw, *e*, in the center of the magazine, said screw also serving as a center for the coil of fulminate-ribbon D, within the magazine. E is the anvil, which has a downwardly-extending leg that forms the one side or back of the ribbon-guide, and which is constructed with teats *f* on its opposite edges, near its upper end, for the magazine-cover G to work upon as a pivot when opening and closing said cover, the upper portion of the latter being of a bent channel-like construction, to complete the guide which conducts the ribbon to the top of the anvil, and whereby it may be readily sprung to its place on the teats or pivots *f*. Said cover is provided at its bottom with a spring catch or hook, *g*, that, when the cover is closed over the magazine C, enters a notch or slot, *h*, in the bottom of the magazine to hold the cover closed. This constitutes a very simple and convenient means of opening and closing the magazine when replacing or adjusting the ribbon. The magazine C is constructed on the opening side of the cover G, of a spring, C′, which is extended upward and is set to force the ribbon D with an elastic pressure up against the feed-wheels *i*, attached to the plug or cock, and so that said spring is unrestrained by the cover G when the latter is closed, thus allowing the spring to yield, and whereby the fulminate-ribbon is always held in working-contact with the feed-wheels and the latter are prevented from slipping, as well as from digging too deep into the ribbon; also, whereby a yielding passage is formed for any unusually large fulminate-pellets on the rib-

bon. This spring C′ presses inward, and when it is required to enlarge the magazine to facilitate the entry or removal of the fulminate-ribbon, the cover G, in being swung outward, bears against the upper crooked portion of the spring C′ to spring it outward, as shown by full lines in Fig. 1, the normal position of the spring being represented by dotted lines in the same figure. H is the hammer, pivoted at *k* and thrown back by a cam, I, attached to the plug, against the action of a spring, J, which serves to give to the hammer its strike or blow when released by the cam. Said hammer is constructed with an inclined face, *m*, and the portion of the anvil E which receives the blow is bent, as at *n*, to correspond, and its upper extremity *o* extended upward. By this construction of the hammer and anvil their contact approximates a horizontal position, and the hammer, instead of striking flat on the fulminate-pellets of the ribbon, exerts a sliding blow, in a curvilinear direction, as it were, on the same, thus igniting the pellet by a rubbing contact or friction, thereby reducing noise and producing a better flame, which is prevented from running downward to ignite the other pellets. The necessity of a shield, too, on the hammer to concentrate and direct the flame, and which, collecting refuse, requires frequent cleaning, is dispensed with, and the flame made to take an upward direction, the upper burning portion of the ribbon being turned upward by the bent top extremity of the anvil, and the flame made to ignite the gas with certainty.

I claim—

1. The hammer H, pivoted at *k* and constructed with an inclined face, *m*, in combination with the anvil E, bent, as at *n*, to correspond with the inclined face of the hammer, for explosion of the fulminate on the ribbon D as the latter is fed upward to the burner from the magazine below, substantially as and for the purposes herein set forth.

2. The magazine C, formed in part of a spring, C′, in combination with one or more feed-wheels, *i*, and constructed to operate with an elastic or yielding pressure between it and the feed wheel or wheels on the fulminate-ribbon introduced between them, essentially as described.

3. The combination of the magazine-cover G, pivoted above to the anvil, as at *f*, and constructed to form, in concert with the anvil E, a guide for the fulminate-ribbon, substantially as specified.

4. The laterally-swinging magazine-cover G, pivoted above, as described, in combination with the spring C′ of the magazine, whereby said cover, when being thrown back or open, is made to act upon the spring to enlarge the capacity of the magazine, essentially as and for the purposes herein set forth.

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