

H. B. STOCKWELL & E. L. MEGILL.
Automatic Lighters for Gas-Burners.

No. 155,770.

Patented Oct. 6, 1874.

Fig. 1.

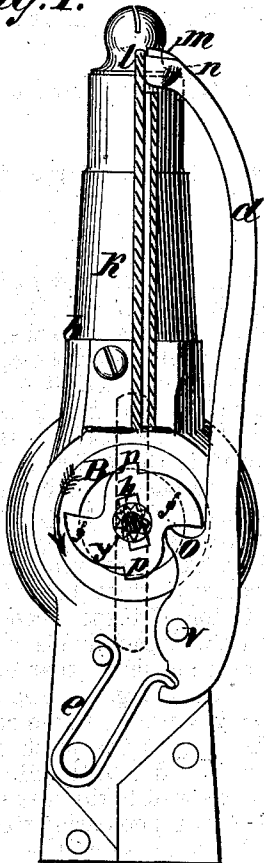


Fig. 2.

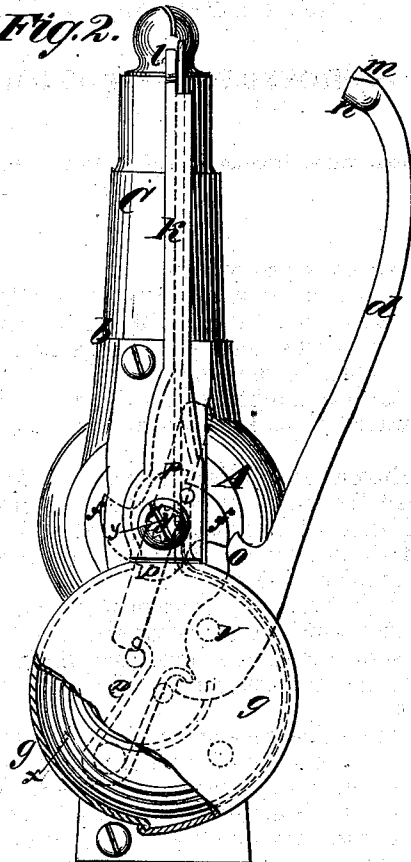
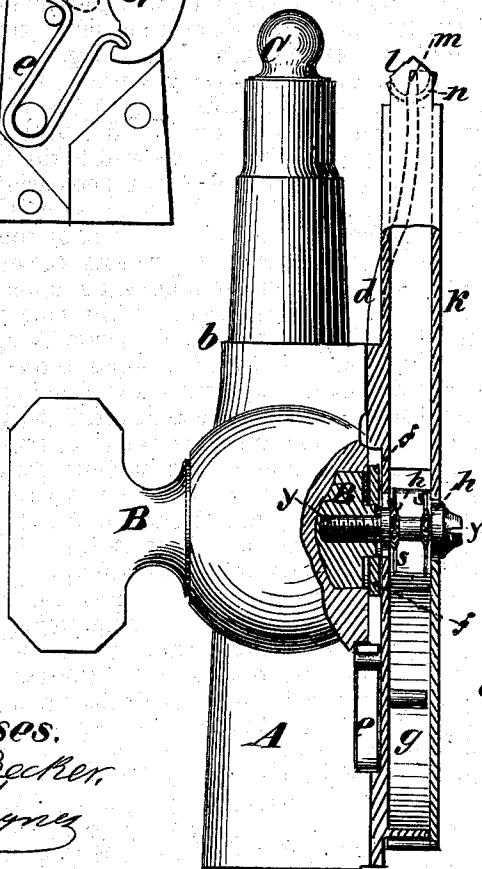


Fig. 4.



Fig. 3.



Witnesses.
John Becker,
Fred. Wagner

H. B. Stockwell
E. L. Megill
by their Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

HENRY B. STOCKWELL AND EDWARD L. MEGILL, OF BROOKLYN, NEW YORK, ASSIGNORS TO WILLIAM G. MORGAN, OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC LIGHTERS FOR GAS-BURNERS.

Specification forming part of Letters Patent No. **155,770**, dated October 6, 1874; application filed September 15, 1874.

To all whom it may concern:

Be it known that we, HENRY B. STOCKWELL and EDWARD L. MEGILL, both of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Automatic Lighting Attachments to Gas-Burners, of which the following is a specification:

Our invention relates to improvements upon and has the same object as the invention for which Letters Patent were granted on the 27th day of June, 1865, to Henry B. Stockwell, of Brooklyn, New York.

The object of the invention is to obtain an apparatus which is more certain and reliable in its action than the apparatus which forms part of the subject-matter of those Letters Patent.

The invention consists in means of substituting for the stick of fulminate described in the above-mentioned patent, a ribbon to which the fulminate is applied in small quantities at suitable intervals, and means of uniting such fulminate; also, in means of moving said ribbon by the action of the burner-cock.

The following is a description of our invention, reference being had to the accompanying drawing, in which similar letters indicate corresponding parts in the several figures.

Figure 1 is a side view, showing our attachment applied to a gas-burner with the magazine removed, and with a vertical section of the ribbon-guide, thus showing the mechanism of the apparatus, and representing the same in the position occupied when the gas is on. Fig. 2 is also a side view, representing the apparatus complete with the lower left-hand portion of magazine-cap broken away, showing the working parts in dotted outlines, and showing the same in the position while the gas is being turned on and just before the fall of the hammer. Fig. 3 is a view at right angles to Figs. 1 and 2, showing partial vertical section of apparatus. Fig. 4 is a piece of percussion or priming ribbon provided with pellets of fulminate *i i*.

A is the socket, and B the key, of a gas-cock, the former being tapped or internally threaded at the bottom suitably for screwing

upon a gas-pipe, and having a screw at *b*, upon which is screwed the gas-burner C. *d* is a swinging hammer, pivoted at *v* to the socket A, and operated by the force of the spring *e*, which is also attached to the socket A. *f* is a cam, rigidly attached to and revolving with the key or spindle of the gas-cock. *g* is a box or magazine, secured to the socket A, and in which is coiled the percussion-ribbon *x*. *h h* are toothed wheels, over which the percussion-ribbon passes, and which are rigidly attached to the key B of the cock, concentric therewith, by means of the screw *y*, which holds the key in place. The rotation of these wheels feeds the ribbon *x* forward with each half-revolution of the cock a distance equal to that between the percussion-pellets *i i*, Fig. 4. Opposite to the said wheels are grooves *s s* in the cover or wall of the magazine, that the teeth of said wheels may penetrate and bite the ribbon. *k* is a tube or guide attached to the magazine *g*, and through which the percussion-ribbon is fed upward by the rotation of the toothed wheel or feeder *h*. The side of this guide opposite the hammer projects above the other side at *l*, thus forming an anvil against which the ribbon is struck by the hammer-edge *m*. *n* is a shield, partially surrounding the hammer-edge on the side opposite the gas-jet, by which the flame of the explosion is prevented from diffusing, and is directed toward the gas. From the form of the cam *f* it is prevented by the dog *o* upon the hammer from rotating, except in the direction of the arrow in Fig. 1. When the cam is rotated till it passes the point *p*, the dog *o* slips off the point, allowing the hammer to fall partially, thus making a click, which indicates that the gas is fully turned off. The cam being carried one-quarter of a revolution farther, the dog *o* is raised by the highest step *f* of the cam, which it passes just as the gas is fully turned on, and the hammer falls, exploding one of the percussion-pellets against the anvil *l*, and the shield *n* directs the flame of the explosion into the gas-jet, thus igniting the same. The ignition of the percussion-pellets causes the burning off of the ribbon down to the mouth or upper end of the tube *k*.

The application of this attachment to the burner may be so modified as to work with a cock the key of which is vertical, the motion being transmitted from the cock to the ribbon-feeding device by gearing or otherwise.

We claim—

1. The combination of the magazine *g*, conducting-tube *k*, anvil *l*, swinging hammer *d*, spring *e*, cam *f*, cock *A*, and burner *C*, substantially as herein described.

2. The feeding-wheel *h*, in combination with the gas-cock and the ribbon-magazine, substantially as herein described.

HENRY B. STOCKWELL.

EDWARD L. MEGILL.

Witnesses:

FRED HAYNES,
MICHAEL RYAN.