

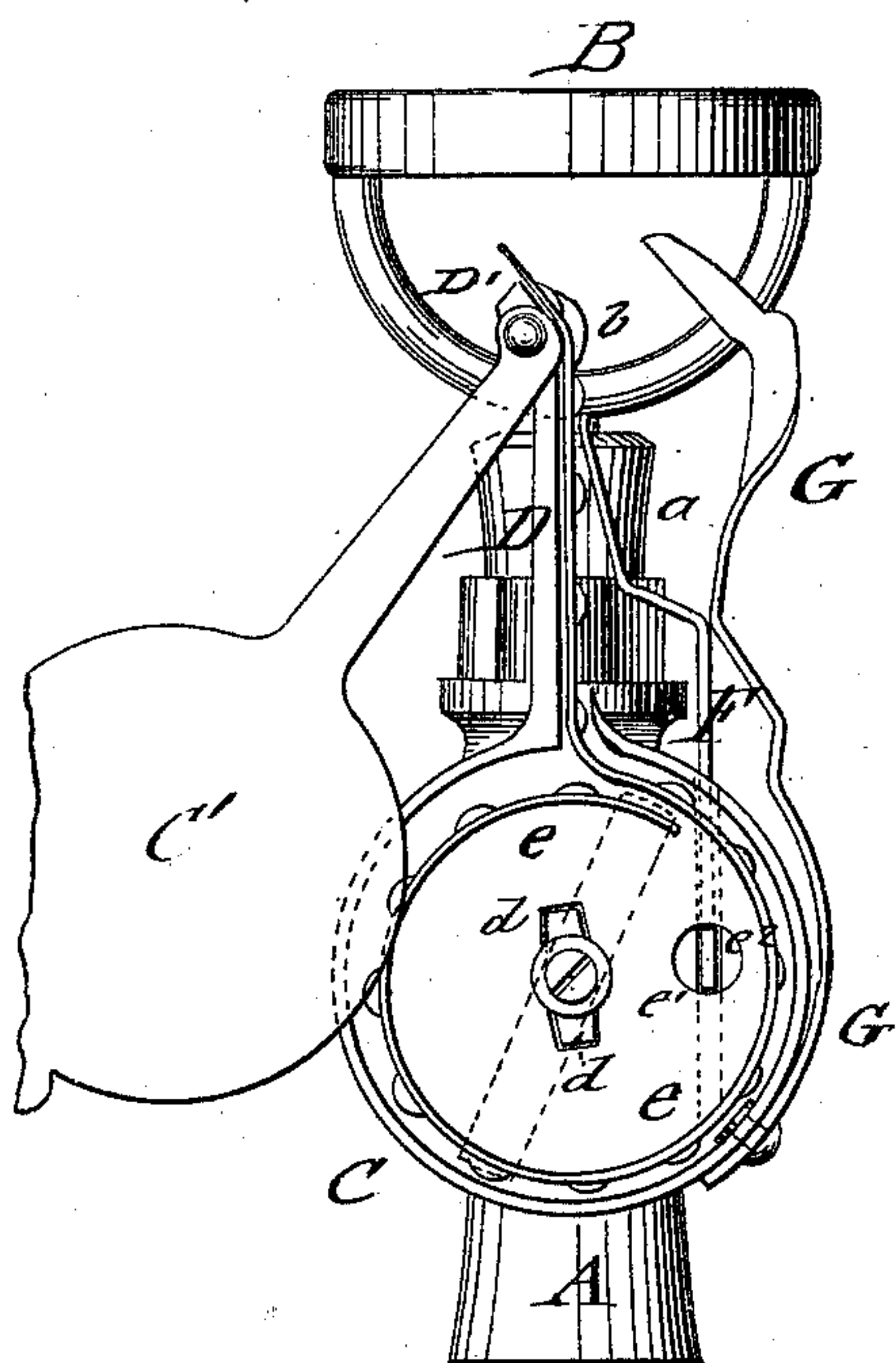
H. B. STOCKWELL & A. R. WEISS.

AUTOMATIC LIGHTERS FOR GAS BURNERS.

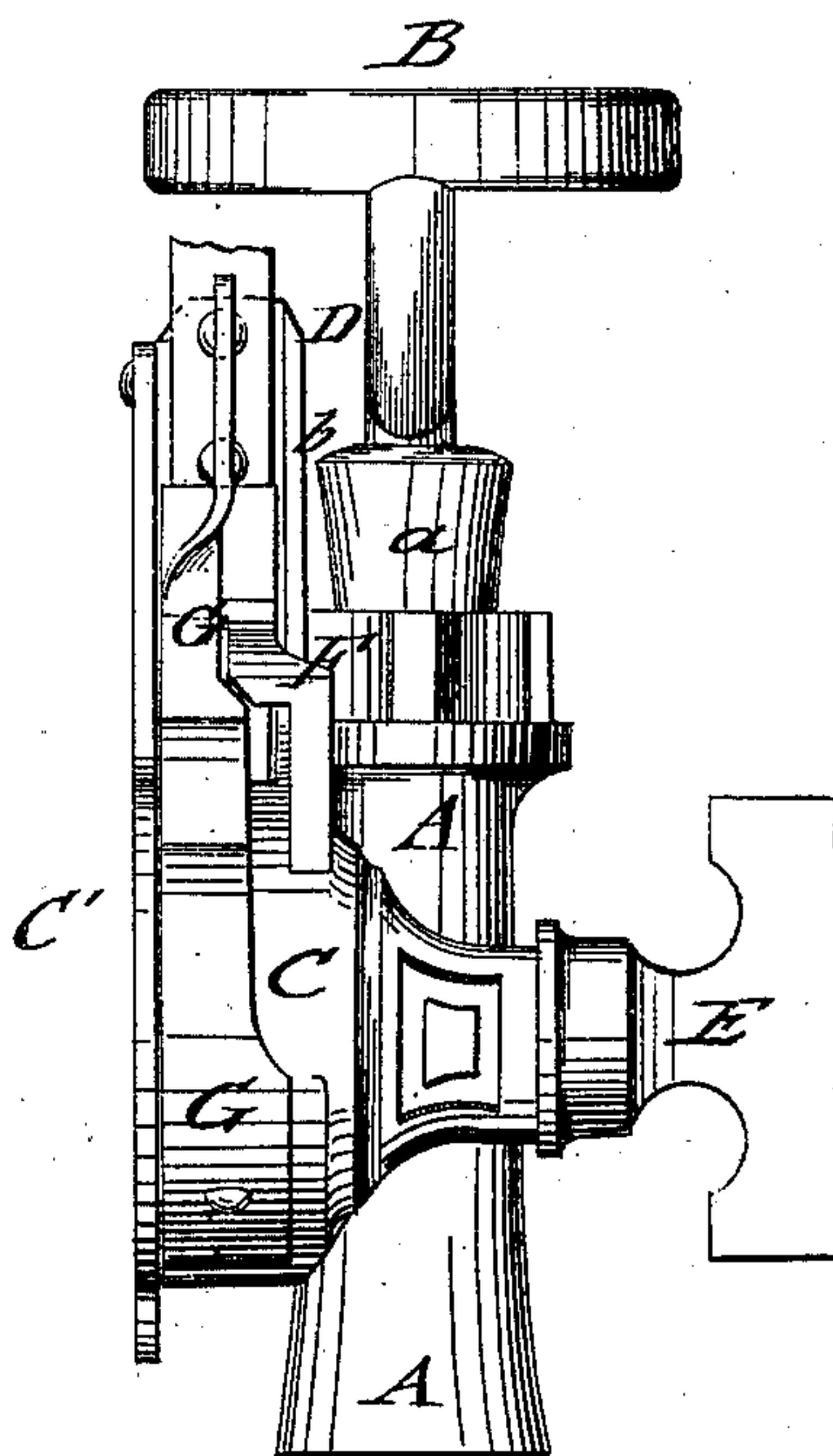
No. 170,913.

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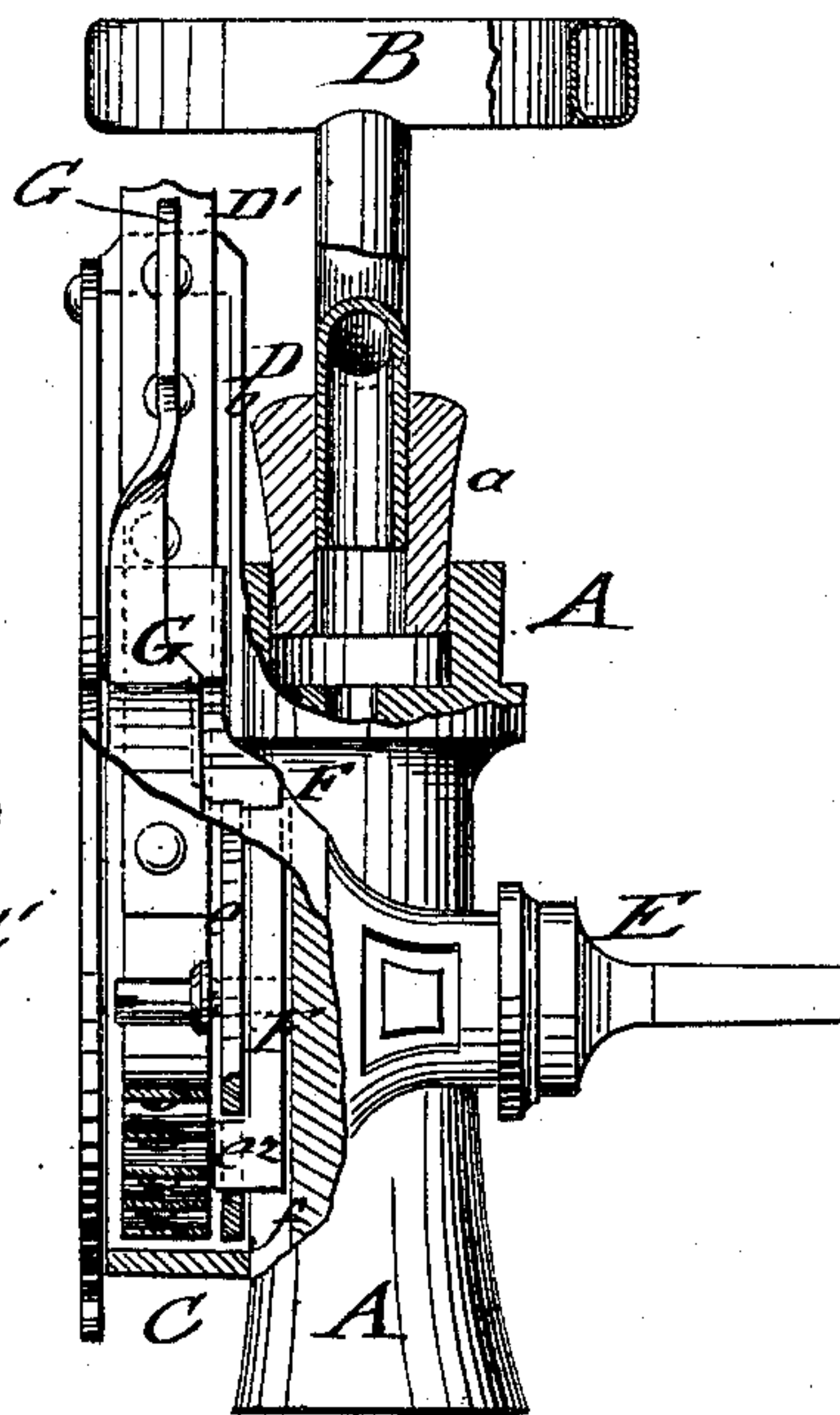
*Fig: 1.*



*Fig: 2.*



*Fig: 3.*



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WITNESSES.

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# UNITED STATES PATENT OFFICE

HENRY B. STOCKWELL AND ALBERT R. WEISS, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN AUTOMATIC LIGHTERS FOR GAS-BURNERS.

Specification forming part of Letters Patent No. 170,913, dated December 7, 1875; application filed October 29, 1875.

*To all whom it may concern:*

Be it known that we HENRY B. STOCKWELL and ALBERT R. WEISS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Automatic Lighter for Gas-Burners, of which the following is aspecification:

In the accompanying drawing, illustrating our invention, Figure 1 represents a front elevation of our improved automatic lighter for gas-burners, shown with the cover of the magazine in open position, and hammer ready to strike the igniting-tape. Fig. 2 is a side view of the lighter, and Fig. 3 a vertical transverse section of the same.

Similar letters of reference indicate corresponding parts.

The object of our invention is to so improve the varying devices heretofore patented, for lighting gas-burners in automatic manner, by means of a fulminate ribbon, that the mechanism is greatly simplified, and the whole device brought within smaller compass, so as to be manufactured at less expense, being, at the same time, more effective in use.

The invention consists, mainly, in the connection of the gas-cock with a ribbon-feeding slide-piece, and a spring-hammer operated thereby, the burner-socket, magazine-guide, and anvil being cast of one piece, to which the fulminate-ribbon, slide-piece, and hammer are applied, so as to feed the ribbon, and ignite, simultaneously, one of the pellets by the opening of the gas-cock.

In the drawing, A represents the socket, to which our improved automatic gas-lighting device is applied, and which is screwed, in the usual manner, to the gas-bracket. A common burner, or a series of burners, or an Argand burner, B, is applied in any suitable manner to the upper part of socket A, the Argand burner being preferably socketed and insulated by a conical sleeve, *a*, made of a non-conductor of heat, as indicated in the drawing, by which the heating up of the lower part of the socket, and the danger of ignition of the fulminate-ribbon guided along the socket, are completely avoided. The socket A is cast in one piece with the cylindrical magazine C, and with the flanged extension guide-piece D of the magazine, and

the anvil D' at the end of the same. The cover C' is pivoted sidewise to anvil D', the arm of the cover serving as guide-flange for the ribbon when the cover is in closed position. The arm of the cover is slightly bent, for imparting a certain degree of spring action that allows the secure closing of the magazine by the cover, without catch or other locking devices. The guide-piece D is provided at the side adjoining the socket with a flange, *b*, parallel to the arm of the cover, for guiding the ribbon in conjunction with the same, and forming a guard to protect the ribbon.

The fulminate-ribbon is placed, in coiled state, into the magazine, with the pellets to the outside, and passed through a top slot, along the guide D to the anvil. The gas-cock E operates by suitable lugs *d*, a slide-disk, *e*, at the bottom of the magazine, which disk, or its equivalent, engages by a slot or recess, *e*<sup>1</sup>, the lug *e*<sup>2</sup> of a slide-piece, F, that is guided in a groove, *f*, of the socket, and passed through a slot of the magazine-wall to the outside of the same. The disk and lug *e*<sup>2</sup> also serve to define the extreme limits of turning the cock.

The slide-piece F is extended nearly up to the anvil, and made at the end equal in width with the guide D, sliding back thereon on closing the stop-cock, while sliding forward, when opening the cock for turning on the gas. A spring-hammer, G, is riveted to the outside of the magazine, and bent near the point of connection of magazine and guide, the slide-piece F being bent in similar manner, sliding below the hammer when drawn back for shutting off the gas, and raising, by its bent part, the hammer when moved forward by the opening of the cock. The forward motion of the slide-piece has the double purpose of feeding forward the ribbon, as the broad end of the slide-piece bears against the projecting pellets, and of raising, simultaneously therewith, the hammer, until a recess back of the bent shoulder admits the dropping of the spring-hammer, and, thereby, the ignition of the pellet that has been fed by the slide-piece to the anvil, into exact position for the hammer.

The explosion of the pellet lights the gas issuing from the burner, while the closing of the cock draws the slide-piece back ready for



the forward feeding of the ribbon, exploding of the pellet, and lighting of the gas at the moment when the cock is opened.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

1. In automatic lighters for gas-burners, a slide-piece, operated by the gas-cock, and constructed to feed the fulminate-ribbon to the anvil, simultaneously with the raising and dropping of the spring-hammer, substantially as described.

2. The slide-piece, provided with bent and recessed shoulder, in combination with the correspondingly-bent spring-hammer for raising and dropping the same by the forward motion of the slide-piece, substantially as specified.

3. The combination of the recessed bottom disk of magazine, turned by the gas-cock, with the projecting lug of the slide-piece for moving the same in forward and backward direction, substantially as set forth.

4. The combination of the guide-piece, having guard-flange at the side adjoining the socket, with the arm of the pivoted cover for guiding ribbon and slide-piece, substantially as described.

5. In automatic gas-lighters, the burner-socket, magazine, and guide, cast in one piece, substantially as set forth.

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Witnesses:

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