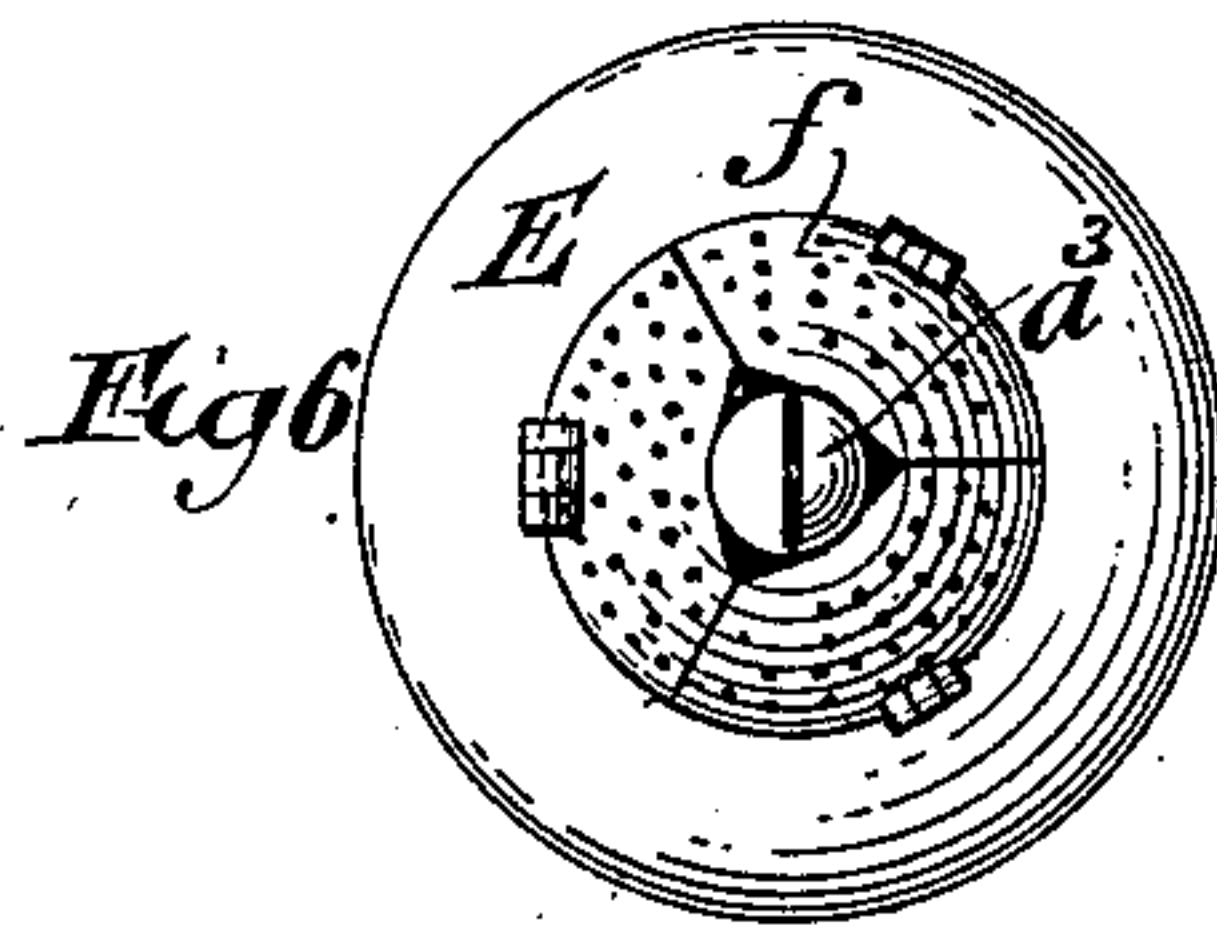
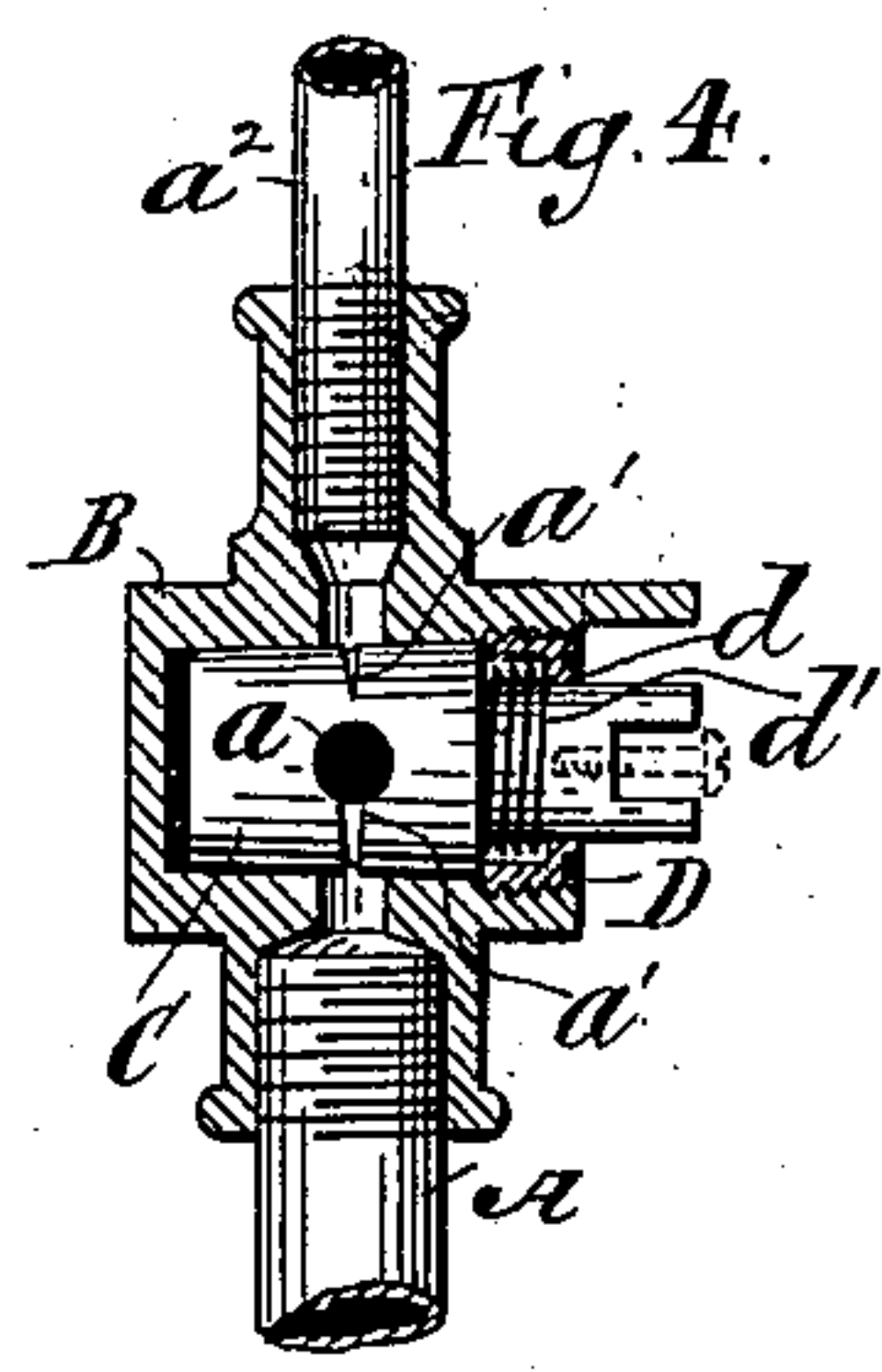
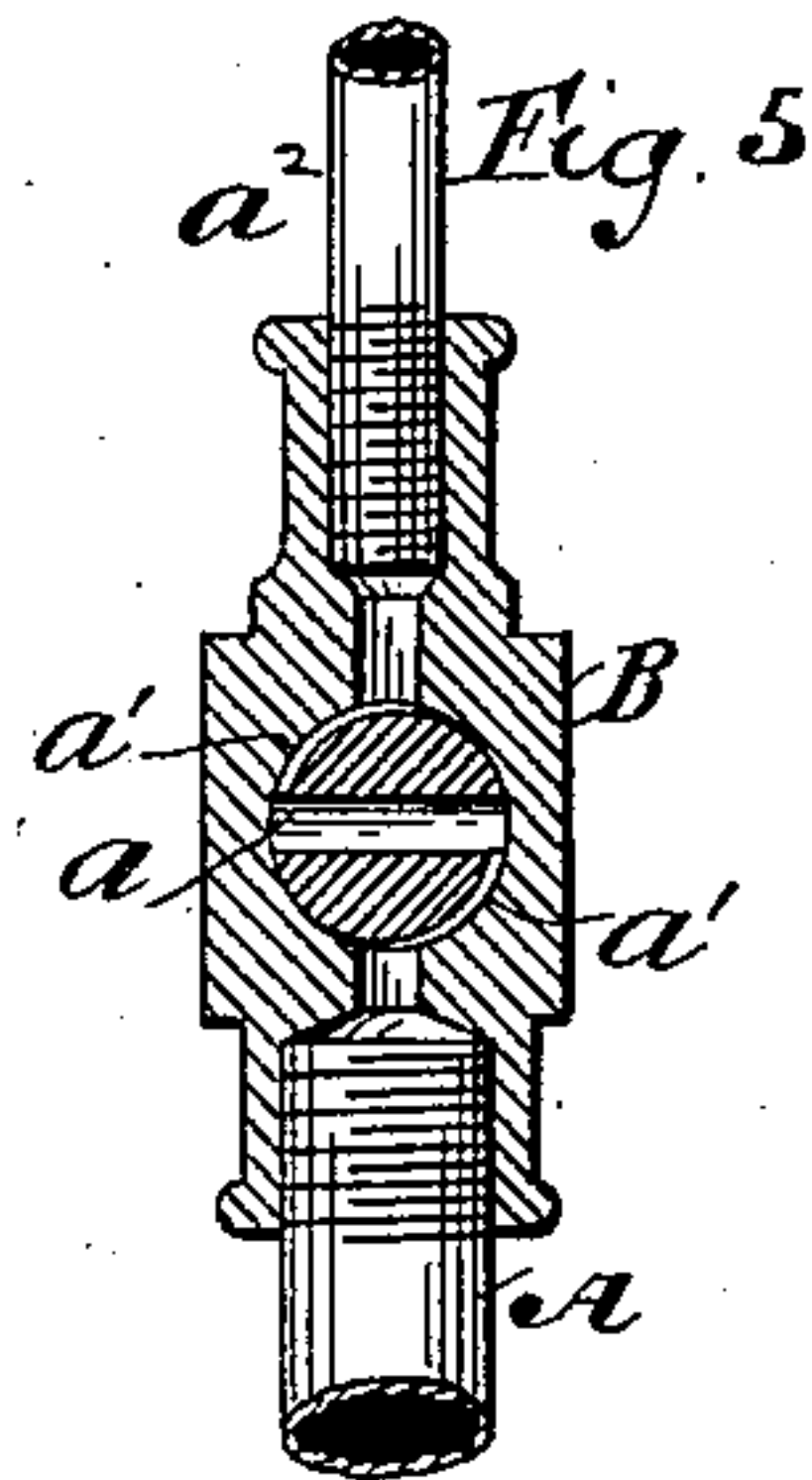
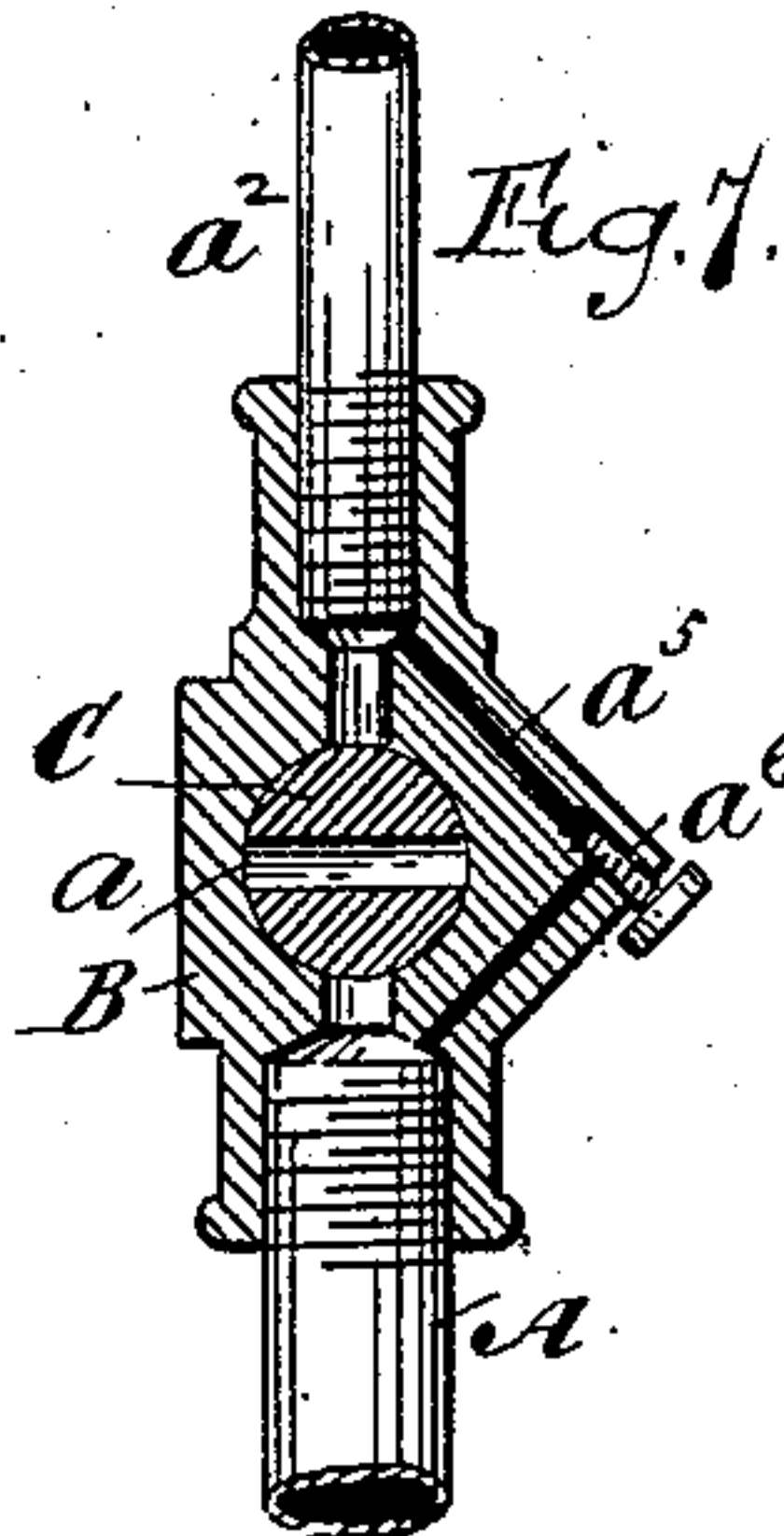
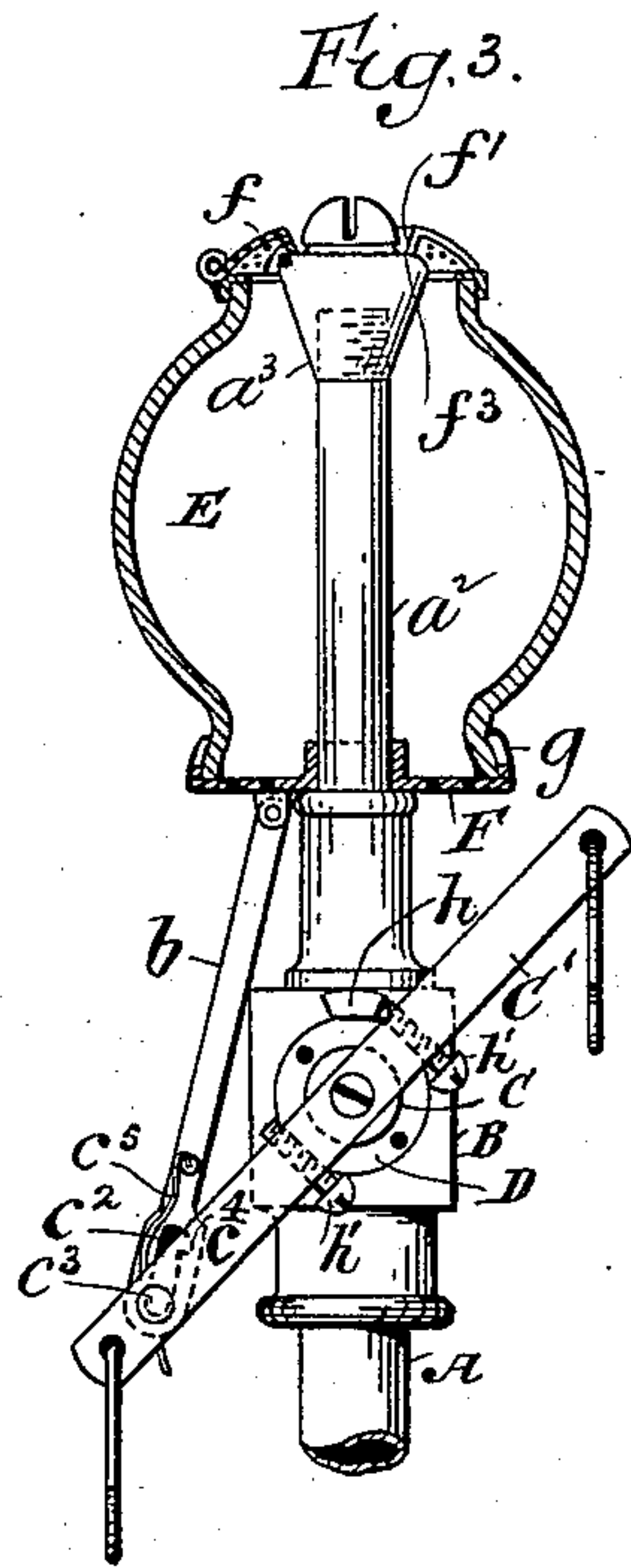
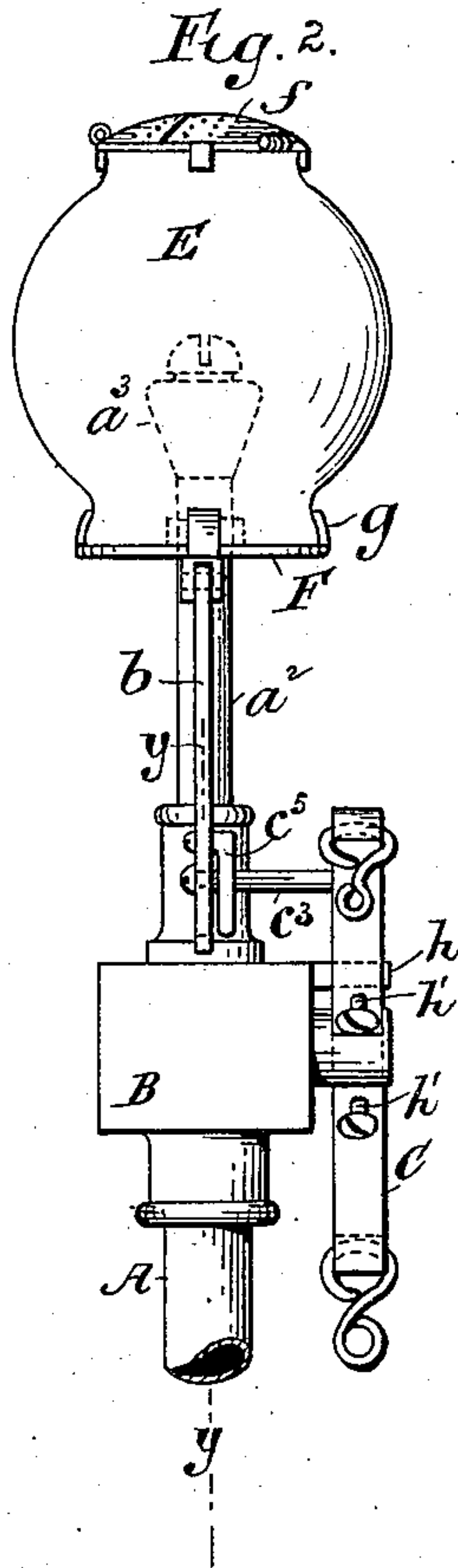
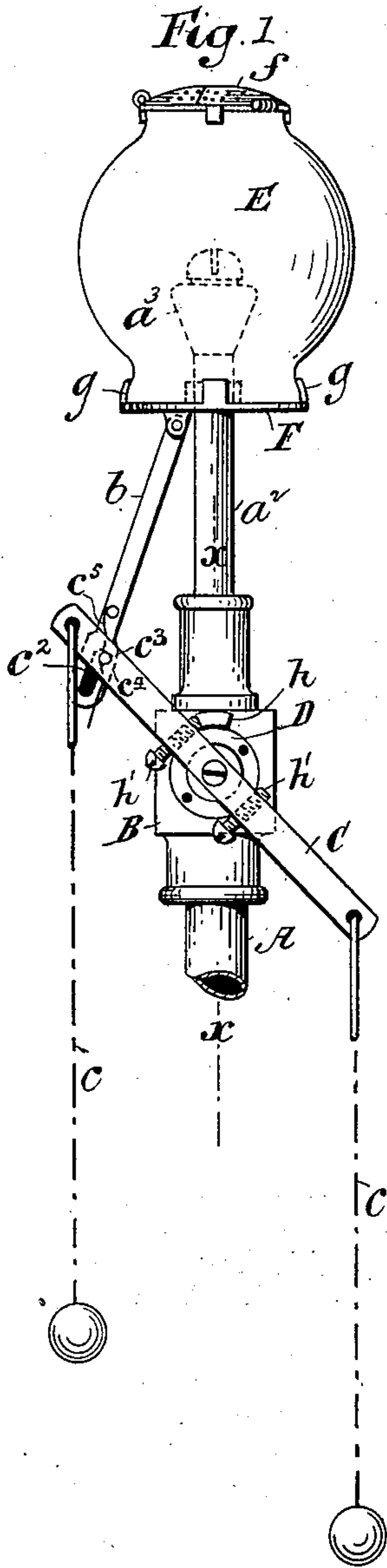


(No Model.)

W. F. FOLMER.
GAS BURNER.

No. 404,830.

Patented June 11, 1889.



Witnesses
Maurice J. Roch.
Fred Kemper

Inventor
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By his attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM F. FOLMER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
WALTER E. SCHWING, OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 404,830, dated June 11, 1889.

Application filed August 1, 1888. Serial No. 281,698. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. FOLMER, of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Gas-Burners, of which the following is a specification.

I will describe a gas-burner embodying my improvement in detail, and then point out the novel features in claims.

In the accompanying drawings, Figure 1 is a side elevation of a gas-burner embodying my improvement. Fig. 2 is a similar view looking from the right of Fig. 1. Fig. 3 is a view partly in section and showing the parts in a different position from that shown in Fig. 1. Fig. 4 is a vertical section taken on the plane of the line $x x$, Fig. 1. Fig. 5 is a vertical section taken on the plane of the line $y y$, Fig. 2. Fig. 6 is a plan or top view of a globe employed. Fig. 7 is a vertical section showing a modified form of gas-conduit and cock-plug.

Similar letters of reference designate corresponding parts in all the figures.

A designates a gas-supply pipe.
B designates the shell of a cock.
C designates the plug of the cock.

In the example of my improvement (shown more clearly in Figs. 4 and 5) the plug of the cock is provided with a single transversely-extending port a . The light from this burner is not intended in practice to be ever wholly extinguished. I therefore provide means whereby, when the plug of the cock has been rotated into such a position as ordinarily to cut off the gas, there will still be a small flow of gas to the burner-tip. Such means consists in circumferentially extending grooves a' upon the exterior of the plug of the cock. These grooves taper or, in other words, are deepest where they join the port a , and gradually vanish upon the surface of the plug. It is shown more clearly in Fig. 5 how the grooves a' afford communication between the gas-supply pipe and a pipe a^2 , which, together with a burner-tip a^3 , constitute the burner proper. As the plug is rotated to turn on the gas, the supply will be gradually increased.

In Fig. 7 I have shown a modified form of cock, in which a passage a^5 extends through

the shell outside the plug. An adjusting-screw a^6 may be employed in this form of the cock to increase or decrease the size of the passage a^5 to regulate the constant flow of gas to the burner-tip.

The plug of the cock is rotated by means of a cross-bar C' , which cross-bar is secured by means of a screw within a slot or groove in the outwardly-extending end of the plug of the cock.

D designates a hollow nut, through which the outer portion or shank of the plug extends. This nut has a screw-threaded engagement with an internally-screw-threaded socket in the shell of the cock. The nut is provided with an inwardly-extending flange d near its outer end. Between this flange and the plug of the cock is arranged a coil-spring d' . This coil-spring operates to hold the plug of the cock firmly to its seat. The cross-bar C' is operated by means of cords or chains c , connected to the cross-bar near the ends of the latter.

E designates a globe for the burner. This globe may be made of glass or other suitable material. It is longitudinally movable along the burner. This movement is accomplished through the medium of a link b , which is pivotally connected near one end to a globe-holder F, and has a slotted connection near its other end with the cross-bar C' . When the cross-bar is rocked in one direction—namely, in a direction to turn the gas on more fully—the globe E will be moved downwardly along the burner until the tip of the burner protrudes beyond the top of the globe. The gas having been then fully turned on, the full flame will be emitted. When the plug of the cock is rotated in a direction to turn the gas off, the globe will be moved upwardly along the burner until it incloses the burner-tip. When such movement is completed, only a very small flame will be emitted from the burner-tip, and this, owing to the globe, will not be extinguished by sudden gusts of air.

As previously stated, the link b has a slotted connection with the cross-bar C. Such connection is formed by a longitudinal slot c^2 in the link b , into which extends a pin c^3 on the cross-bar. It will be seen that by this arrangement the plug of the cock may be suffi-

ciently rotated to turn off almost all of the gas before any movement of the globe in an upward direction takes place, and hence the flame is reduced before the globe is elevated. 5 Danger of breaking the globe is therefore avoided. The slot c^2 is provided with a notch c^4 near its upper end. Into this notch the pin c^3 will be sprung, when the gas is turned nearly off, by the action of a spring c^5 , secured near one end to the link b and bearing near the other against the pin c^3 . When the globe is drawn down, the pin continues in engagement with the slot until the globe reaches its lowest position and bears against a shoulder i on the shell of the cock. Until this movement ceases the flame continues small, because the passage a in the plug and the main gas-passage have not been brought into coincidence. The tip of the burner being then above the globe, further movement of the rock-bar C disengages the pin from the notch and rotates the plug of the cock to turn the gas fully on. Breaking of the globe is thus prevented when the gas is being turned on. The frictional resistance offered by the plug of the cock and the approximately straight line which the cross-bar C' and link b assume when the globe is elevated prevent the accidental dropping down of the globe as it is locked in its uppermost position. 30

I have shown the globe E as provided with hinged covers f . Such covers are hinged to a metallic rim which surrounds the upper edge of the globe. When the globe is moved downwardly, the burner-tip a^3 protrudes between such covers and through a central aperture formed by bending downwardly the inner edges of the covers. By thus bending down the inner edges of the covers flanges f' are formed on the covers, which flanges rest upon a shoulder f^3 upon the burner-tip. These covers are perforated, as shown, and operate to prevent downward draft when the burner-tip is within the globe, which might extinguish the light. The globe-holder F is also perforated to admit air to the flame when the burner-tip is within the globe. I have shown lips or lugs g on the globe-holder, which, by being bent over the lower edge of the globe, secure the latter in place. 50

Upon the shell B of the cock is a projection h . The rock-bar C' is provided with adjustable stops h' . When the rock-bar is rocked

into either of its two positions, the stops h' will come in contact with the projection h , to prevent a too extended rotation of the plug of the cock. The stops h' in the example of my improvement shown consist of screws engaging tapped holes in the rock-bar. By adjusting these screws inwardly or outwardly the length of throw of the rock-bar C' and consequently the degree of rotation of the plug of the cock may be varied to increase or decrease the aperture through which gas is supplied to the burner. By this means the flame at the burner-tip may be varied in its size, as desired. 65

It will be seen that by my improvement I provide a means whereby a burner may be kept constantly lighted, and at the same time I provide means whereby the operation of turning off gas also operates to throw a protector about the burner-tip, whereby the small flames which may be burning will be prevented from being extinguished by sudden gusts of air. 75

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a cock having a rotary plug, a burner, a globe, a rocking piece connected to the plug, and a link connected near one end to the globe and having a slotted connection near the other end, with a pin on said rocking piece, said slot having a notch and a spring, substantially as specified. 80

2. The combination, with a supply-pipe, of a cock having a rotary plug, a globe, a gas-burner, a swinging connection between the globe and the plug of the cock, a rocking bar on the plug, stops for varying the degree of rotation of the plug comprising a projection on the cock, and adjustable stops engaging the rocking bar on each side of the projection, substantially as specified. 90

3. The combination, with a gas-cock having a rotary plug, a gas-burner, a globe for the gas-burner, a swinging connection between the globe and the plug, and hinged covers for the globe provided with a central opening and adapted to contact with the burner-tip when the globe is moved in one direction, substantially as specified. 100

WILLIAM F. FOLMER.

Witnesses:

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M. J. ROACH.