

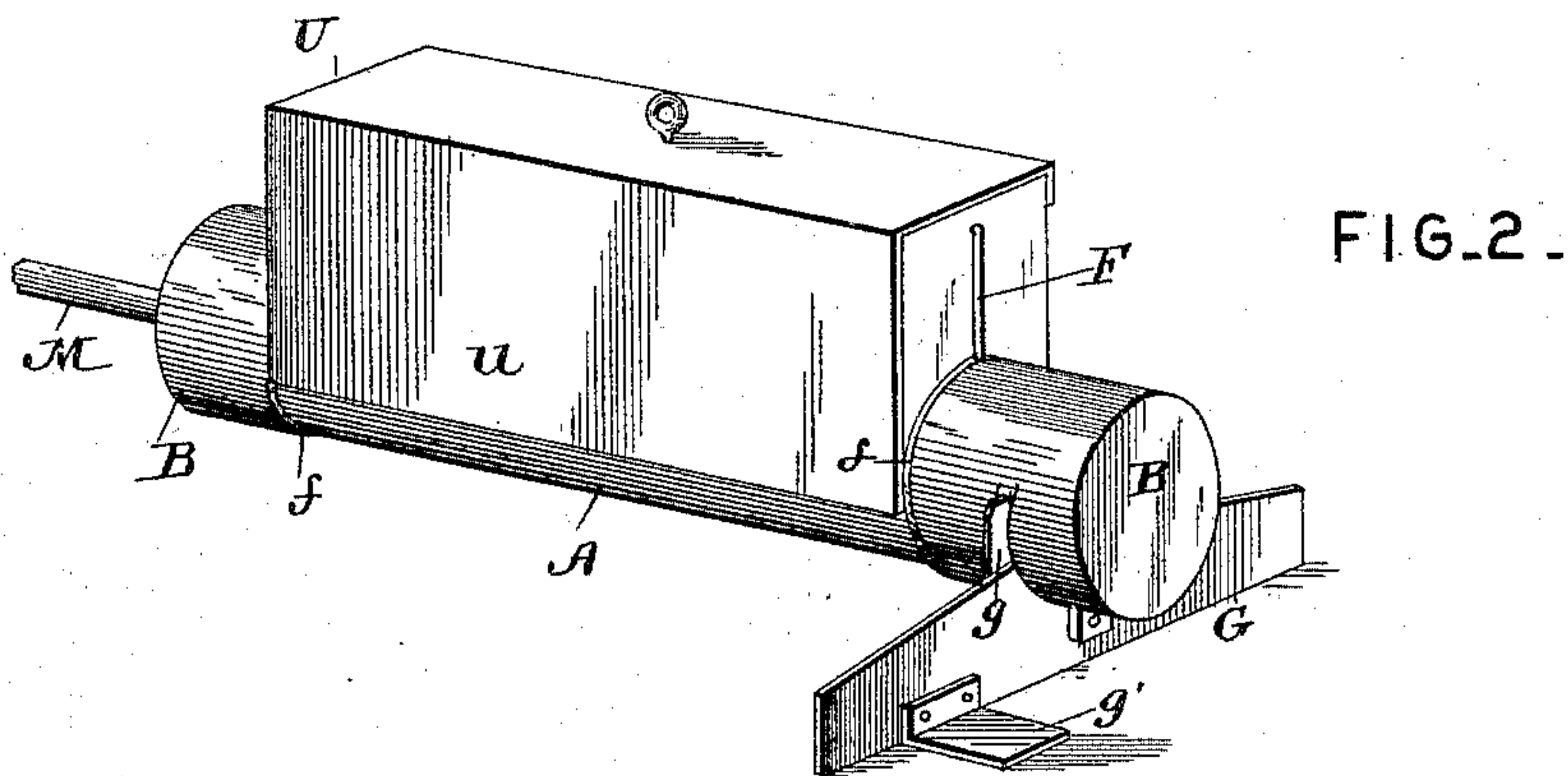
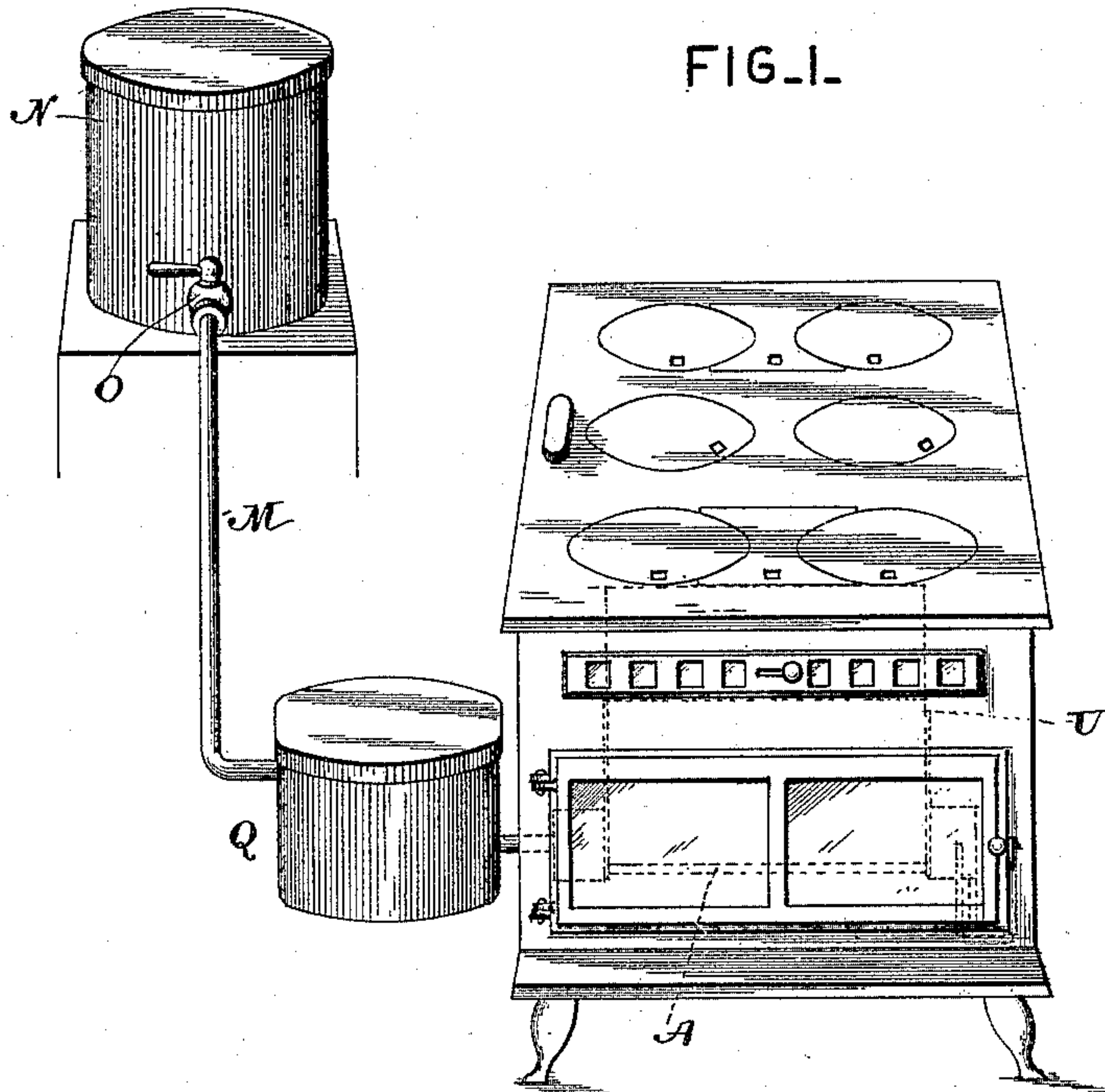
(No Model.)

2 Sheets—Sheet 1.

N. J. SKAGGS.  
FLUID FUEL BURNER.

No. 492,440.

Patented Feb. 28, 1893.



Witnesses

Inventor

Jas. K. McLathran

Newton J. Skaggs

By his Attorneys,

*[Signature]*

*[Signature]*

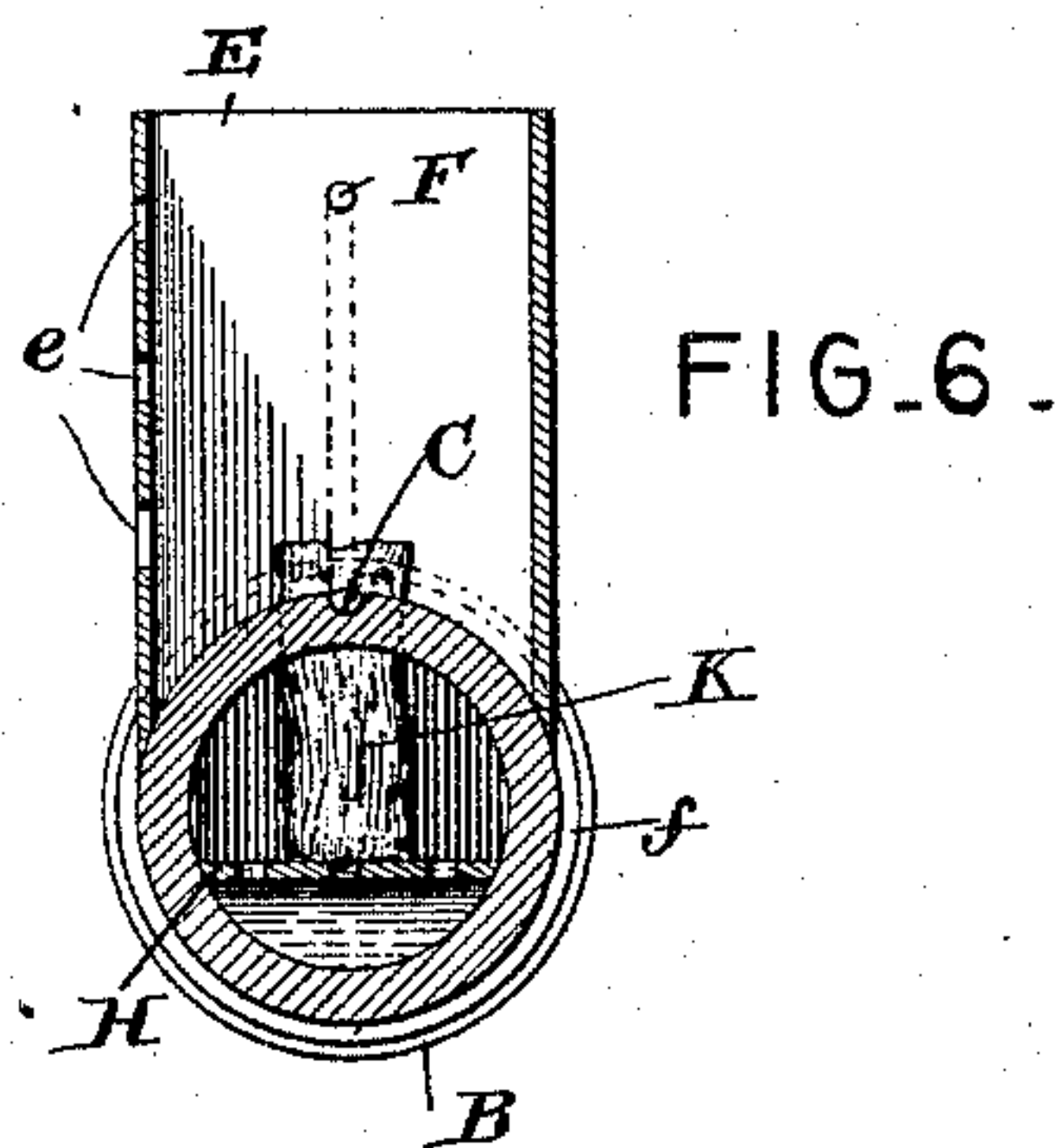
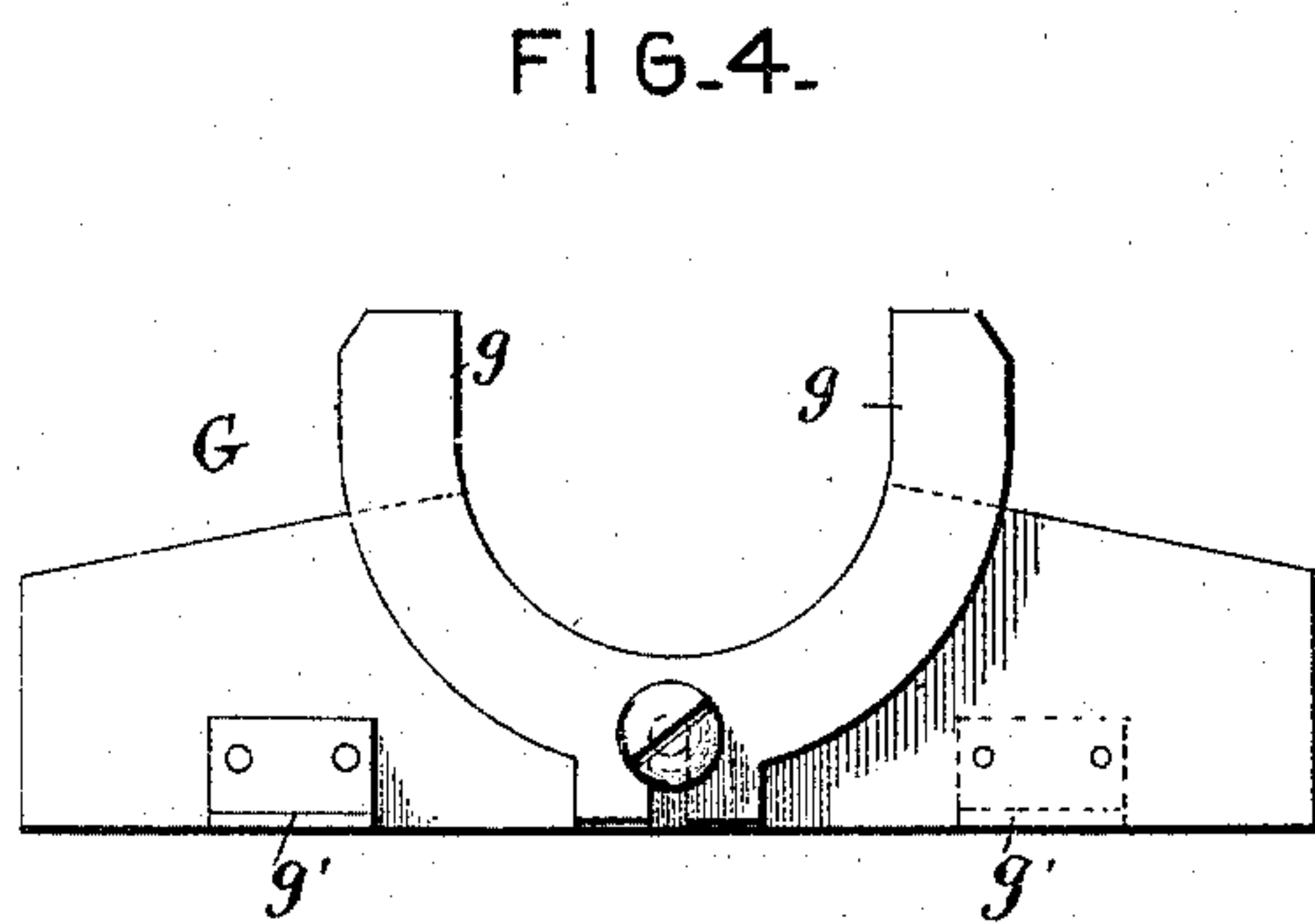
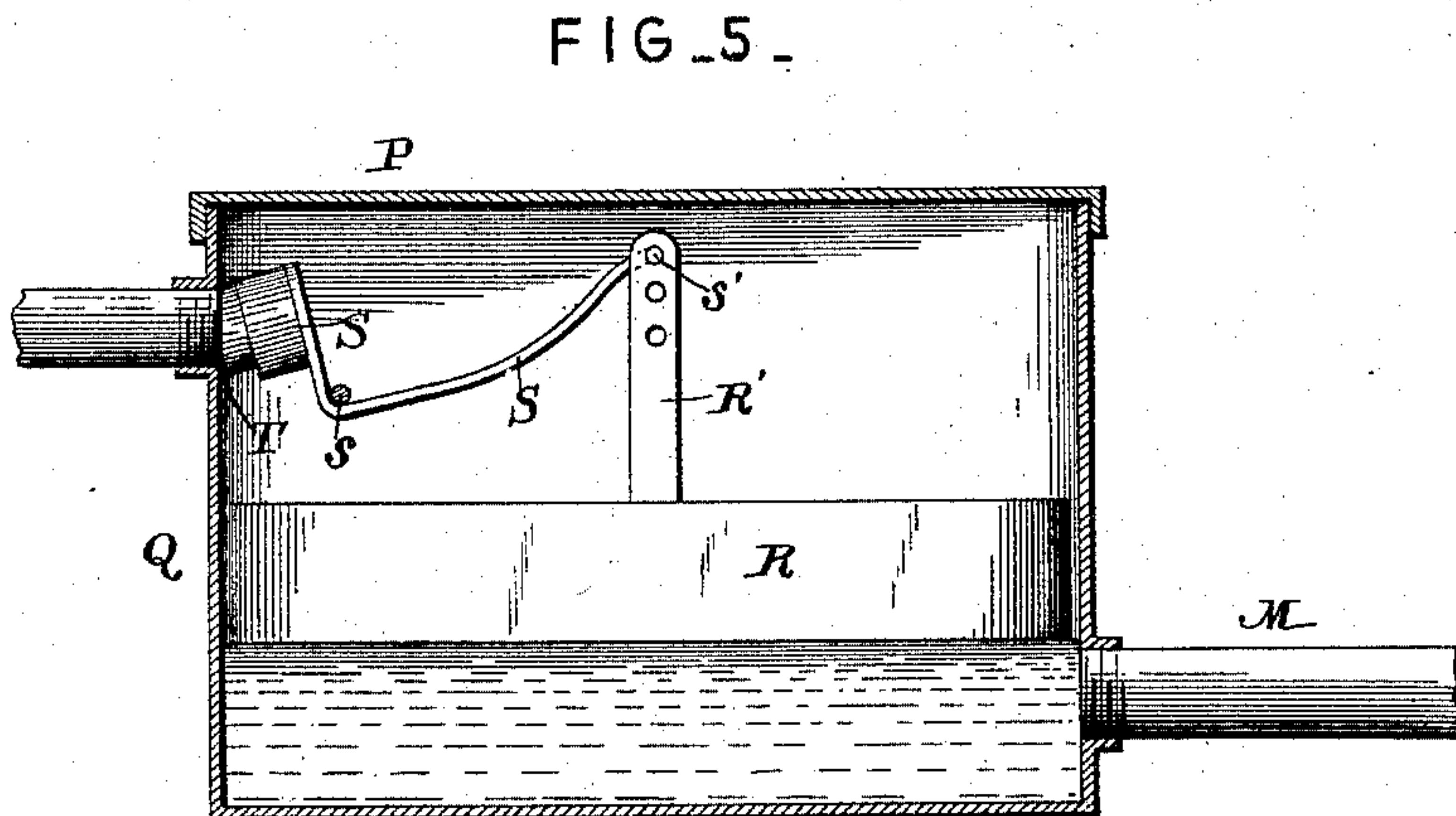
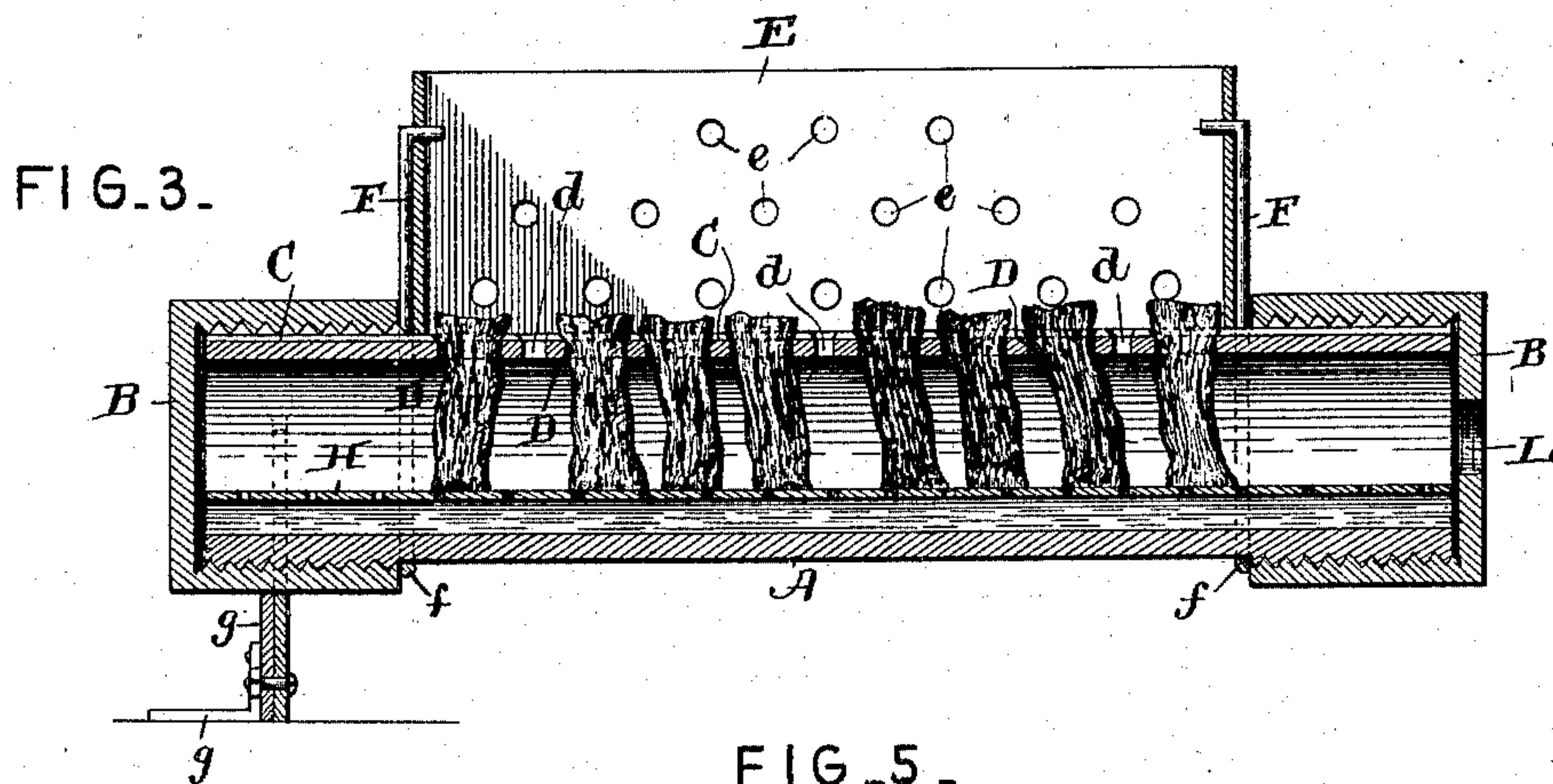
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Witnesses

Jas. K. McLathran

*W. E. Doyle*

Inventor

*Newton J. Skaggs*

By *his* Attorneys,

CA Snow & Co.



# UNITED STATES PATENT OFFICE.

NEWTON J. SKAGGS, OF MONTGOMERY, ALABAMA, ASSIGNOR OF ONE-HALF  
TO JOHN C. LEE, OF SAME PLACE.

## FLUID-FUEL BURNER.

SPECIFICATION forming part of Letters Patent No. 492,440, dated February 28, 1893.

Application filed June 25, 1892. Serial No. 438,024. (No model.)

*To all whom it may concern:*

Be it known that I, NEWTON J. SKAGGS, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented a new and useful Fluid-Fuel Burner, of which the following is a specification.

My invention relates to improvements in fluid-fuel burners, adapted for attachment to cooking stoves, &c., having for its object to provide a simple, safe, and effective device, economical in the consumption of fuel, and having means to automatically control and regulate the supply thereof.

My invention is described in detail in connection with the accompanying drawings, wherein:—

Figure 1 is a view of the burner applied in the operative position to a cooking stove. Fig. 2 is a perspective view of the burner, with the snuffing cap applied. Fig. 3 is a longitudinal sectional view of the burner. Fig. 4 is an end view, showing the adjustable support in elevation. Fig. 5 is a sectional view of the governing valve which is used in connection with my burner. Fig. 6 is a cross sectional view of the burner.

The burner, A, is tubular in shape, provided at its ends with screw-caps, B B', the portion of the burner between the caps being provided on its upper side with a longitudinal groove, C. Burner openings, D D, are formed in the upper side of the burner tube, communicating with said groove, and at intervals, between said burner openings, are arranged smaller perforations, *d d*, for a purpose to be hereinafter explained.

The rectangular, adjustable chimney, E, fits snugly over the top of the burner tube and incloses the burner openings, as shown, said chimney being held in place by retaining loops, F F, having wings, *f f* to embrace the tube.

The support G, which is arranged to support one end of the burner-tube, comprises a plate, arranged vertically under the burner-tube and provided with a saddle, *g*, to receive the tube, and feet, *g' g'*, to hold the plate in its vertical position.

In the bottom of the burner tube, arranged horizontally, is a perforated plate, H, which

is raised at its center above the inner surface of the tube, the asbestos wicks, K K, which are fitted in the burner openings and project slightly above the outer surface of the tube, rest at their lower ends upon the perforated plate and are thereby held out of contact with the bottom of the burner-tube.

The screw-cap, B, on one end of the burner-tube is provided with a central aperture and stuffing-box, L, in which is screwed the end of the supply-pipe, M. The oil being fed to the burner, spreads throughout the length thereof, under the perforated plate, above-described, thence passes up through the perforations in said plate and is carried by the wicks through the burner openings where it is consumed. The vent perforations, *d d*, permit the escape, without doing injury to the apparatus, of any gas which may be generated within the burner. The groove, C, is designed to carry away any of the fuel which may not be burned from the wick, and either hold it in position to be burned or carry it back through the vent perforations to the burner-tube. The front side of the chimney is provided with perforations, *e e*, to permit the air, from the direct draft of the stove, to enter the chimney to support combustion.

The supply-tube, M, which is connected at the opposite end to the reservoir or tank, N, and is provided with a stop-cock, O, is divided at an intermediate point and connected to the governor-valve, P, which consists of a receiver, Q, in which is arranged a float, R, having a vertical, perforated arm R', the valve, S, being carried by one arm of the angle lever, S', whose other arm is connected to the vertical arm of the float. The angle lever is carried by a transverse spindle, *s*, mounted at its ends in bearings in the sides of the receiver, and the extremity of the longer arm of the lever is provided with a lateral pin, *s'*, to engage either of the perforations in the vertical arm, R'.

It will be seen that as the fuel flows into the receiver it elevates the float, until, eventually the valve reaches the seat, T, at the point where the supply pipe enters the receiver, and cuts off the supply. By engaging the lateral finger or pin, *s'*, on the angle lever, with different perforations in the vertical arm



of the float, the amount of fuel contained in the receiver before the supply is checked may be regulated at the will of the operator.

The chimney which is used in connection with the burner, as above described, is capable of angular adjustment, in that it may be inclined forwardly or rearwardly, to project the concentrated heat upon any desired portion of the stove.

After the supply of fuel has been checked by closing the stop-cock, and it is desirable to extinguish the flame and stop the consumption of fuel, I use a snuffing cap, *U*, which corresponds in shape with the top of the chimney and is provided with a depending apron, *u*, which covers the perforations in the front side of the chimney, thereby excluding the air.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a fluid fuel burner, a horizontal burner-tube *A* closed at its ends and provided in its upper side with series of alternately arranged openings *D*, fitted with wicks, and vents *d* connected by a continuous groove *C* in the outer surface of the tube, substantially as described.

2. In a fluid fuel burner, a horizontal burner-tube having its ends closed by screw-caps and provided in its upper side with series of alternately arranged openings *D* and vents *d*, a horizontal perforated plate *H* disposed longitudinally in the burner-tube, and wicks of asbestos arranged in the openings *D* and bearing at their lower ends upon said perforated plate, substantially as described.

3. In combination with a horizontal burner-tube fitted with wicks arranged in openings

in the upper side of said tube, of a chimney *E* provided with loops *F* having rings to embrace the tube, whereby the chimney may be arranged in a vertical position or inclined, substantially as described.

4. In combination with a horizontal burner-tube fitted with wicks, of a perforated chimney fulcrumed upon the tube and capable of angular adjustment thereon, substantially as described.

5. In a fluid fuel burner, the combination with a burner-tube fitted with wicks, of a support *G* having a vertical plate, a saddle *g* to receive the burner-tube, and a set-screw fitting in a slot in the saddle and engaging the plate to lock the saddle in the desired position, substantially as described.

6. In a fluid fuel burner, the combination with the supply pipe of the receiver, the valve carried by an angle lever mounted in said receiver, and the float arranged horizontally in the receiver and provided with a vertical arm provided with perforations to be engaged by a lateral pin on the free arm of the angle lever, substantially as specified.

7. In a fluid fuel burner, the combination with the tubular burner provided with a perforated chimney, as described, of the snuffing-cap adapted to fit over said chimney and provided with an apron to cover the perforations in the same, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

NEWTON J. SKAGGS.

Witnesses:

F. S. PERSONS,  
S. B. GORDON.

It is hereby certified that in Letters Patent No. 492,440, granted February 28, 1893, upon the application of Newton J. Skaggs, of Montgomery, Alabama, for an improvement in "Fluid-Fuel Burners," errors appear requiring the following corrections, viz.: In line 7, of the grant and in the printed head of the specification, it is stated that said Skaggs assigned "one-half" to John C. Lee, whereas it should have been stated that he assigned *one-third*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 11th day of April, A. D. 1893.

[SEAL.]

Countersigned:

N. L. FROTHINGHAM,  
*Acting Commissioner of Patents.*

CYRUS BUSSEY,  
*Assistant Secretary of the Interior.*