

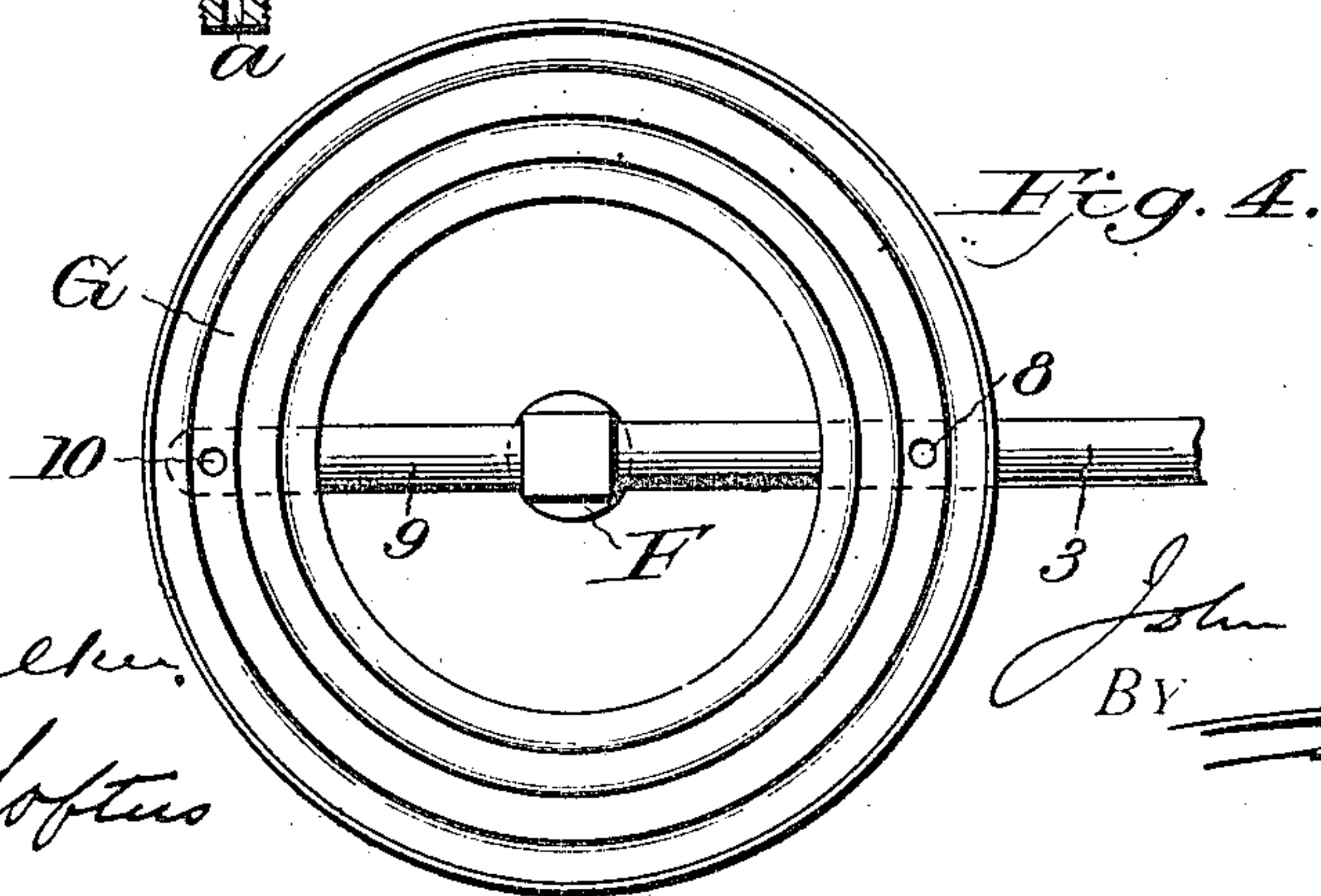
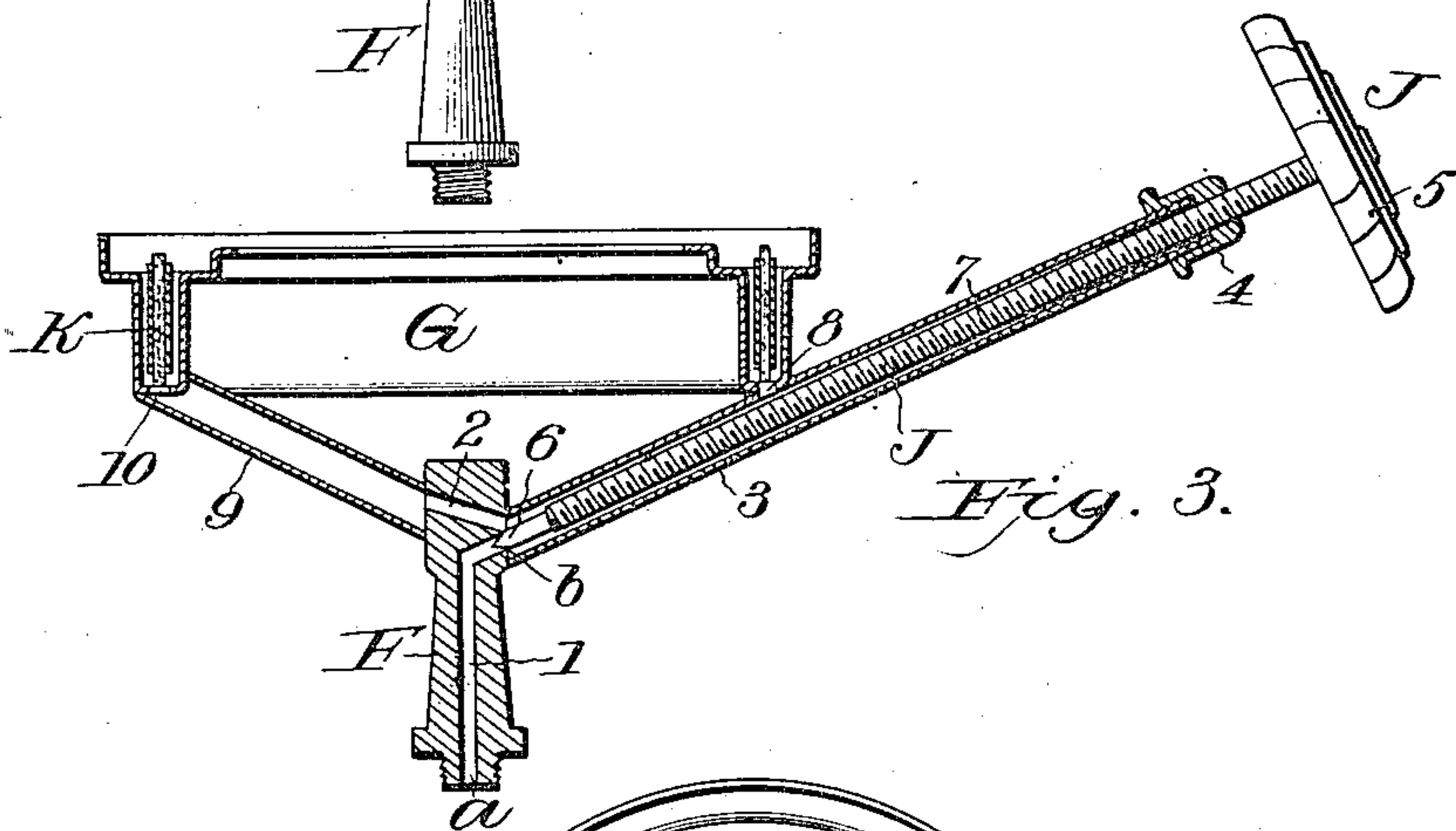
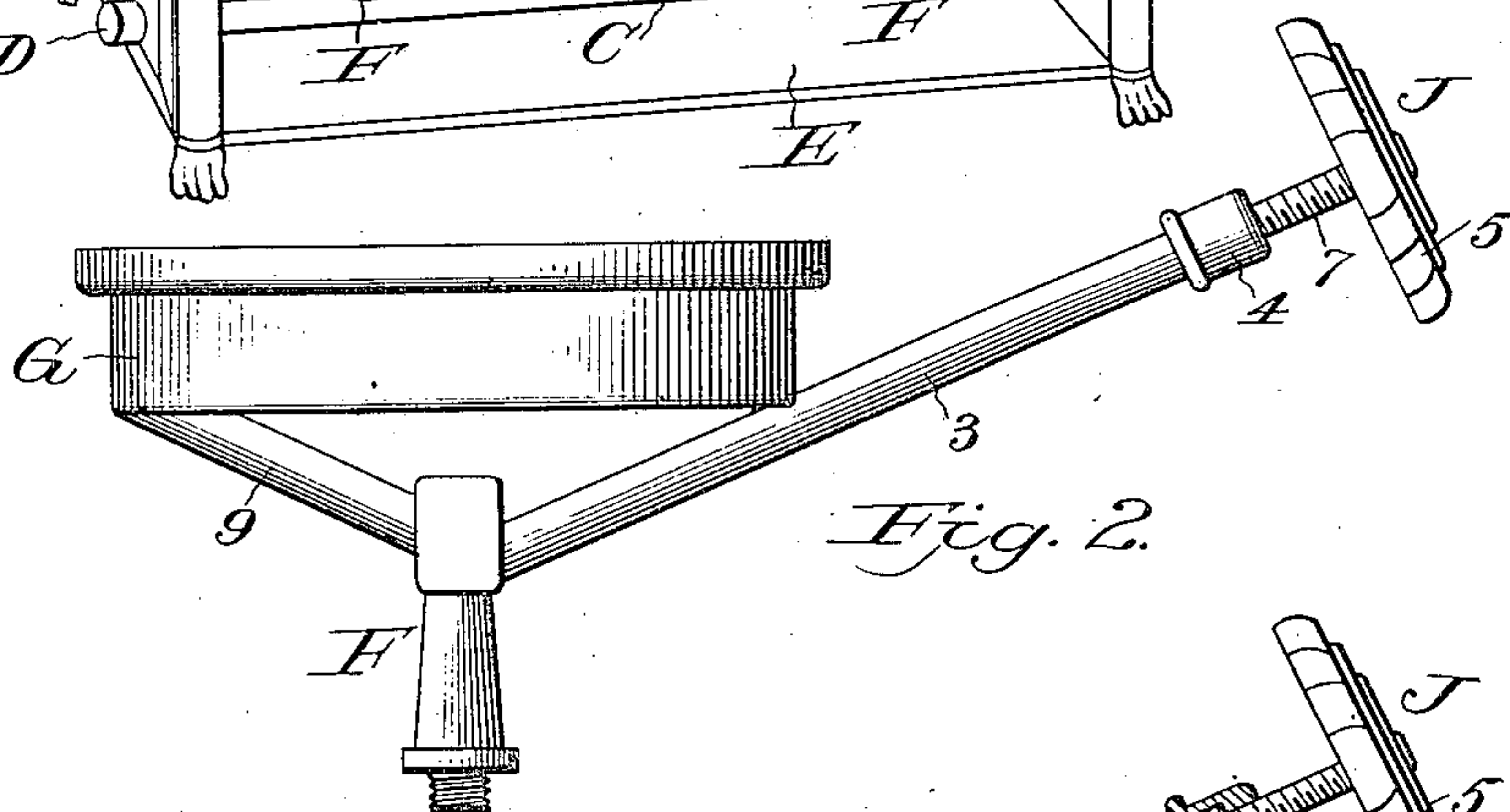
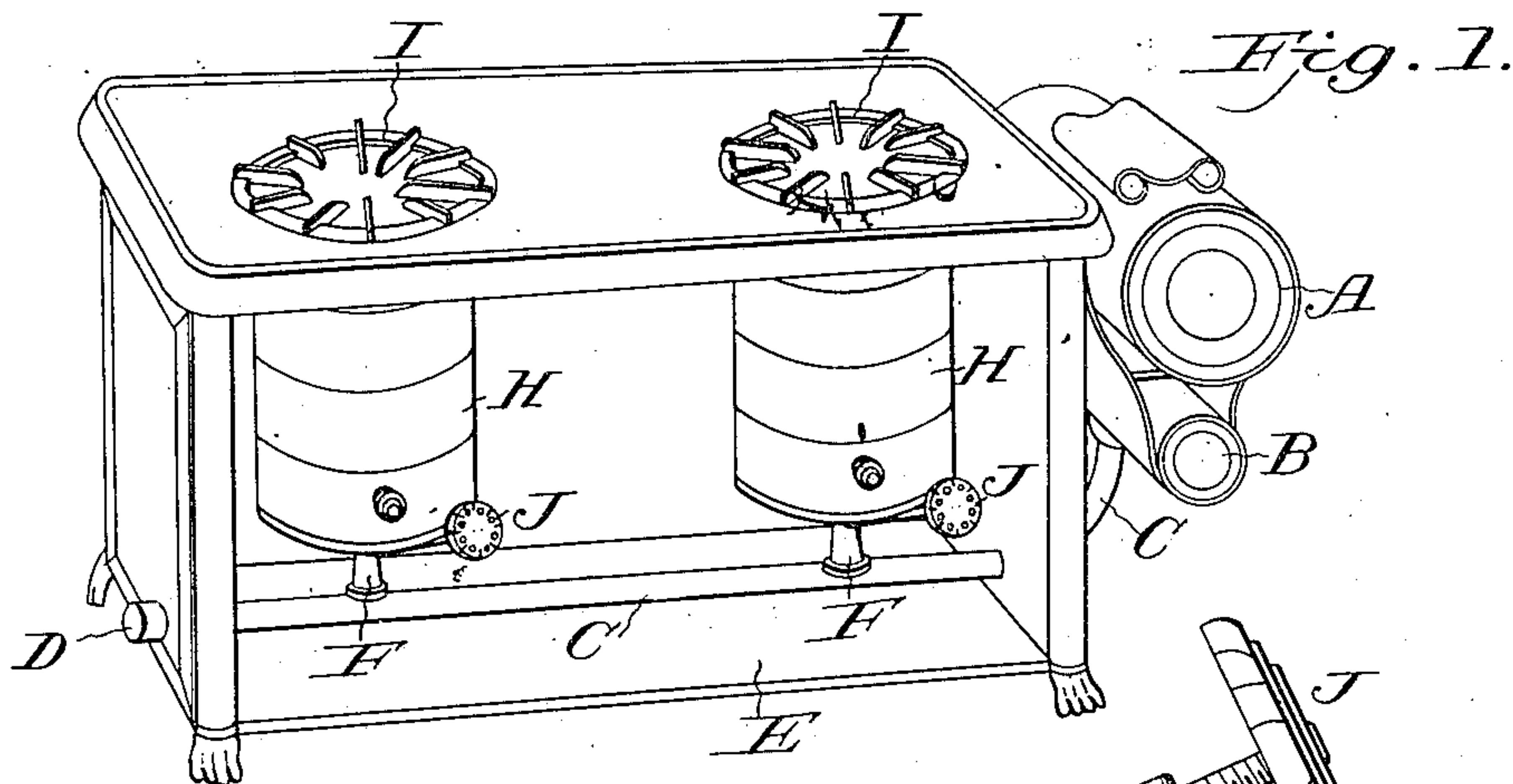
No. 831,783.

PATENTED SEPT. 25, 1906.

J. S. FREY.

BURNER VALVE FOR BLUE FLAME OIL STOVES.

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WITNESSES:

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BURNER-VALVE FOR BLUE-FLAME OIL-STOVES.

No. 831,783.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed July 27, 1904. Serial No. 218,349.

To all whom it may concern:

Be it known that I, JOHN S. FREY, a citizen of the United States of America, and a resident of the borough of Brooklyn, New York city, in the State of New York, have invented a new and useful Improvement in Burner-Valves for Blue-Flame Oil-Stoves, of which the following is a specification.

This invention relates especially to those blue-flame oil-stoves designed and adapted for use as cook-stoves and to the needle-valves now customarily employed beneath "wickless" annular burners, burner-cups, or burner-troughs for admitting and shutting off the oil and for regulating the flow of oil to the lighted burner.

The present invention consists in certain novel combinations of peculiarly constructed and arranged parts and their accessories, as hereinafter set forth and claimed.

The leading object of this invention is to obviate sending such oil-stoves to the manufacturers for repairing or replacing the burner cups or troughs or the valves, with their appurtenances, by adapting each burner with its valve, &c., in one detachable part to be readily unscrewed and replaced at any time with a new burner.

Other objects of the invention are to reduce the number of parts, and thereby reduce cost; to reduce the number of joints, and thus to prevent leakage and accidents, and to increase the simplicity and safety of the stove, as also to facilitate cleansing the burner either by causing the oil in the subjacent main feed-pipe to dislodge any obstructions in the burner by gently tilting the stove or by unscrewing the entire burner from the pipe.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 is a perspective view of a two-burner oil-stove embodying the present improvement. Fig. 2 is a side view of the burner and burner-valve detached. Fig. 3 represents a longitudinal section through the burner and through the valve and burner-post and feed-tubes, and Fig. 4 is a top view of the burner and the parts attached thereto.

Like reference-letters and numbers refer to like parts in all the figures.

The stove shown in Fig. 1 comprises the customary removable oil-reservoir A; a subjacent oil-holder B, in which a uniform oil-level is maintained in the customary way; a

main feed-pipe C, leading from the bottom of said oil-holder and extending horizontally to the opposite end of the stove where it is provided with a removable cap D; a suitable frame E, forming supports for said main feed-pipe and for said oil-holder and the superposed removable oil-reservoir; a combined valve and burner post F for each burner, supported by said main feed-pipe C and fixedly attached thereto by a screw-joint; an annular burner-trough G, concentric with said post F and supported thereby; a combustion-drum H, supported by each burner-trough, and a grating I, supported by said frame E above each combustion-drum.

The maintained oil-level in the oil-holder B is at a suitable height to cause the oil when the valves J of the stove are fully open to fill the troughs to a proper height for supporting the maximum flame, and any overflow of oil at burners is thus precluded.

Each of the valve and burner posts F is constructed, as shown in Fig. 3, with oil-passages 1 and 2, the former extending upwardly and laterally from an oil-inlet *a* at bottom to a valve-seat *b* in the side of the post, preferably and conveniently near its top. The other oil-passage 2, hereinafter termed the "upper" oil-passage, extends from side to side above the valve-seat *b*. A feed-tube 3 embraces by its inner and lower end said valve-seat *b* and the superjacent end of said upper oil-passage 2 and extends obliquely upward therefrom to a point above the maintained oil-level, where it is provided with an internally-screw-threaded cap 4, which is or may be soldered fast to the outer end of the tube. A needle-valve J, having a finger-wheel 5 and the customary conical point 6 at its respective extremities and having a screw-threaded stem 7, fitted to the bore of said cap 4, serves to open or close the valve-seat *b* or to partly open or close the same, so as to regulate the flow of oil to the burner-trough G, which communicates with the interior of said feed-tube 3 by a feed-hole 8 in its bottom. The upper oil-passage 2 extends from side to side above said valve-seat *b* and communicates at its respective ends with the interior of said feed-tube 3 and with the interior of a second feed-tube 9, extending upwardly to the burner-trough G, and communicating therewith by another feed-hole 10, diametrically opposite the feed-

hole first named. The two feed-tubes 3 and 9 form a pair of diametrically opposite rigid connections between the central valve and burner post and the concentric annular burner-trough, whereby the latter is securely supported in position and kept level, as required. Said upper oil-passage 2 is preferably inclined upwardly, as shown in Fig. 3, so as to facilitate dislodging downwardly into the main feed-pipe C any obstruction that may become lodged in the feed-tube 9. For so cleansing either feed-tube or either of the oil-passages in the post or the feed-holes in the bottom of the burner-trough the quickest and easiest method is to fully open the valve J of the affected burner and gently raise and lower one end of the stove. This causes the oil within the main feed-pipe to flow back and forth through the oil-passages, and the proximity of the burner-trough G to the feed-pipe C in the new arrangement promotes its success. Should it fail, the entire burner can be quickly removed, cleaned, and replaced. The cap D of the feed-pipe is only removed to drain the feed-pipe, as for repairs.

An incombustible lighting-ring, of perforated sheet metal and asbestos, is represented at K in Fig. 3, and the burner-trough G, as shown in this figure and in Fig. 4, is of the peculiar construction set forth in my previous specification, forming part of patent No. 739,486, dated September 22, 1903.

The lighting-ring or its equivalent may of course be of any known or approved construction, as may also be the burner-trough. The valve-tube cap 4 may be removable, if preferred. The stove may have only one burner or more than two, and other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention, and desire to patent under this specification—

1. The combination, in a blue-flame oil-stove, of an oil-reservoir, an oil-holder in communication with said reservoir in which the oil is maintained at a substantially uniform level, a main feed-pipe in communication with said oil-holder, supports for said feed-pipe, a valve and burner post rising from said feed-pipe and constructed with an upwardly and laterally extending oil-passage in communication with the interior of said pipe at its lower end and with a valve-seat at its upper end within the post and an upper oil-passage within the post above said valve-seat, a feed-tube in communication with said valve-seat and with the superjacent end of said upper oil-passage and extending above the maintained oil-level, a feed-tube in communication with the other end of said upper oil-passage, a needle-valve within the feed-tube first named adapted to open and close said valve-seat, an annular burner-trough supported by said feed-tubes

and in communication with both at diametrically opposite points, and a superposed combustion-drum supported by said burner-trough.

2. The combination, in an oil-stove, of a valve and burner-post constructed with an oil-inlet at its lower end, an oil-passage extending upwardly and laterally from said inlet and terminating in a valve-seat within the post and an upper oil-passage within the post above said valve-seat, a feed-tube in communication with said valve-seat and with the superjacent end of said upper oil-passage, a valve within the feed-tube first named opposed to said valve-seat, a feed-tube in communication with the other end of said upper oil-passage, and a burner-trough supported upon and in communication with the interior of said feed-tubes.

3. The combination, in an oil-stove, of a valve and burner post constructed with an oil-inlet at its lower end, an oil-passage extending upwardly and laterally from said inlet and terminating in a valve-seat at one side of the post and an upper oil-passage extending from side to side above said valve-seat, a feed-tube inclosing said valve-seat and the superjacent end of said upper oil-passage, a valve within the feed-tube first named opposed to said valve-seat, a feed-tube in communication with the other end of said upper oil-passage, and a burner-trough supported upon and in communication with the interior of said feed-tubes.

4. The combination, in an oil-stove having a maintained oil-level, of a valve and burner post constructed with an oil-inlet at its lower end, an oil-passage extending upwardly and laterally from said inlet and terminating in a valve-seat at one side of the post and an upper oil-passage extending from side to side above said valve-seat, a feed-tube inclosing said valve-seat and the superjacent end of said upper oil-passage and extending obliquely upward above the maintained oil-level, a valve within said feed-tube opposed to said valve-seat, a feed-tube in communication with the other end of said upper oil-passage and extending obliquely upward therefrom, and a burner-trough supported upon and in communication with the interior of said feed-tubes.

5. The combination, in an oil-stove having a maintained oil-level, of a valve and burner post constructed with an oil-inlet at its lower end, an oil-passage extending upwardly and laterally from said inlet and terminating in a valve-seat at one side of the post and an upper oil-passage extending from side to side above said valve-seat, a feed-tube inclosing said valve-seat and the superjacent end of said upper oil-passage and extending obliquely upward therefrom above the maintained oil-level, a needle-valve within said feed-tube opposed to said valve-seat and

constructed with a screw-threaded stem, an internally-screw-threaded cap at the upper end of said feed-tube to which said screw-stem is fitted, a feed-tube in communication with the other end of said upper oil-passage extending obliquely upward therefrom, and a burner-trough supported upon and in communication with the interior of said feed-tubes at diametrically opposite points, substantially as hereinbefore specified.

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Witnesses:

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