

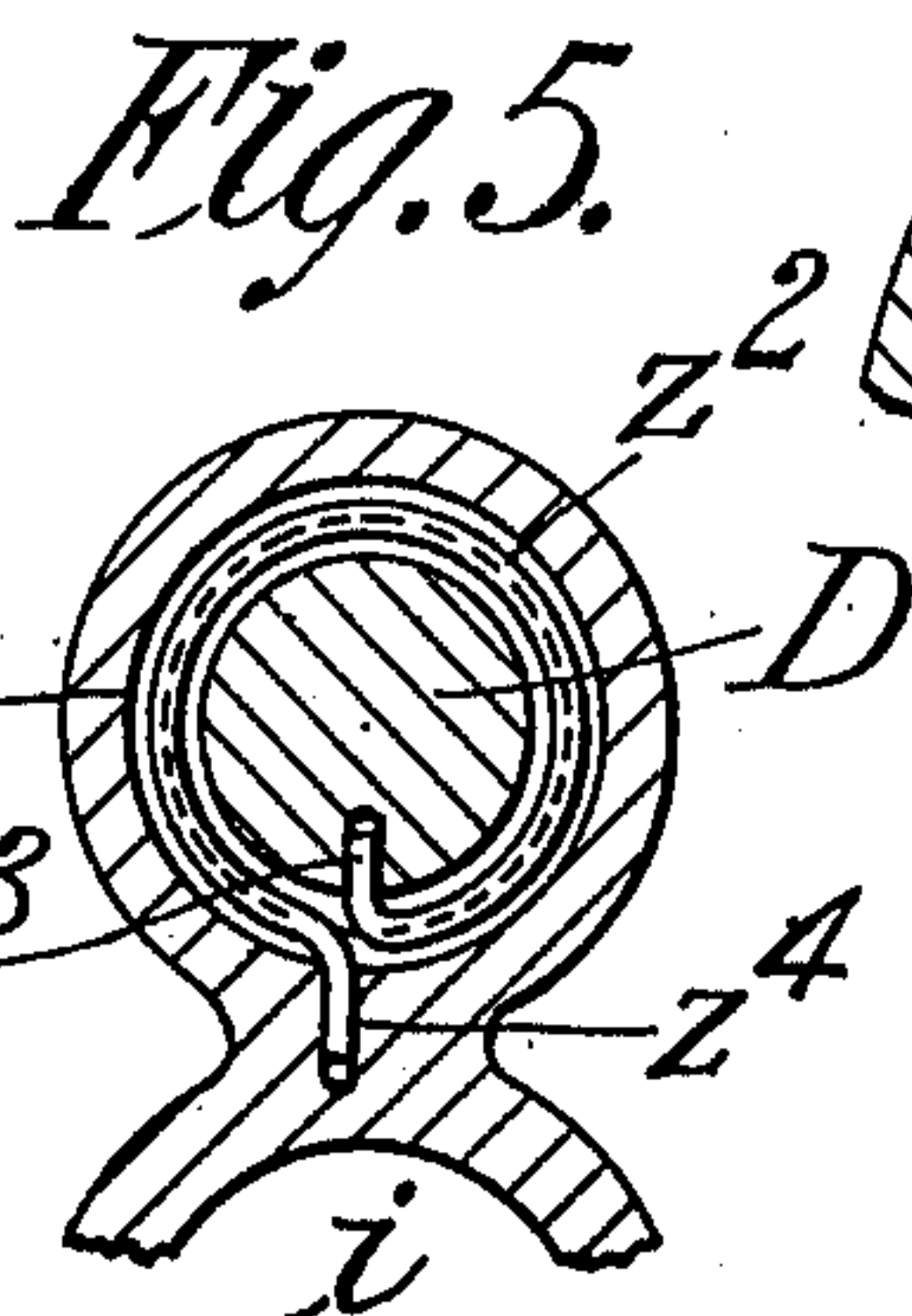
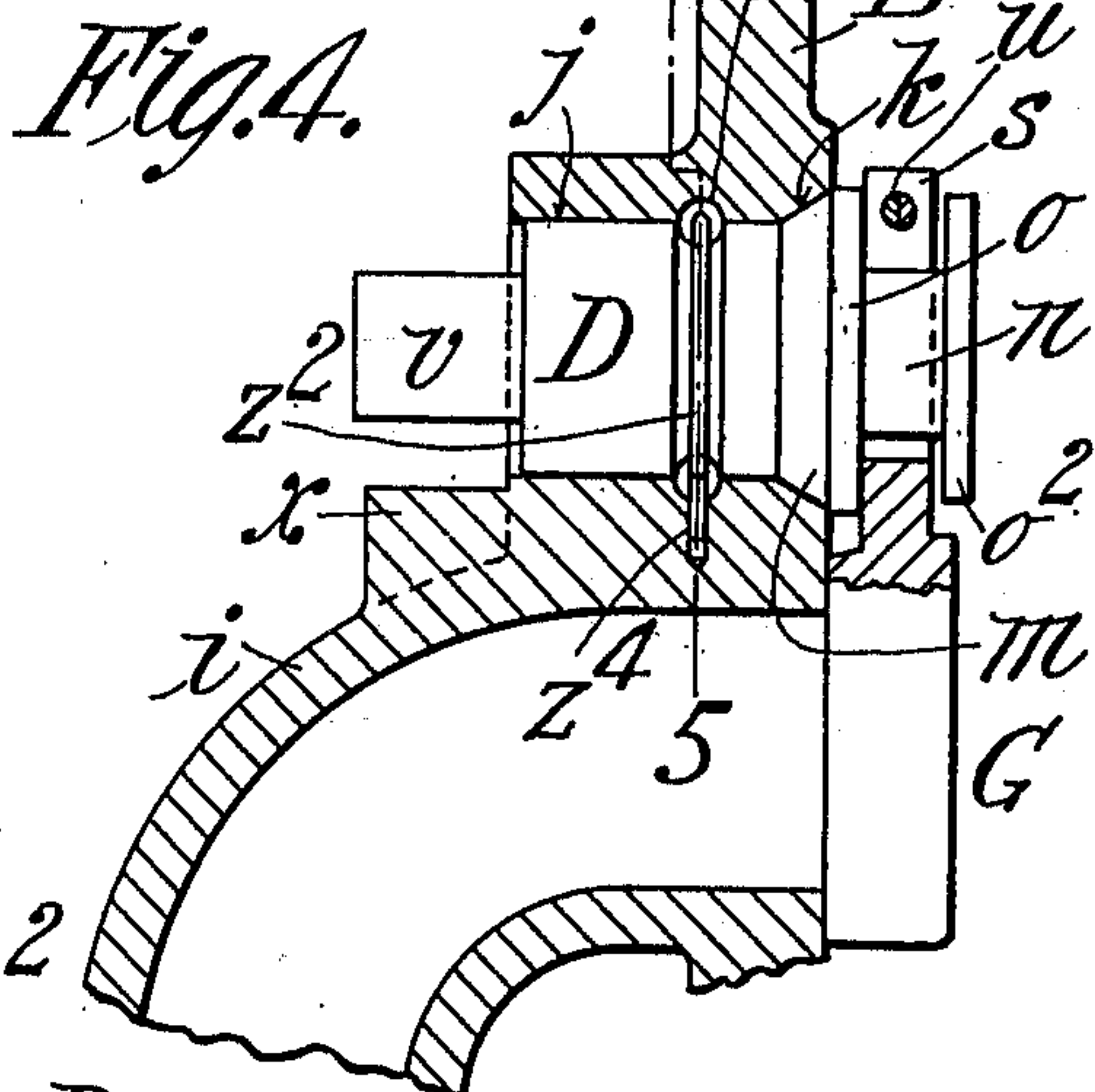
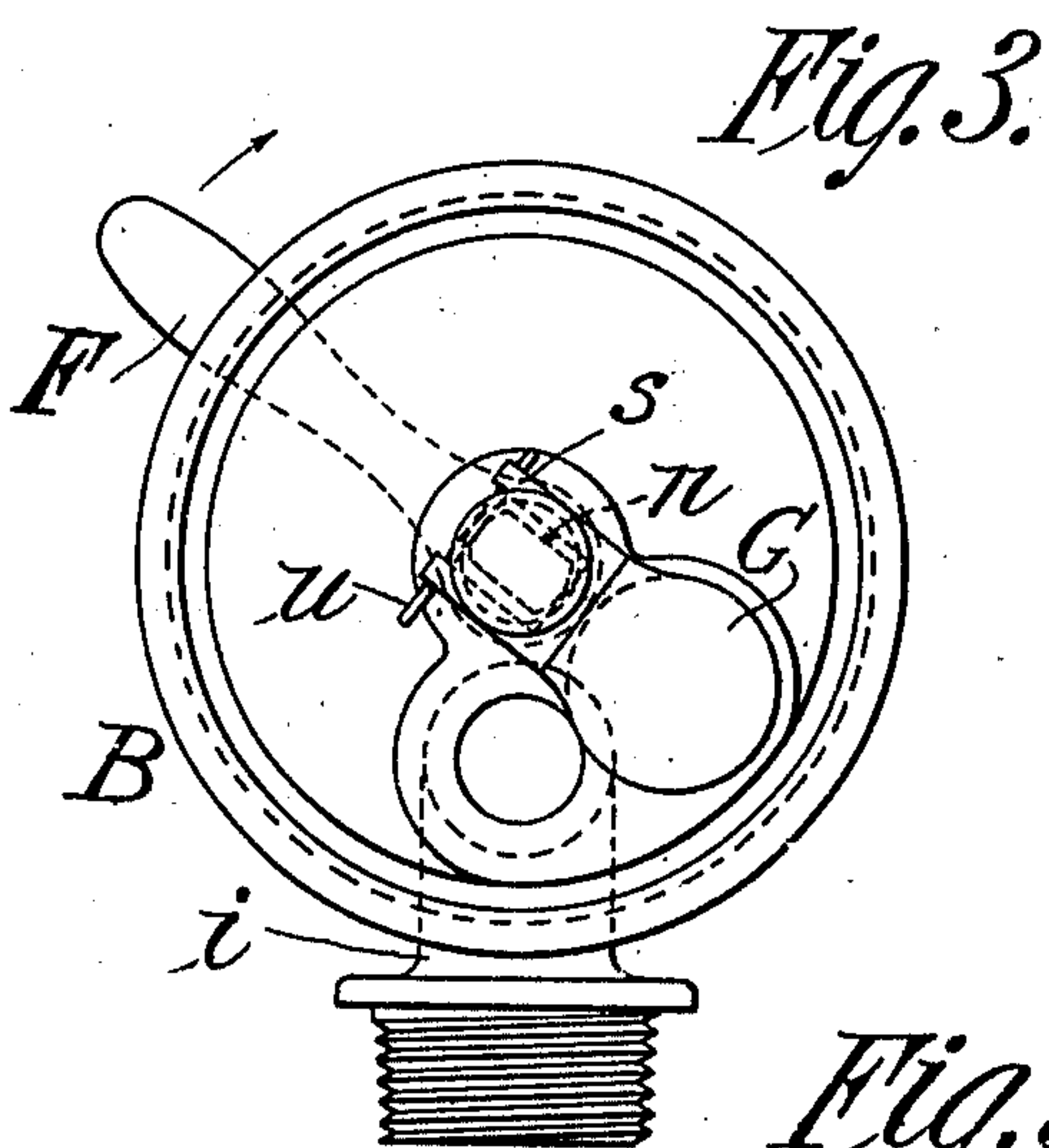
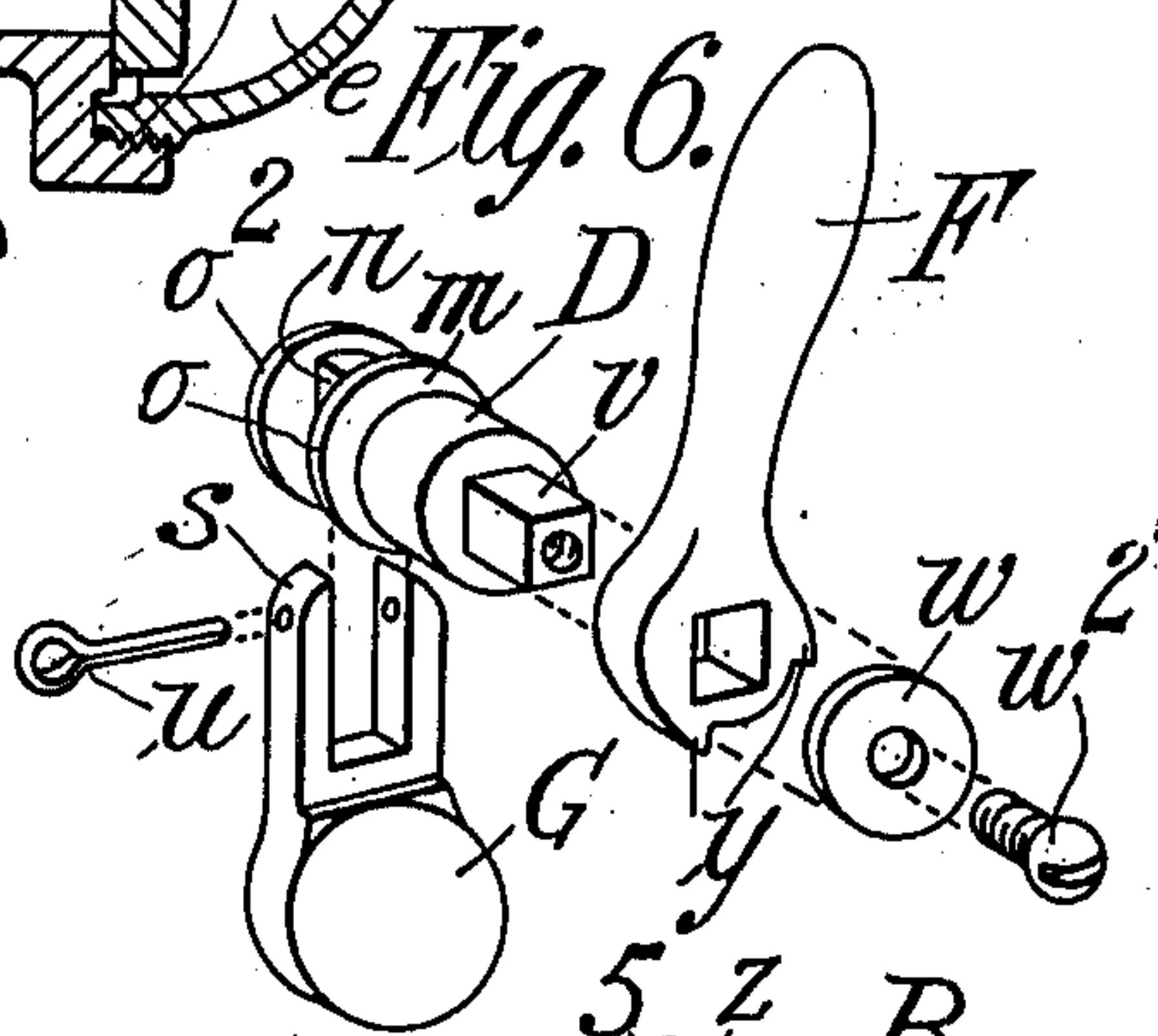
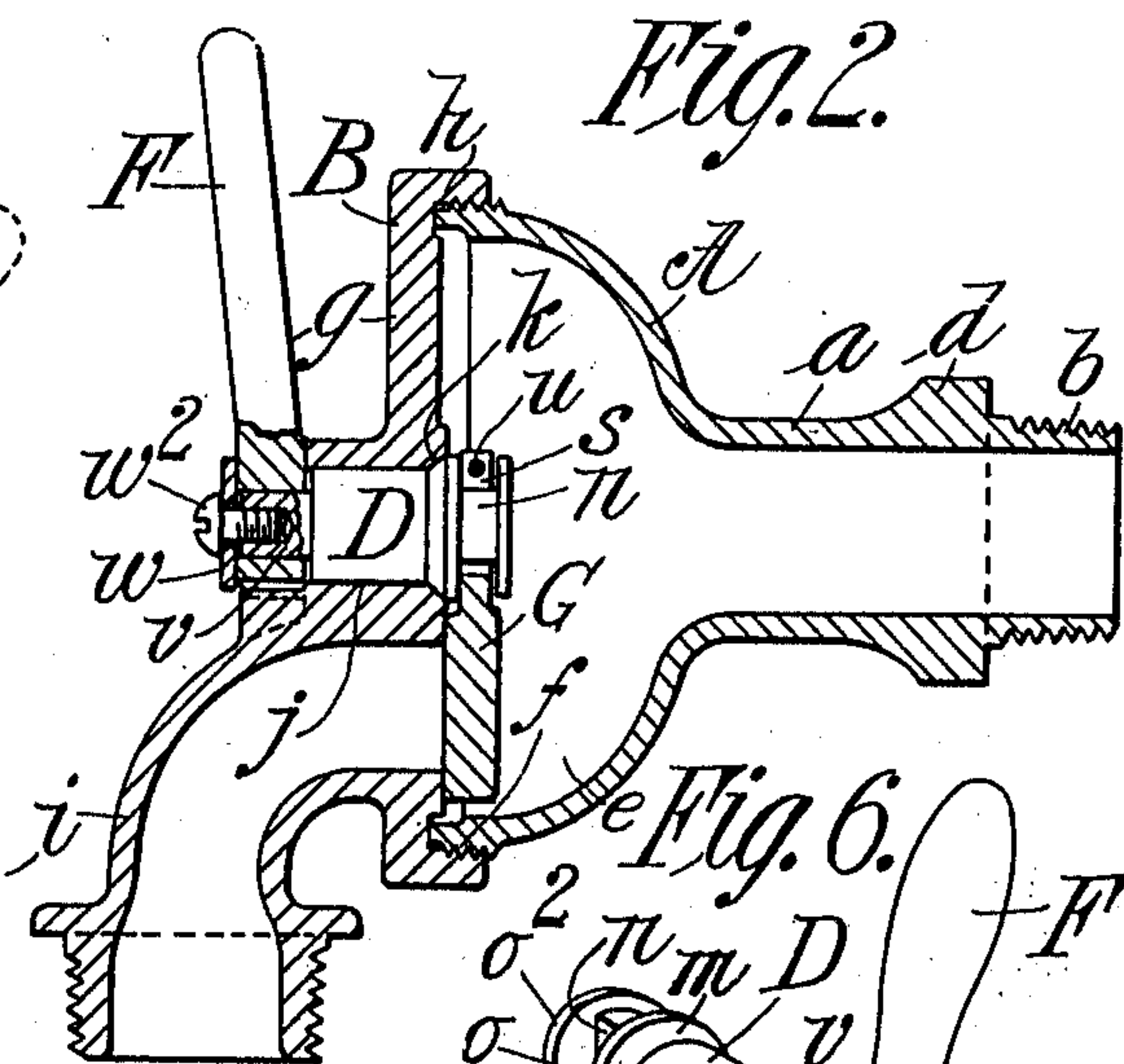
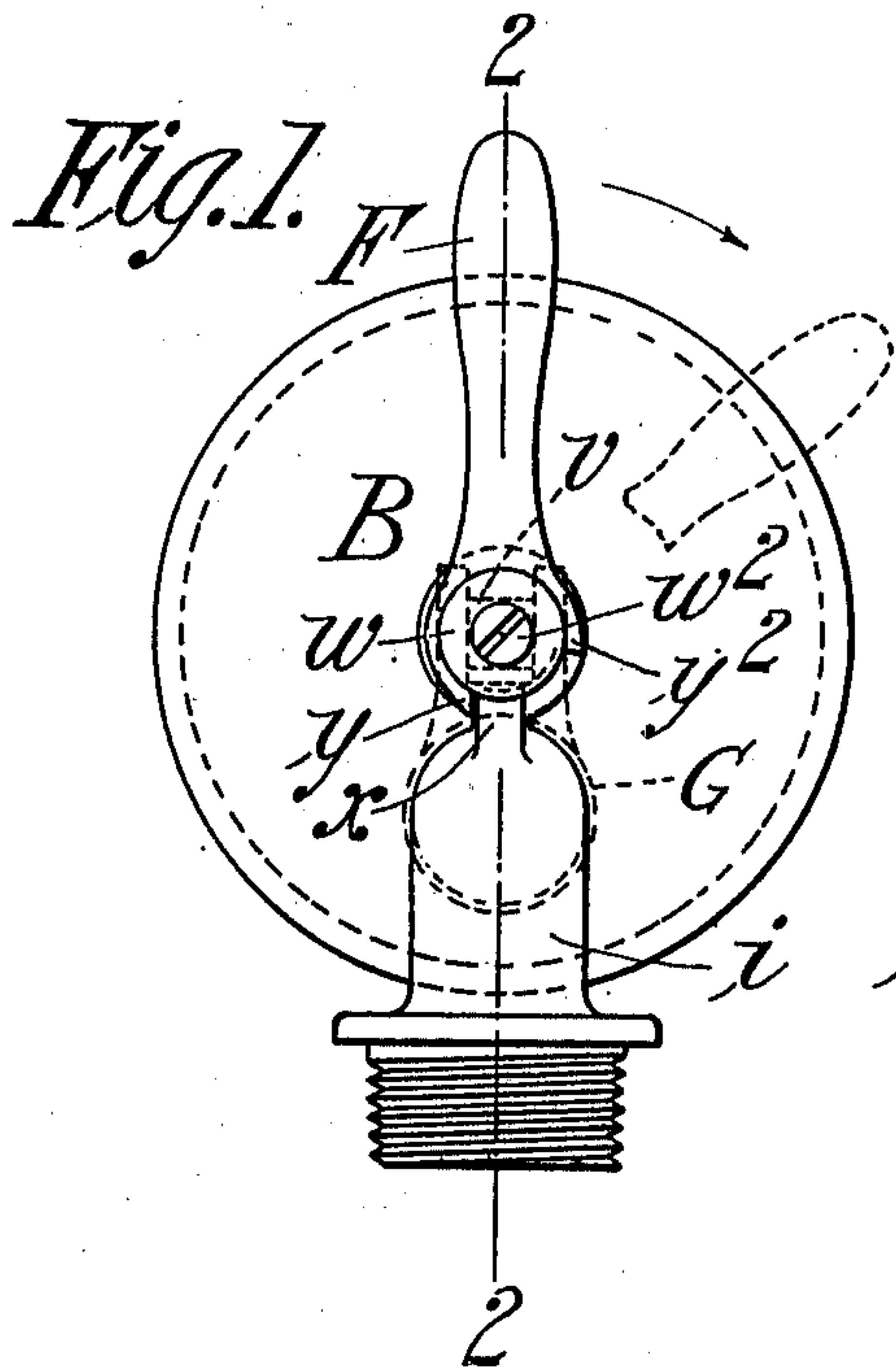
M. LA LONDE & A. J. & H. A. BRUNELLE.

VALVE.

APPLICATION FILED JUNE 10, 1910.

993,693.

Patented May 30, 1911.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

MOSES LA LONDE, ARTHUR J. BRUNELLE, AND HOMER A. BRUNELLE, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNORS TO L. B. B. FAUCET COMPANY, OF SPRINGFIELD, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## VALVE.

993,693.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed June 10, 1910. Serial No. 566,189.

*To all whom it may concern:*

Be it known that we, MOSES LA LONDE, ARTHUR J. BRUNELLE, and HOMER A. BRUNELLE, citizens of the United States of America, and residents of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Valves, of which the following is a full, clear, and exact description.

This invention relates to improvements in valves having applicability variously for use as basin, cocks or faucets, bath cocks, ball cocks or otherwise.

One object of the invention is to provide a valve in which the valve proper or closing member closes with the water pressure and requires no stuffing boxes, glands or packing for maintaining it water tight.

Another object is to so construct the faucet that it may be most easily taken apart as occasion may require for the replacement of any member or portion thereof or for other purpose.

A further object is to improve the construction of the valve so that it may be of inexpensive manufacture and efficient and durable for protracted use.

The invention is described in conjunction with the accompanying drawings and set forth in the claims.

In the drawings:—Figure 1 is a front view of the improved faucet; Fig. 2 is a vertical longitudinal section through the same on line 2—2, Fig. 1; Fig. 3 is an elevation as seen at the rear or inner side of the front portion or section of the faucet which is separable from the rear portion. Fig. 4 is a sectional view on a larger scale of the middle portion of the faucet showing a feature of construction to be hereinafter described,—Fig. 5 being a vertical sectional view transversely of Fig. 4, taken on line 5—5 thereof. Fig. 6 is a perspective view showing peculiarly formed parts of the valve in separated relations.

Similar characters of reference indicate corresponding parts in all of the views.

The casing or chambered body of the faucet is shown as made of a rear section A and a front section B. The rear section comprises a tubular shank or short pipe

like portion *a*,—having screw threads *b* and a shoulder *d* for making connection with a water supply pipe,—and a forward bell shaped portion *e* having external screw threads *f*. The front section B comprises a disk shaped portion *g* provided with a rearwardly extended flange *h* having internal screw threads for engagement with the exteriorly threaded forward portion of the valve body section A; the said disk shaped part *g* having a forwardly and downwardly extending passaged nozzle *i* at its lower portion and at or about centrally thereof it is constructed with a circular hole *j*, the inner orifice of which is chamfered and made flaring, the so formed orifice being represented at *k*. Closely fitted in and through the said circular hole *j* is a stud D of considerable diameter, the same having an enlargement at its rear portion comprising a portion *m* which is of the form of a frustum of a cone, such forwardly beveling portion seating with a close fit in the aforementioned flaring orifice *k*; and the said rear enlarged portion of the said stud is formed with shoulders *o* and *o*<sup>2</sup>, one to the rear of the other while the necked down portion *n* between the shoulders is flattened or slabbed on its opposite sides to receive the sliding engagement therewith of the shank *s* of the valve member G which is formed bifurcated or of a yoke shape so that when slid to its engagement with the oppositely flattened or slab sided portion of the stud and between the front and rear shoulders *o* and *o*<sup>2</sup> and retained in place by the cotter pin *u* or like means of detachable fastening the said valve member is held on and carried by the said stud as a lever like extension thereof.

The forward extremity *v* of the stud D which extends through and forwardly beyond the hub-like and apertured central portion of the wall *g* is made of a squared form to receive the engagement therewith of the operating handle F, the extremity of which has a correspondingly squared opening whereby it is fitted over the stud extremity *v* and retained in place by the washer *w* which is confined by headed screw *w*<sup>2</sup>, the shank of which screw engages in a properly tapped hole therefor axially formed in the stud extremity *v*. The inner end portion



of the handle F is provided with suitably separated stop shoulders  $y$  and  $y^2$ , as represented in Fig. 1 for coaction with the stop lug  $x$  which is formed as an integral part of the forward section B of the valve body.

The parts having the positions represented in Figs. 1 and 2, the valve is closed, the valve member G having a facewise bearing on the flat and planed rear surface of the wall  $g$  which is located marginally of the rear opening through the delivery nozzle  $i$ , it being appreciated in this connection that the valve member having a degree of looseness in its engagement with the rotative and handle operated stud will be forced by the water pressure tightly against the rear face of the wall  $g$ , and will prevent, even in the absence of packing, or compressible material of any kind, the least leakage through the closed valve; but, of course, the mere swinging of the handle so that the parts have their relative positions represented in Fig. 3, the water way through the valve is fully opened.

In cases where the valve is to be a self closing one, the internal wall of the passage  $j$  is made with an annular groove as represented at  $z$  in Figs. 4 and 5, located within which is a spring  $z^2$  consisting of a single coil, one extremity,  $z^3$  of which is engaged in a socket therefor in an intermediate part of the stud D while the other angularly turned extremity  $z^4$  of the spring coil is engaged in a socket therefor in the section B of the valve body,—the reaction of such spring developed in the rocking movement of the stud for opening the valve being effective for automatically closing the valve on the release of the operating force applied to the lever handle F.

We claim:—

1. In a valve, a chambered casing having an inlet passage leading thereinto and an outlet passage leading forwardly therefrom, a stud journaled through the front wall of the casing having at its forward end means for rotatively moving it, and having its rear end enlarged, provided with an encircling groove and having its portions within said groove oppositely flattened, and a valve member adapted to close the outlet passage, and provided with a shank which is bifurcated and engaged in said groove with the opposite flattened portion of the stud, and a pin extending transversely through the said bifurcated shank for retaining the valve

member in its detachable engagement with the so formed rearward portion of the stud.

2. In a valve, a chambered body consisting of a rear section comprising a pipe like rear portion and a bell shaped forward portion provided with screw threads at a forward part thereof, a front section of disk shape provided with a flange, and screw engaging the front portion of the said rear section, said front section having a circular hole therethrough and a passaged delivery nozzle also forwardly leading therethrough and downwardly extended, having a stop lug adjacent the forward end of said hole,—the rear orifice of said hole being rearwardly flaring, a stud journaled through said hole and provided at its forward end with a handle having separated stop shoulders for engagement with said stop lug, and having its rearward portion enlarged and provided with a forwardly tapered part for a seating engagement in the said rearwardly flaring orifice, and a valve member detachably connected on and radially extending from the rear portion of said stud and adapted to have opening and closing positions relatively to the inner orifice of the passage through the delivery nozzle.

3. In a valve, a chambered casing having an inlet passage leading thereinto and an outlet passage leading from the front thereof and having leading through the front wall thereof a circular hole having in an intermediate part of the wall thereof an annular groove, a stud journaled through the front wall of the casing, having at its forward end an operating handle and carrying at its rear inner end a valve member adapted to have opening and closing positions relatively to the outlet passage, and a spring comprising a coil, located in said annular groove, one extremity thereof being angularly turned and engaged with the stud while the other extremity thereof is angularly turned and has an engagement with the wall of the casing.

Signed by us at Springfield, Mass., in presence of two subscribing witnesses.

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Witnesses:

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