

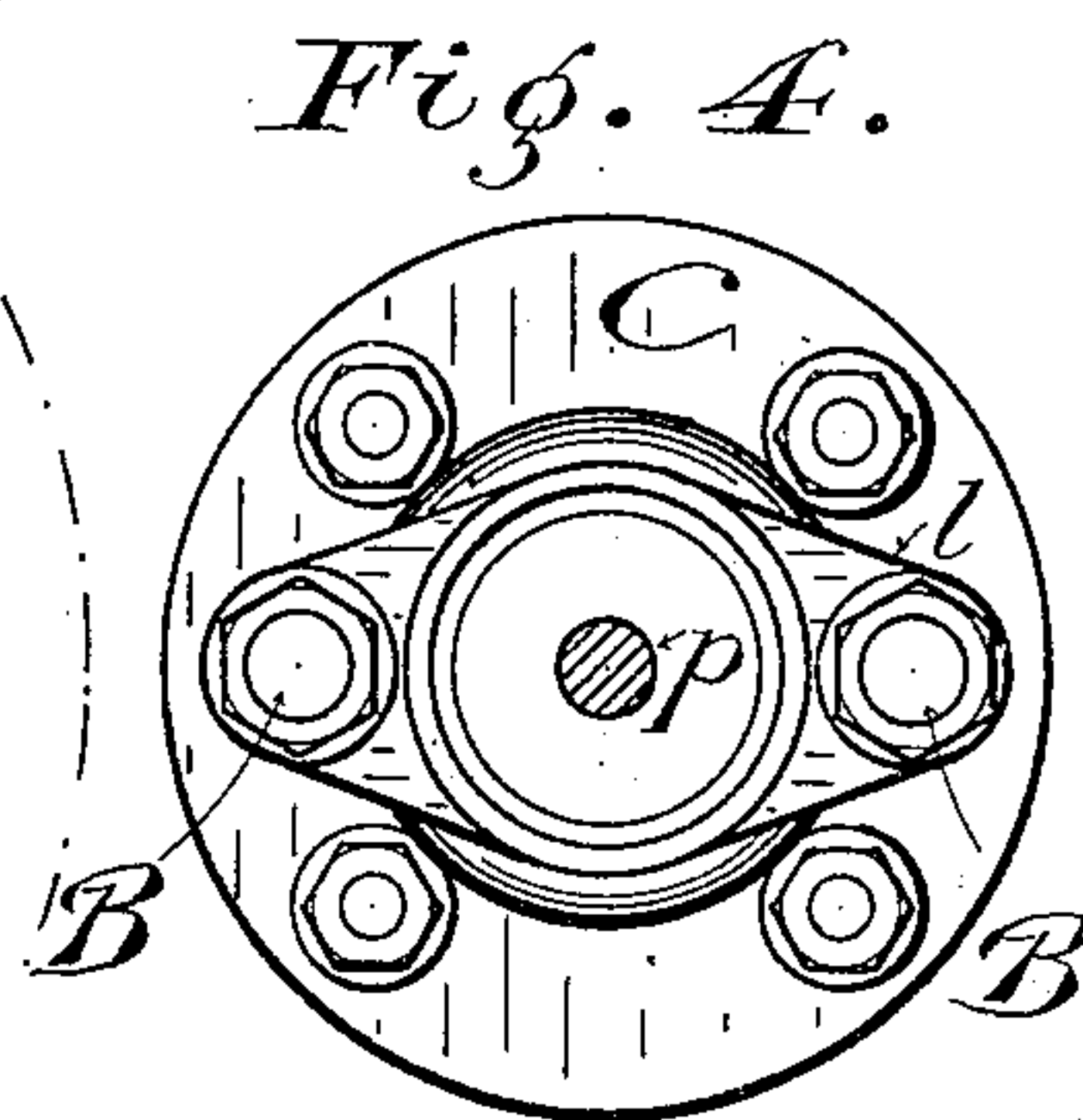
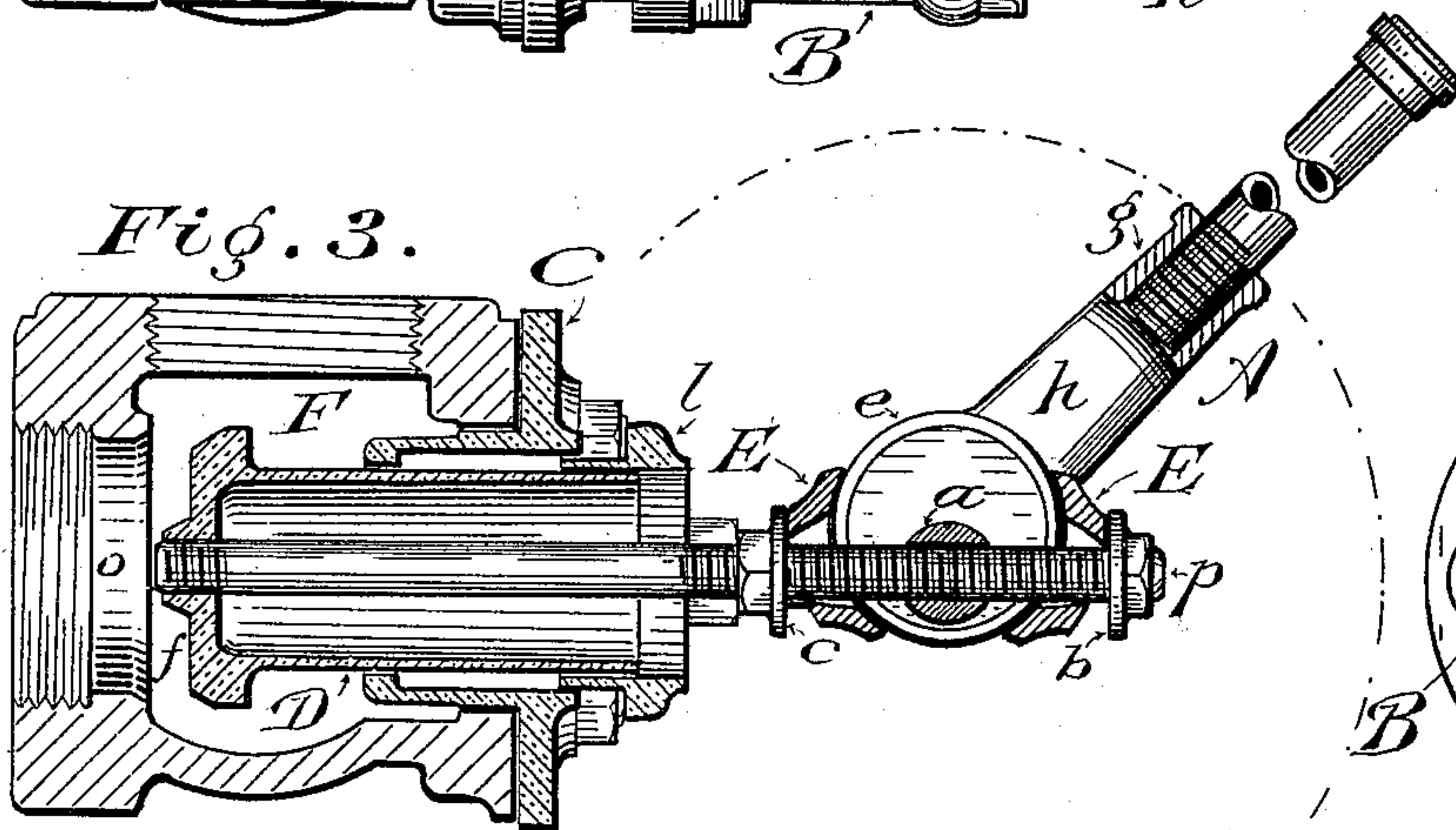
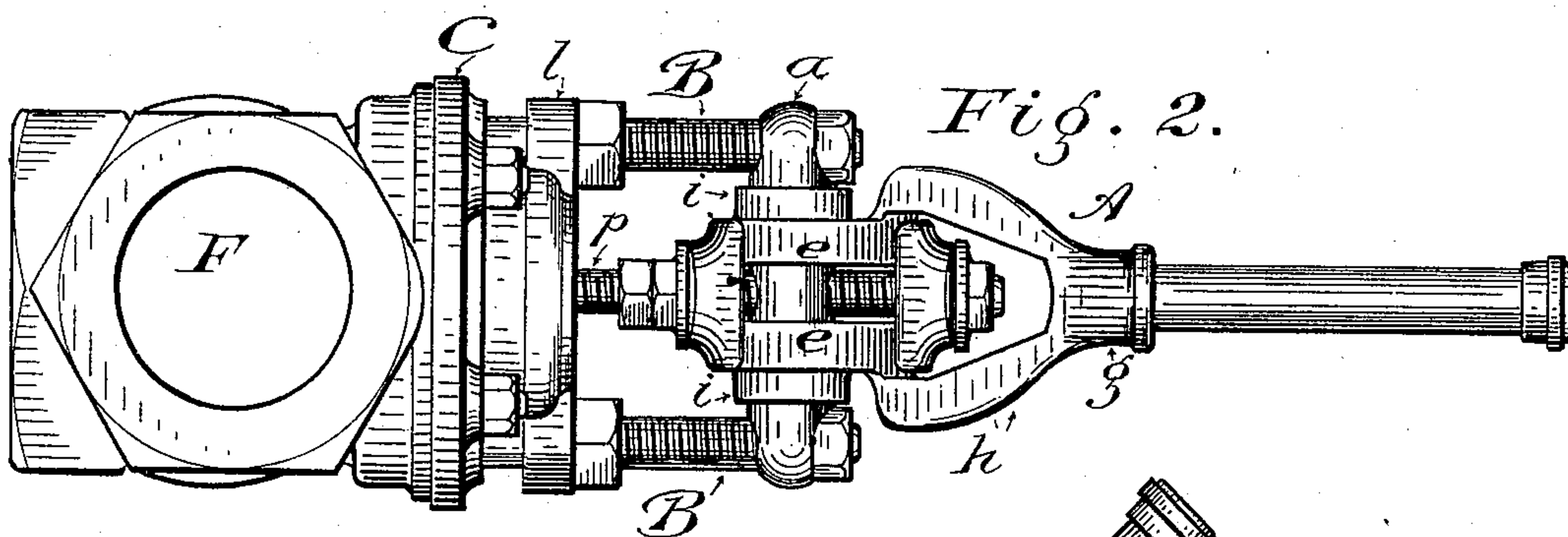
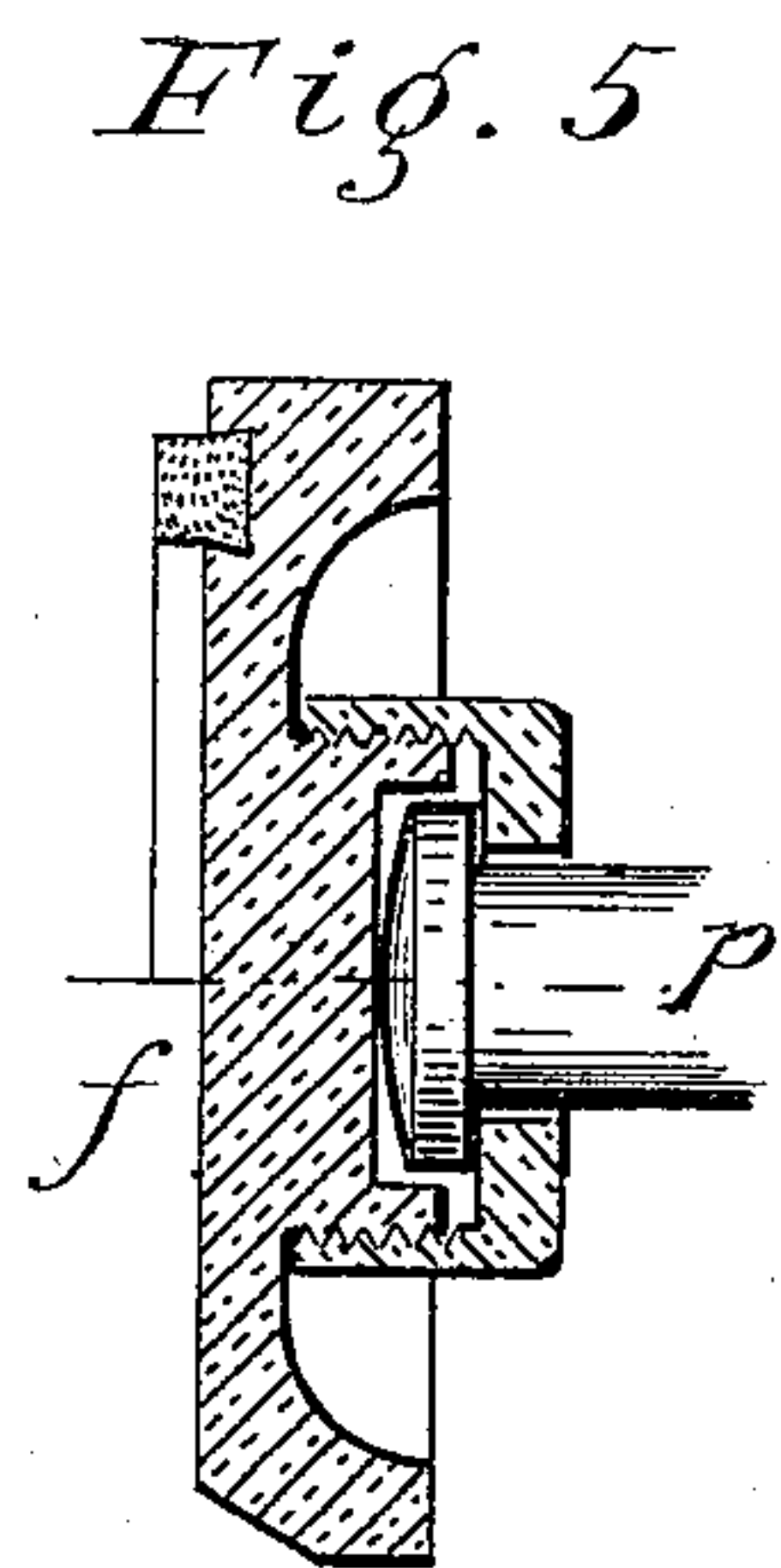
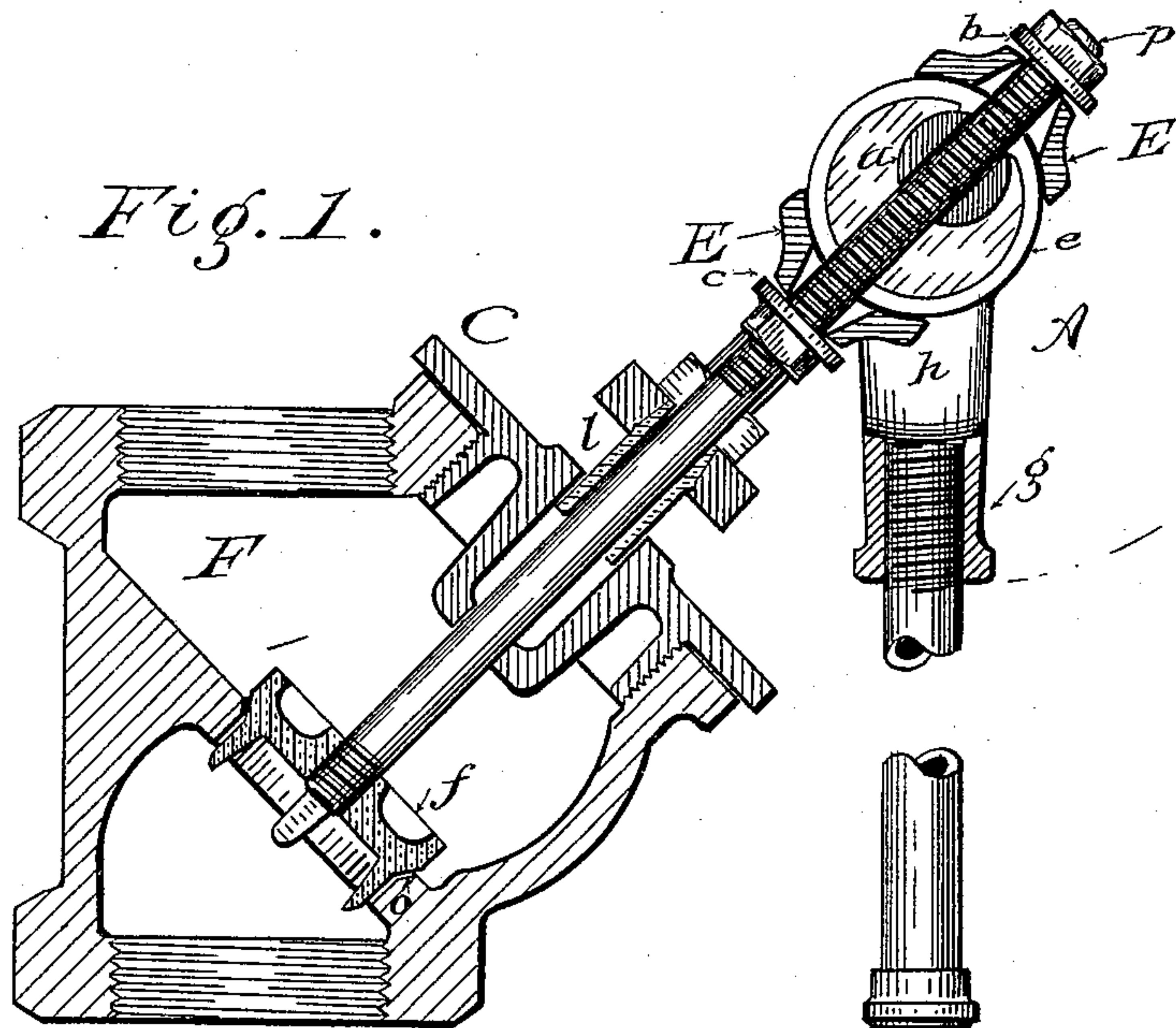
No. 620,122.

Patented Feb. 28, 1899.

C. J. GUSTAFSON.
STEAM AND WATER VALVE.

(Application filed Apr. 12, 1897.)

(No Model.)



Witnesses:
Wm C. Peterson
M. Gustafson

Inventor.
Chas J. Gustafson.

UNITED STATES PATENT OFFICE.

CHARLES J. GUSTAFSON, OF SEQUACHEE, TENNESSEE.

STEAM AND WATER VALVE.

SPECIFICATION forming part of Letters Patent No. 620,122, dated February 28, 1899.

Application filed April 12, 1897. Serial No. 631,871. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. GUSTAFSON, a citizen of the United States, and a resident of Sequachee, in the county of Marion and State of Tennessee, have invented a new and useful Improvement in the Operating Mechanism for Steam and Water Valves, as fully set forth in the annexed specification and as shown on accompanying drawings.

10 The object of this invention is to obtain a valve that can by virtue of this operating mechanism be more easily and quickly opened and closed than other types of valves.

15 Practical applications of this operating mechanism are shown on the accompanying drawings, in which—

Figure 1 is a longitudinal section of a globe-valve, showing an unbalanced valve-disk operated by this mechanism with the valve in closed position. Fig. 2 is a plan view of an angle-valve, showing more particularly the general arrangement of the operating mechanism attached thereto. Fig. 3 is a vertical section of an angle-valve with balanced disk operated by this mechanism, with the valve in half-open position. Fig. 4 is a plan view of the valve-body cap, showing the general arrangement of packing-studs and valve-stem. Fig. 5 is a detail view of valve-disk 20 revolvably attached to the valve-stem, one-half showing application of joint-making ring in position.

25 The essential feature of this invention consists of an eccentric lever and its application to the valve-disk, as hereinafter described, similar reference-letters applying to similar parts throughout this specification and on accompanying drawings.

30 The eccentric lever consists of two circular disks *e e*, placed side by side, allowing sufficient space between disks to permit of easy passage of the valve-stem *p*. These disks are joined at the shank *g* by an extension of their flanges or sides in the form of a yoke *h*, thus 40 affording a continuous and unobstructed periphery for the disks *e e*, over which the bearing-caps *E E* may freely slide when the valve is opened or closed. The eccentric lever is further provided with the hubs *i i*, through 50 which the fulcrum-pin *a* freely passes. The fulcrum-pin *a* is centrally mounted on the brackets or stud-bolts *B B*, attached to the

cap *C* of the body *F*. The valve-rod *p* therefore intersects the axis of the fulcrum-pin *a* at right angles by passing freely through a hole provided in said fulcrum-pin. 55

The valve-disk *o*, attached to the rod *D*, may have an enlarged stem or cylinder *l* as a means of relieving the pressure on the disk on the principle of displacement, Fig. 3, 60 (which balanced feature is herein disclaimed with a view to making it the subject of a subsequent application,) or it may be in the form of a plain disk, Fig. 1, of the unbalanced type. The disk *o* may be further varied in 65 design by being revolvably attached to the valve-rod *p*, Fig. 5.

In either of the above modifications of the disk it may be provided with a suitable joint-making substance for the valve-seat, and the 70 same operating mechanism may be used.

The valve-rod *p* carries at its upper end the adjustable operating-shoulders *b c* and is also provided with the bearing-washers *E E*. The operating-shoulders *b c* are preferably applied 75 in the form of flanged nuts, which may be secured by jam-nuts. The bearing-washers *E E* conform accurately to the periphery of the eccentric-lever disks *e e* by being concave on their face side and concentrically convex on 80 their back side.

What I claim, therefore, and desire to secure by Letters Patent of the United States, is—

The eccentric lever *A* composed essentially of two disks *e e* joined by a yoke *h* extended 85 to form a suitable handle, said eccentric lever mounted on a fulcrum-pin *a* mounted on the brackets *B B* of the cap *C* of the body *F* said fulcrum-pin being located about centrally and being intersected at right angles by the valve-stem *p* having a disk *o* and carrying the adjustable shoulders *b c* together with the bearing-caps *E E* conforming to the peripheries of the disks *e e* of the eccentric lever *A* all substantially as described in the above specification and as shown on accompanying drawings. 95

In testimony whereof I have affixed my signature, in presence of two witnesses, this 30th day of January, 1897.

CHAS. J. GUSTAFSON.

Witnesses:

WOODBURY L. MELCHER,
WM. OWEN.