

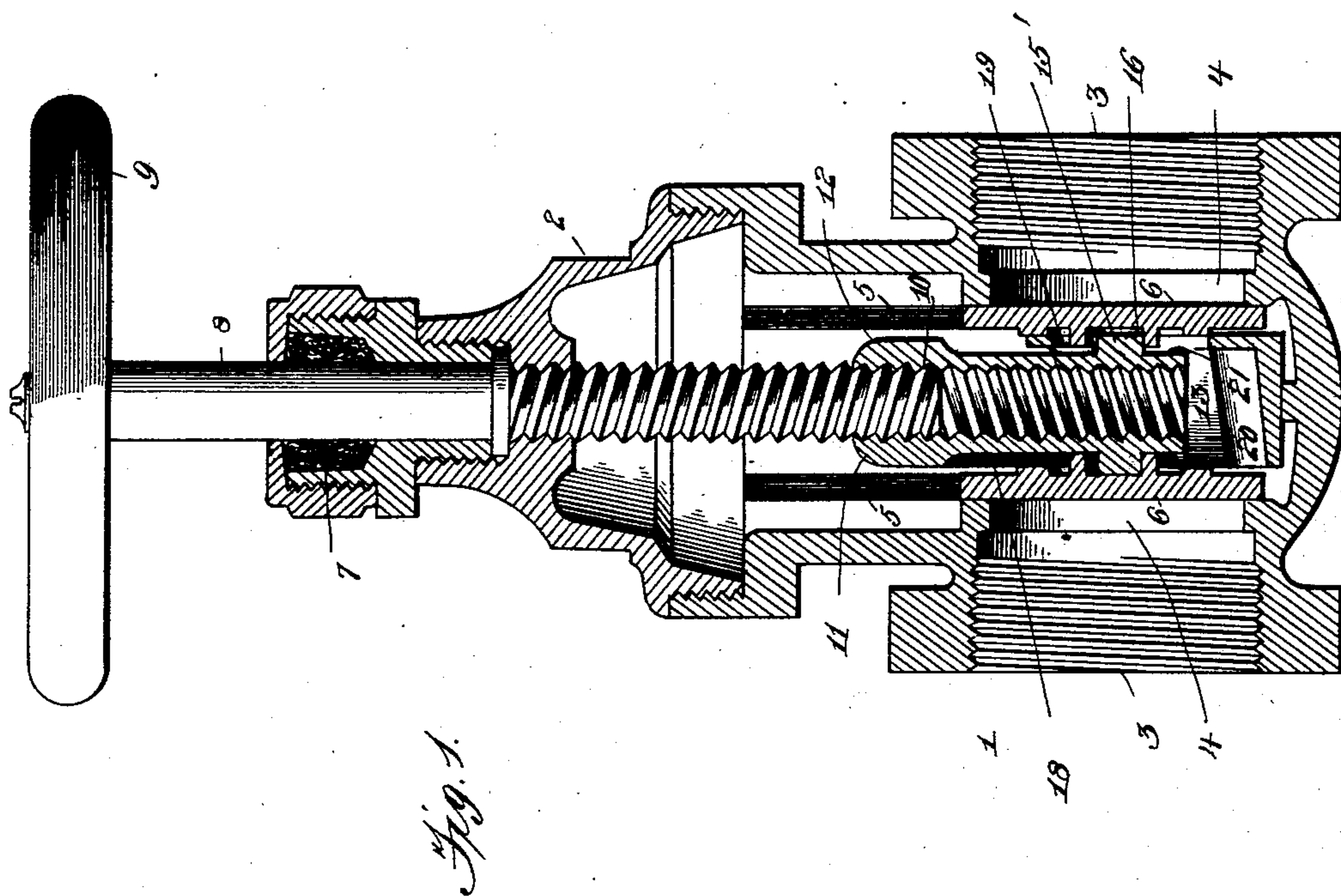
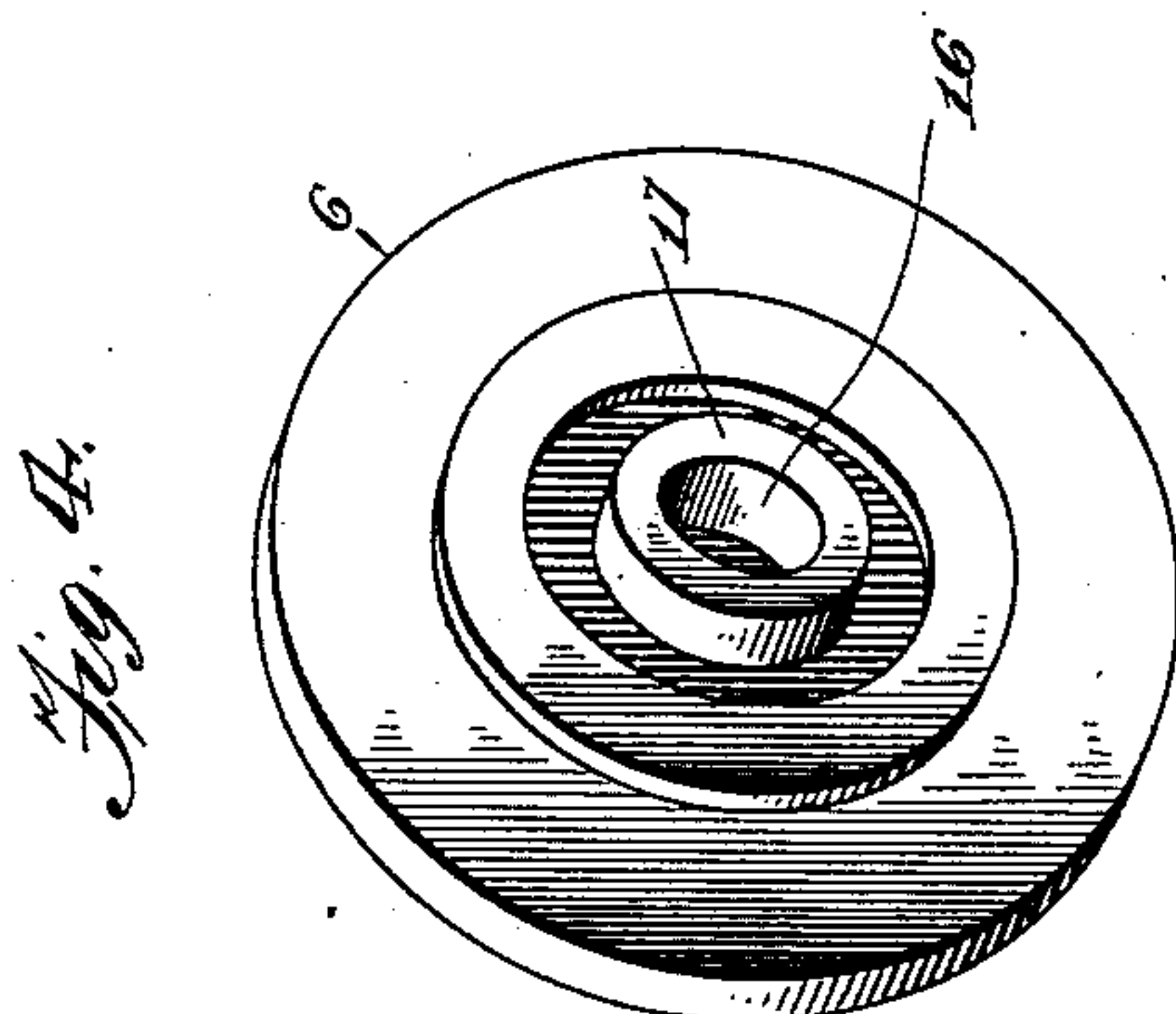
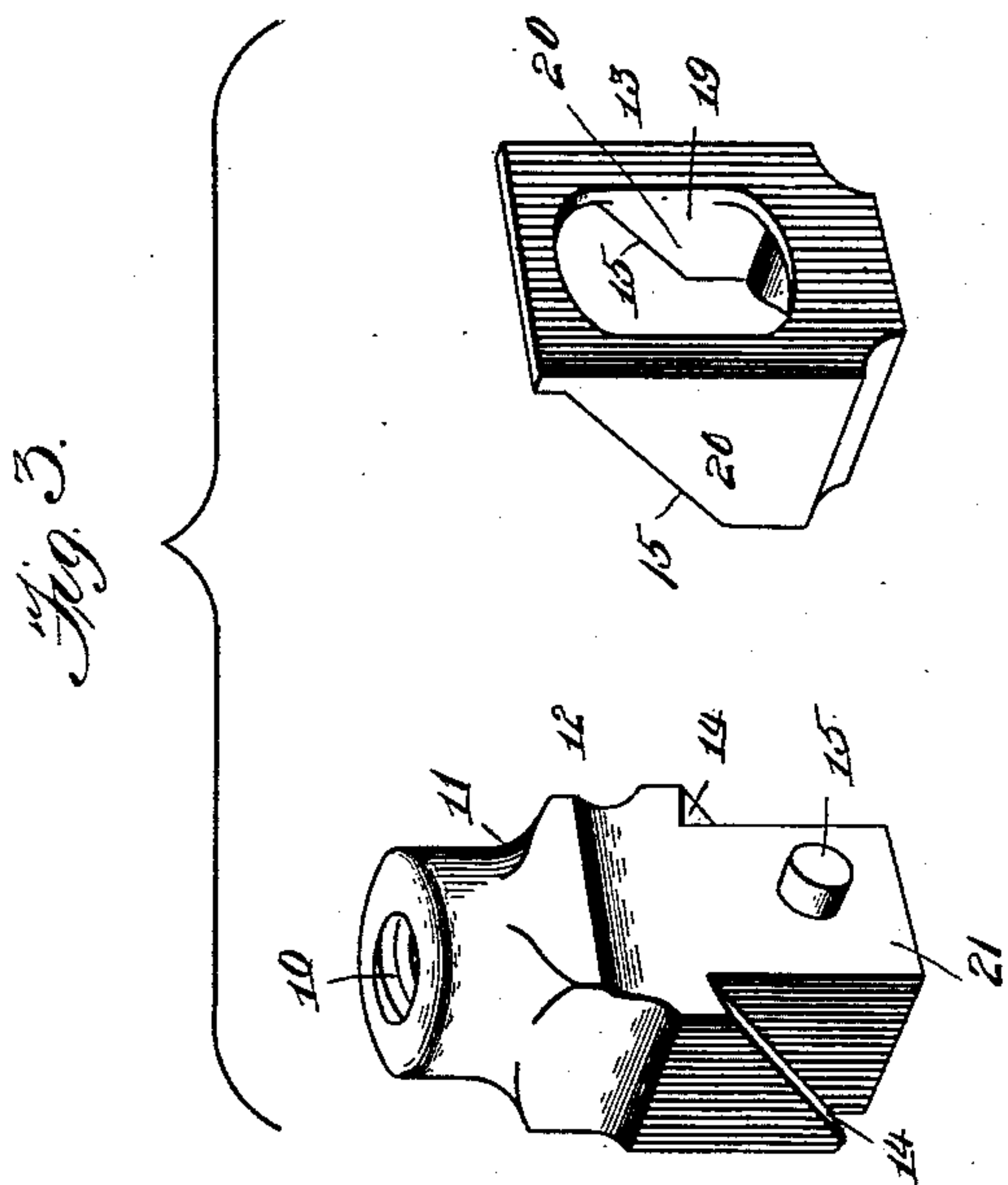
(No Model.)

2 Sheets—Sheet 1.

F. H. SHARAR.
VALVE.

No. 570,568.

Patented Nov. 3, 1896.



Inventor

Witnesses

John C. Shaw
[Signature]

By *his* Attorneys,

Fredrick H. Sharar,

Charles H. Sharar

(No Model.)

2 Sheets—Sheet 2.

F. H. SHARAR.
VALVE.

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Fig. 5.

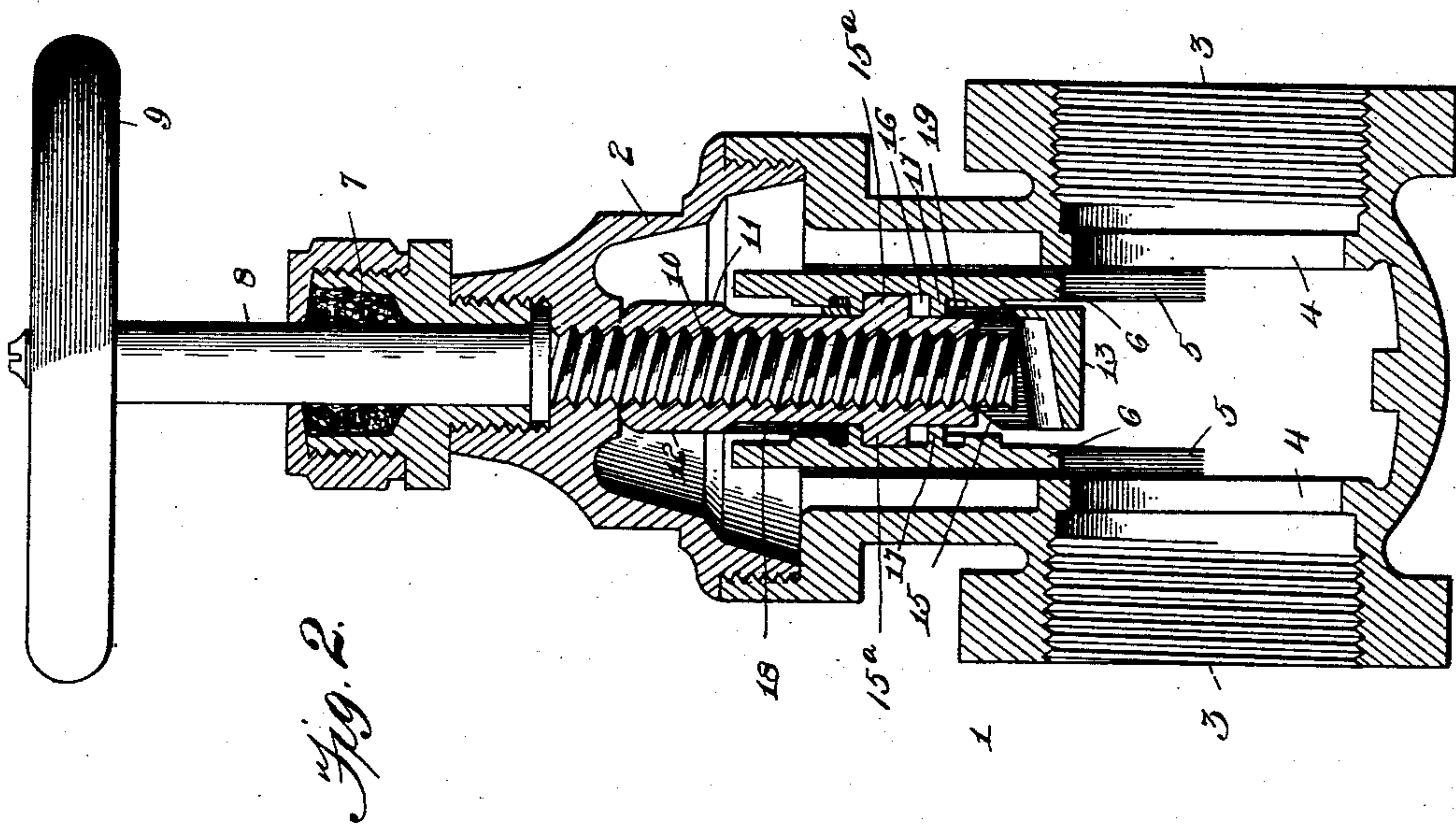
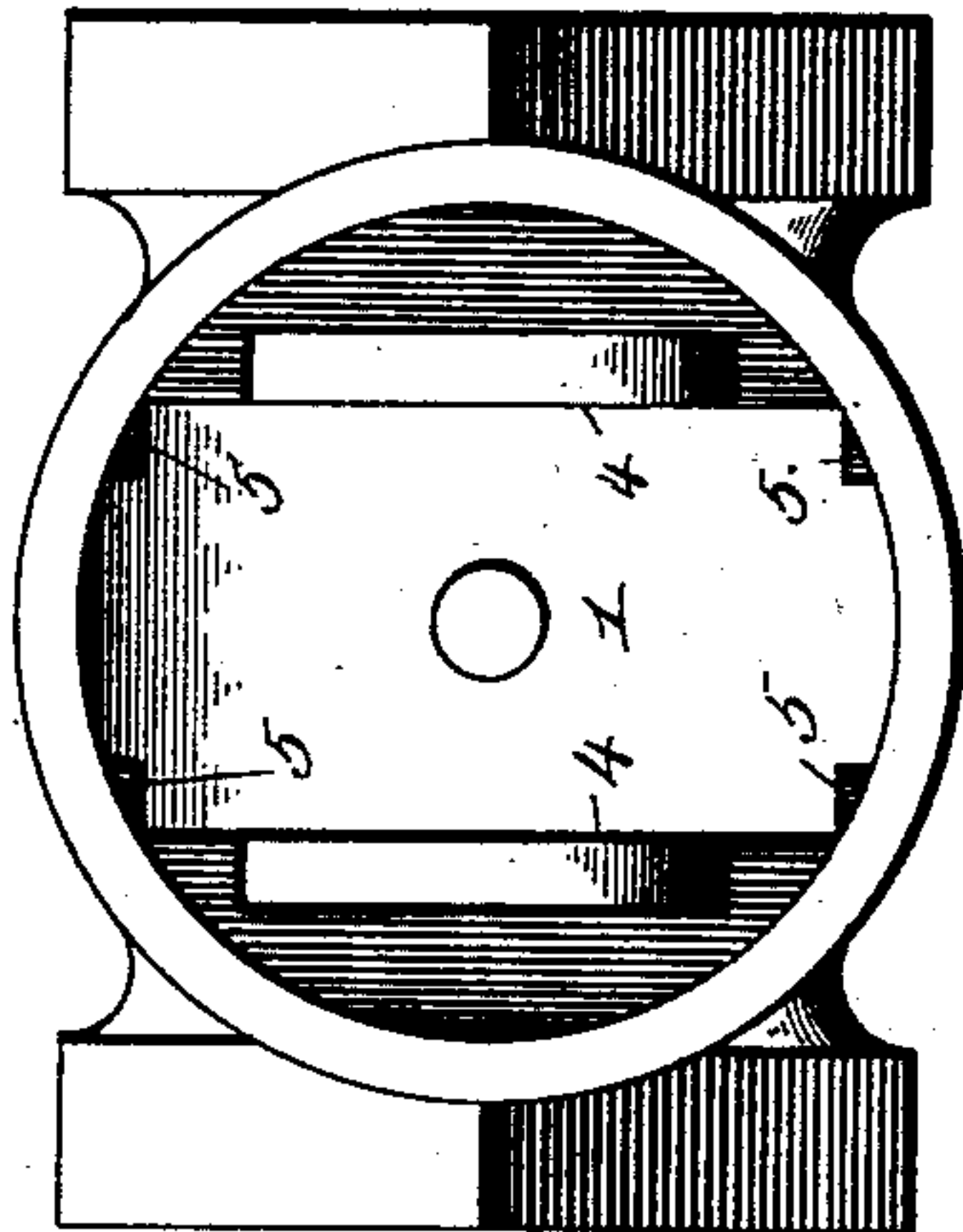


Fig. 2.

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UNITED STATES PATENT OFFICE.

FREDRICK H. SHARAR, OF WILLIAMSPORT, PENNSYLVANIA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 570,568, dated November 3, 1896.

Application filed September 20, 1895. Serial No. 563,135. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK H. SHARAR, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Valve, of which the following is a specification.

My invention relates to valves of the class known as "cut-off;" and the object in view is to provide a simple and efficient construction and arrangement of parts whereby the valve-disks are seated forcibly and with accuracy, to provide improved means for seating the valve-disks without sliding friction and turning the same to present them in different positions to the seats whereby the wear is distributed over the faces thereof, and to provide means whereby the parts of the valve mechanism may be readily exposed and disconnected for repairing and cleaning.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view of a valve constructed in accordance with my invention, the casing being shown in section on a plane embracing the aligned centers of the lateral openings or branches with the valve-disks seated. Fig. 2 is a central section of the valve mechanism and the casing with the valve-disks unseated. Fig. 3 is a detail view in perspective of the double wedge-block with the parts detached. Fig. 4 is a similar view of one of the valve-disks. Fig. 5 is a plan view of the casing with the cap-plate and valve mechanism omitted.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The casing 1 of the improved valve is fitted at one end with a removable cap 2, and is provided with lateral openings 3, contiguous to which are arranged the valve-seats 4, and flush with each valve-seat are the opposite lateral guides 5, in which operate the peripheries of the valve-disks 6.

Mounted for rotation in the cap and extending through a suitable stuffing-box 7 is the valve-stem 8, having a suitable handle 9, said

valve-stem being threaded to engage the threaded bore 10 of the wedge-block 11. This wedge-block is of sectional construction and comprises two cooperating members 12 and 13, provided with coacting inclined faces 14 and 15. The member 12 is provided with the above-mentioned threaded bore 10, and is further provided with lateral rounded bearing-lugs 15, which fit loosely in bearing-sockets 16 in the inner surfaces of the valve-disks, said sockets being formed in bosses 17, which project slightly from the inner surfaces of the disks in order to extend into a shallow cavity 18, formed in one side of the member 12, and through an opening 19, formed in the reduced portion of the member 13. This opening 19 in the member 13 is designed to allow the exposure of the contiguous bearing-lug and at the same time form a stop to limit the longitudinal movement of the member when the valve is arranged in a vertical position, as shown in the drawings, the position of the member 13 when stopped by the closed outer end of said limiting opening being shown in Fig. 2.

The inclined coacting faces of the wedge-block members are transversely beveled, and the interval between the parallel cheeks 20 of the loose member 13 is greater than the width of the body portion 21 of the member 12, whereby lateral movement of the member 13 is permitted. The transversely-beveled construction of the inclined surfaces has the effect, when the members of the wedge-block are in the position shown in Fig. 1, of centering the member 13 upon the member 12 without interfering with the automatic adjustment of the valve-disk in accommodating itself to the condition of the valve-seat. For instance, in case of a slight irregularity of the valve-seat a slight lateral movement of the valve-disk is possible by reason of the lateral play of the wedge-block member 13 upon the member 12, whereas, under ordinary circumstances, the blocks are automatically centered by the beveled coacting surfaces of the members.

When the valve-stem is turned to lower the valve-disks, the wedge-block members are extended or are in alinement, and hence the valve-disks are arranged with their outer

faces at an interval less than the distance between the valve-seats, but when the lower extremity of the valve member 13 comes in contact with the wall of the casing and its movement is checked, the farther movement of the member 12 causes the inclined surfaces of the members to slide upon each other and thus contract the wedge-block longitudinally and spread it laterally, thereby forcing the valve-disks firmly against the seats. When it is desired to unseat the valve-disks, the opposite movement of the stem causes the wedge-block member 12 to move independently of the member 13 and also independently of the valve-disks, by reason of the loose fit of the bearing-lugs of the member 12 in the bearing-sockets. This longitudinal movement of the member 12 reduces the lateral pressure upon the valve-disks without sliding them upon their seats, and thus unseats the valve without frictional contact with the seats.

As the valve is opened or closed the contact of the peripheries of the valve-disks with the guides in which they are fitted has the effect of partially turning the disks, and thus presenting the disks in different positions to the seats, whereby the unequal wearing of the disks is avoided. It will be seen, furthermore, that the loose member 13 of the wedge-block is held in place upon the operating member 12 by means of the valve-disks, which are arranged upon opposite sides of the wedge-block, and the disks are held in their proper positions with relation to the wedge-block when in the casing by means of the parallel guides, which are disposed contiguous to and flush with the valve-seats. Hence the parts of the valve mechanism may be disassembled upon the removal thereof from the casing, but they are held in their proper operative positions while in the casing without the use of auxiliary fastening devices.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a valve-casing having opposite seats, of valve-disks, a valve-stem arranged between the planes of the valve-seats, and a sectional wedge-block supporting the disks and having coacting inclined faces, one of the sections of the wedge-block being connected to the valve-stem for movement parallel with the valve-seats and being provided with opposite projections to fit loosely in sockets in the facing sides of the valve-disks, whereby motion parallel with the axis of the valve-stem may be communicated to the valve-disks, and the other section of the wedge-block being provided with an elongated opening closed at both ends through which one of the lateral projections of the first-named section extends to engage its

socket in the valve-disk, whereby when the first-named section is operated to unseat the valve-disks the second section of the wedge-block is loosely suspended upon the first-named section and in alinement therewith, substantially as specified.

2. The combination with a valve-casing having opposite valve-seats, of valve-disks, a rotary threaded valve-stem, and a sectional wedge-block comprising an operating member threaded upon the valve-stem and adapted to receive linear movement, said operating member being provided with opposite projections and the valve-disks being provided upon their inner or facing sides with bosses having sockets for the reception of said projections, whereby lateral movement of the disks, or movement transverse to the axis of the valve-stem, may be attained without disengaging the projections of the operating member from the sockets of the valve-disks, and a loose member recessed to receive the lower end of the operating member and provided with an elongated opening 19 through which the projection at one side of the operating member extends, said opening being closed at its upper end to form a support for the loose member when the valve-disks are unseated, a fixed stop being arranged in the path of the loose member to limit its movement in one direction, and said operating and loose members being provided with coacting inclined faces to cause lateral movement in opposite directions when the linear movement of the loose member is checked, substantially as specified.

3. The combination with a casing having opposite valve-seats, of valve-disks, a sectional wedge-block having members provided with coacting inclined faces, one of the members being hollow to receive the contiguous portion of the other member, means for elevating one of the members and checking the downward movement of the other or hollow member, and interlocking connections between the members of the wedge-block and the valve-disks, said connections at one side of the block having engagement with the hollow member and serving to support the same when the other member is elevated, substantially as specified.

4. The combination with a valve-casing having opposite valve-seats, valve-disks adapted to fit said seats, and a valve-stem, of a sectional wedge-block comprising an operating member connected to the valve-stem to receive linear movement therefrom, said operating member having opposite parallel flat faces, lateral projections 15 on said flat faces to engage sockets in the inner faces of the valve-disks, the width of said operating member in the opposite direction being reduced at its lower end to form shoulders having inclined faces 14, and a loose member recessed to form opposite side cheeks 20 which bear against the opposite cut-away sides of the operating member and having upper inclined

faces 15 to coact with the inclined faces 14 of
the operating member, said cheeks 20 being
connected at one edge by a web provided with
an opening 19 through which extends the
5 projection on the contiguous side of the op-
erating member, 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.

FREDRICK H. SHARAR.

Witnesses:

ED. C. EDWARDS,
W. M. EDWARDS.