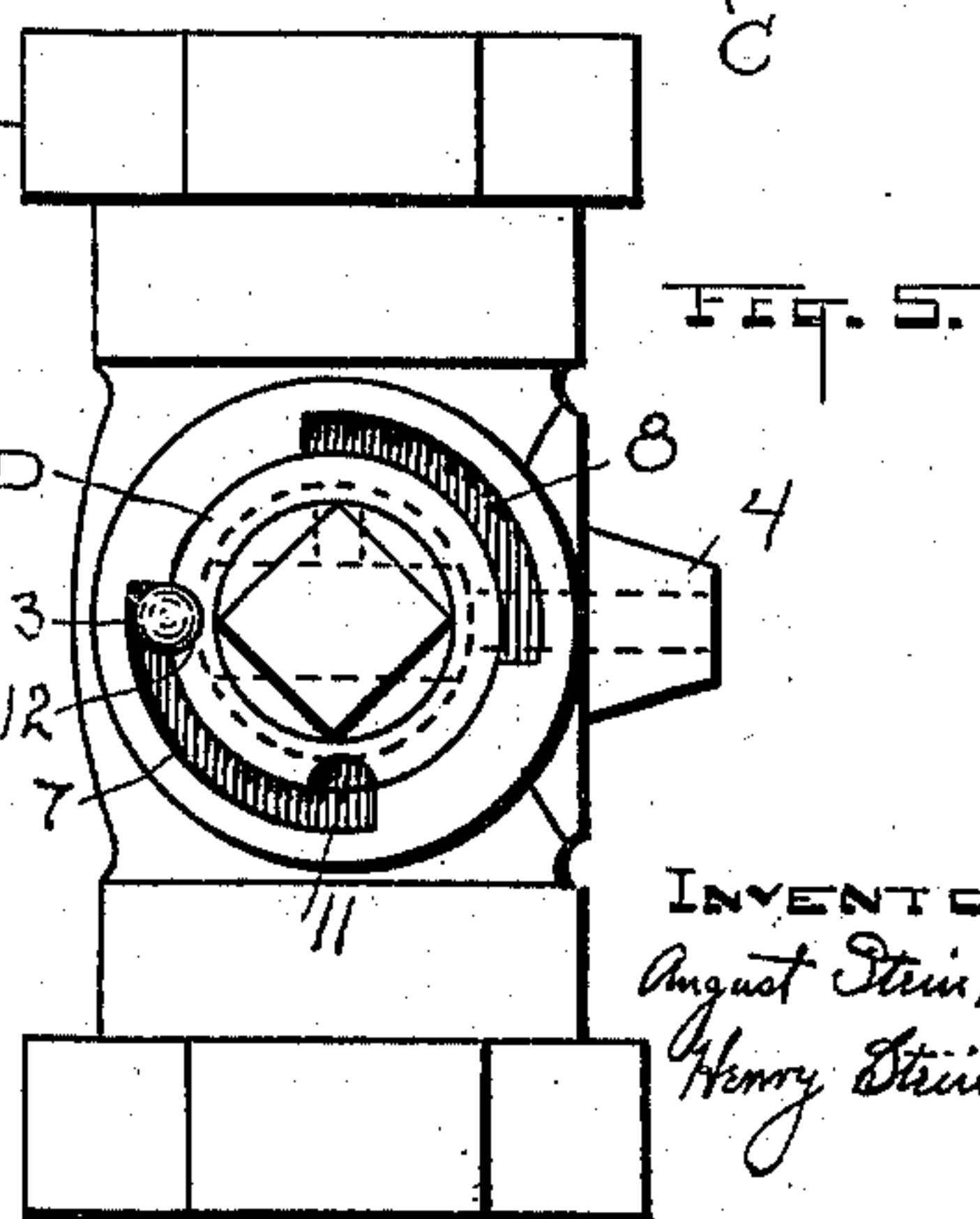
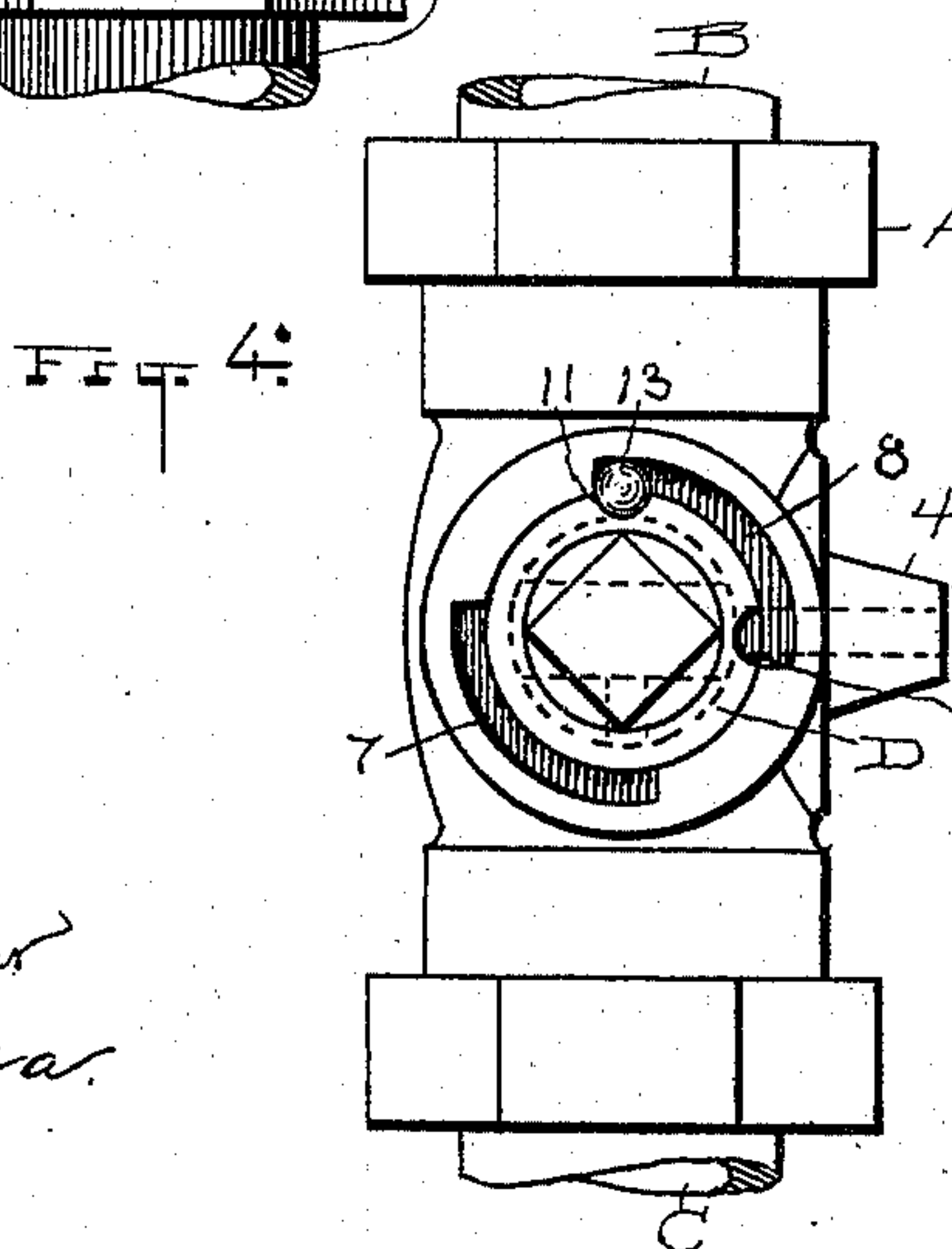
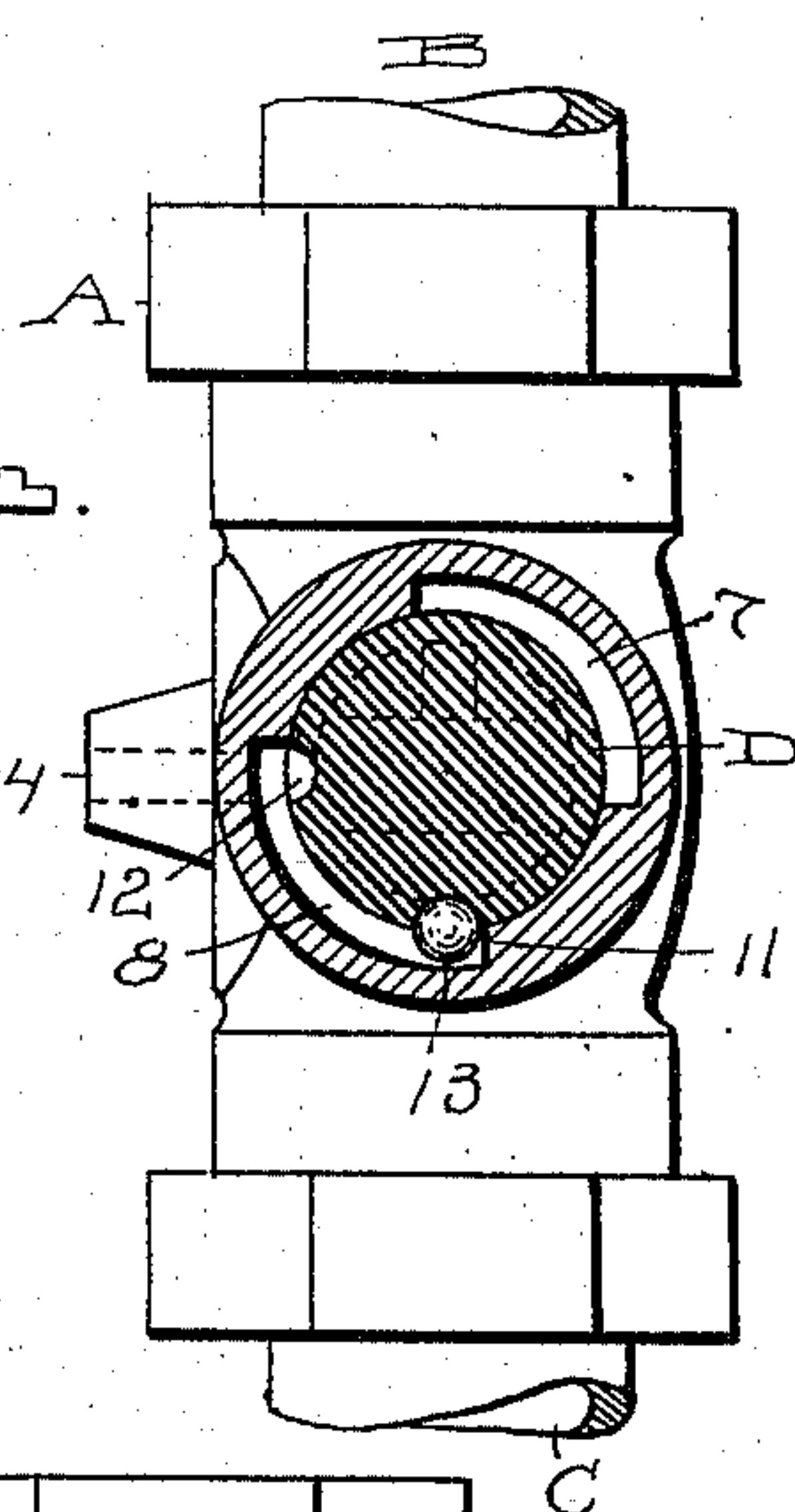
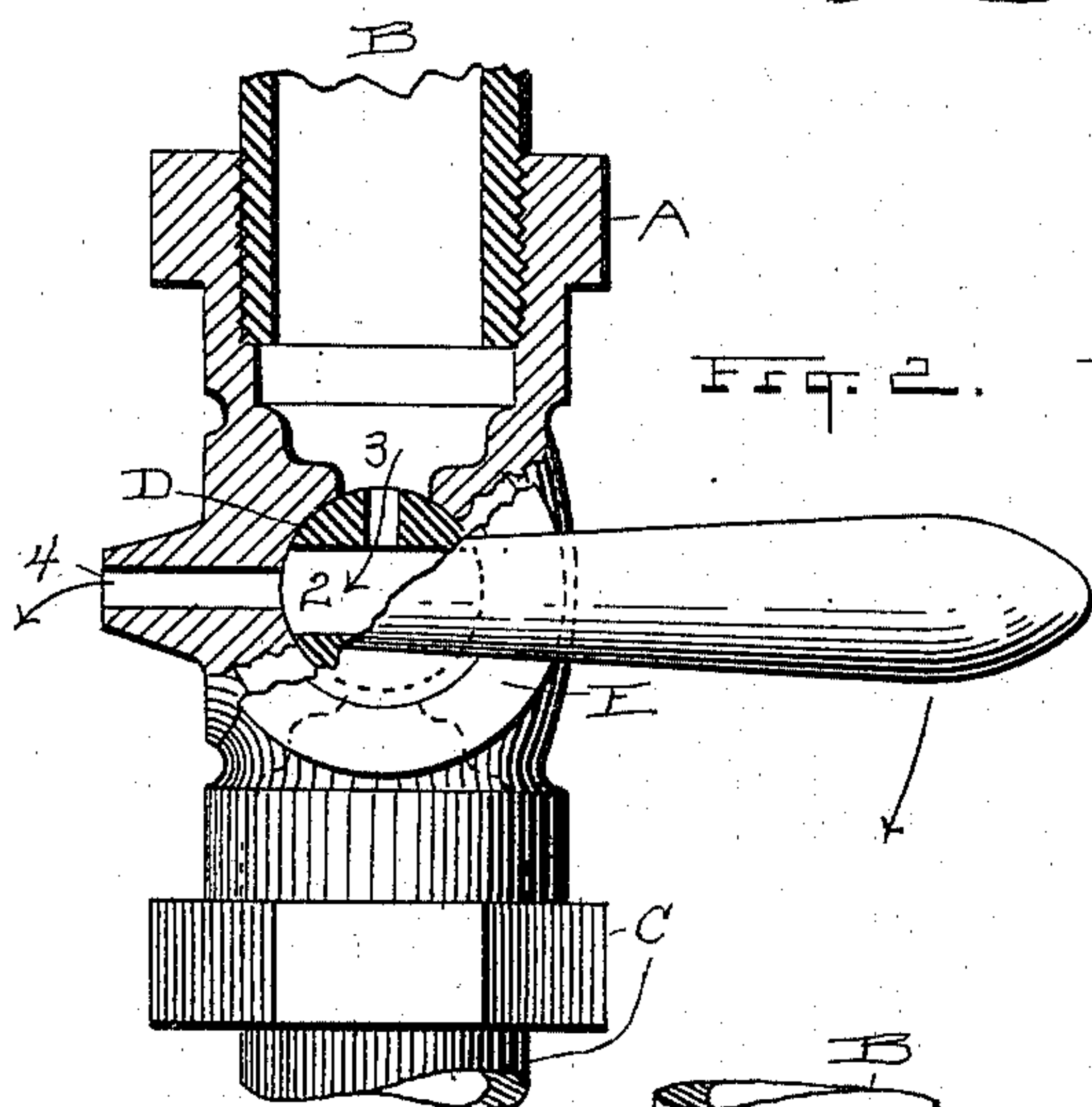
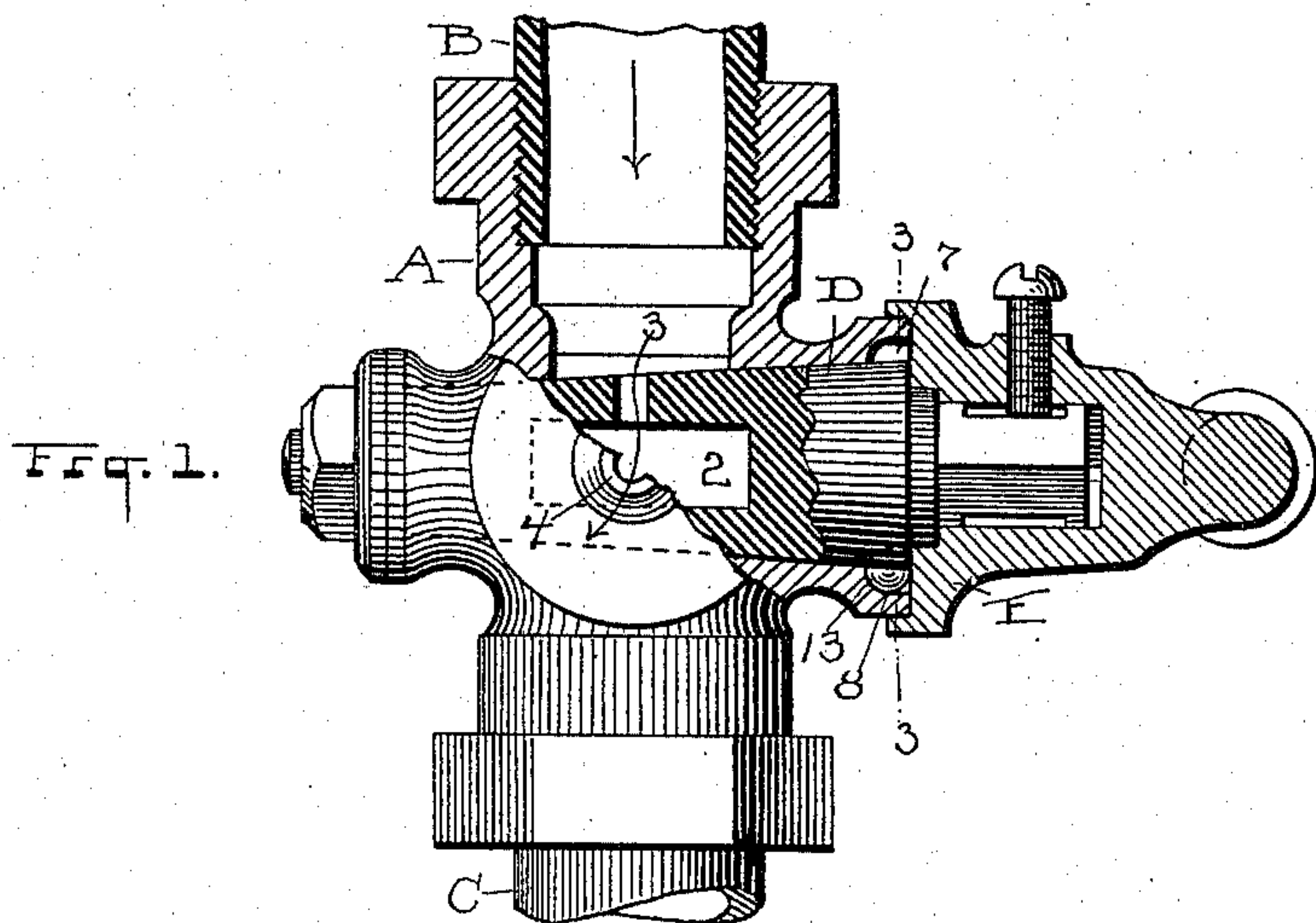


(No Model.)

A. & H. STEINHAUER.  
STOP AND WASTE COCK.

No. 574,079.

Patented Dec. 29, 1896.



ATTEST

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INVENTORS:

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# UNITED STATES PATENT OFFICE.

AUGUST STEINHAUER AND HENRY STEINHAUER, OF CLEVELAND, OHIO.

## STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 574,079, dated December 29, 1896.

Application filed January 9, 1896. Serial No. 574,833. (No model.)

*To all whom it may concern:*

Be it known that we, AUGUST STEINHAUER and HENRY STEINHAUER, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stop and Waste Cocks; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to stop and waste cocks; and the object of the invention is to provide a waste-cock which if it be set in inverted position by mistake can be righted without removing the barrel or casing by simply turning the plug to the right position, as hereinafter more fully described.

Heretofore, as waste-cocks have generally been constructed, there was only one way in which they could be set and be in right position, and if by accident or otherwise a cock was set in inverted position it had to be bodily detached from the pipes and placed in right position before it could be used for waste purposes.

Our invention renders detachment and reversal in case of mistake unnecessary, and enables any one, however unskilled in the art, to correct the error and arrange the plug in such position that it will work right while the casing or barrel remains unchanged.

In the accompanying drawings, in which the invention is fully set forth, Figure 1 is a side elevation of our improved construction with a part of the casing and the plug broken away so as to disclose the water-passages therein, the plug in this view being shown in waste position. Fig. 2 is a view of the parts shown in Fig. 1, looking from the right of Fig. 1 and making a still more clear disclosure of the waste-water passage. Fig. 3 is a cross-section of the plug and the stop mechanism on a line corresponding to 3 3, Fig. 1, and likewise showing the waste-passage open, as in Figs 1 and 2. Fig. 4 is an elevation of a cock which by mistake has been set in inverted position and with the parts all as they appear in Figs. 1, 2, and 3, but simply inverted. Fig. 5 shows the parts which are shown in Fig. 4, leaving the casing in the same connection as in said figure, but chang-

ing the plug so that it will work right, as hereinafter more fully described.

A represents the casing or body of the device, and B and C are pipe connections, respectively, to which said casing is attached in the usual way.

D is the plug or valve, which is of a common tapered form well known in this art. Broadly, the plug and the casing are old and well known. The plug has a through water-passage 2, through which the water travels when the valve is opened, and a waste-inlet opening 3 in the side of the plug entering said passage 2, and the casing has a side passage 4. Hence when the plug is turned into the position seen in Fig. 2 the water is cut off from the lower or pressure side of the plug and a free outer passage is established through the plug, thus allowing the water in the pipes above to be drained out and the pipes be thus protected from freezing. Generally heretofore the plug D has had only a certain limited or quarter turn with a stop to fix its rotation, so that when turned to one extreme the passage-way 2 was open for the passage of water up through the pipes and when turned to the other extreme the said passage-way was closed to the main and open for the waste water, as shown in Fig. 2. In that construction there was no provision made for a plug that was adapted to remedy a defect in setting the cock, and all cocks were made either rights or lefts and could not be converted from one position to the other; but by means of our construction a single cock serves all purposes and error in setting is easily remedied and makes little difficulty. To accomplish this result we form two segmental grooves 7 and 8 in the outer edge of the plug-seat or barrel in the casing and in such relation to the plug that the said channels will round about the outer end of the same. These channels are opposite one another and extend each about one-fourth around the inside of the said barrel. Then in the said outer end of the plug we form small spherical cavities 11 and 12, and adapted to receive a ball 13. These cavities are placed in the said plug in relations corresponding to the ends of one of said channels, which brings them relatively on the same side of the plug, as shown. The cap E of the plug-handle confines the ball in its cavity, and said ball will



traverse one channel or the other according as it is placed in working relation with one or the other.

Now assuming that the parts are set to work as in Fig. 2, the ball 13 will be placed in cavity 11 and travel in channel 8. Obviously then the plug can make only a quarter-turn; but if the cock be set in inverted position, as in Fig. 4, the passage 3 will be brought to the bottom, as seen in dotted lines, and the plug cannot be used for waste purposes, because when the water from the main is turned off the waste-passage 3 comes below instead of on top and communicates with the water from the main instead of the water above in the pipes. Hence to make the plug work right the ball 13 must be withdrawn from cavity 11, the plug turned to bring said cavities around opposite channel 7, and the ball be then placed in cavity 12, as seen in Fig. 5. This will carry passage 3 above again, where it belongs, and then when the plug is quarter-turned to the left the passage 2 will be thrown open and the passage 3 carried to the side opposite outlet 4, as it should be, so there is a cavity for each of the channels 7 and 8, and it is the work only of a few moments to release the handle and its socket portion and cap E and change the plug and the ball.

With this construction cheapness of construction and simplicity are combined and only one kind of cock is made for all uses.

Obviously the cavities might be in the barrel of the plug and the segmental channels in the plug instead and serve the same purpose. This would be a mere reversal of the invention.

What we claim as new, and desire to secure by Letters Patent, is—

1. The body of the cock having a hub at one side, in combination with the plug ex-

tending through said hub into the said body and one of said parts having opposite segmental channels at the outer edge of said hub and the other part having two cavities opposite one of said channels, a loose stop in one of said cavities projecting into the corresponding channel, and a cap engaged about the edge of said hub and closing said channels from the outside, substantially as described.

2. The body having segmental channels and the plug having cavities opposite said channels and a separate part interchangeable in said cavities and working in said channels, substantially as described.

3. The plug having two cavities in its outer end, and the body having two segmental channels on opposite sides of the plug-seat, a ball adapted to work in said cavities and means to confine the ball, substantially as described.

4. The body described having two segmental channels and a waste-water passage, in combination with a plug having two cavities opposite said channels, a ball in one of said cavities and a removable cap confining the ball, substantially as described.

5. The invention described comprising the body of the cock and the plug seated therein, and one of said parts having a cavity for a ball and the other a segmental channel to limit the travel of said ball, in combination with a ball in said cavity, substantially as described.

Witness our hands to the foregoing specification on this 25th day of December, 1895.

AUGUST STEINHAUER.  
HENRY STEINHAUER.

Witnesses:

H. T. FISHER,  
H. E. MUDRA.