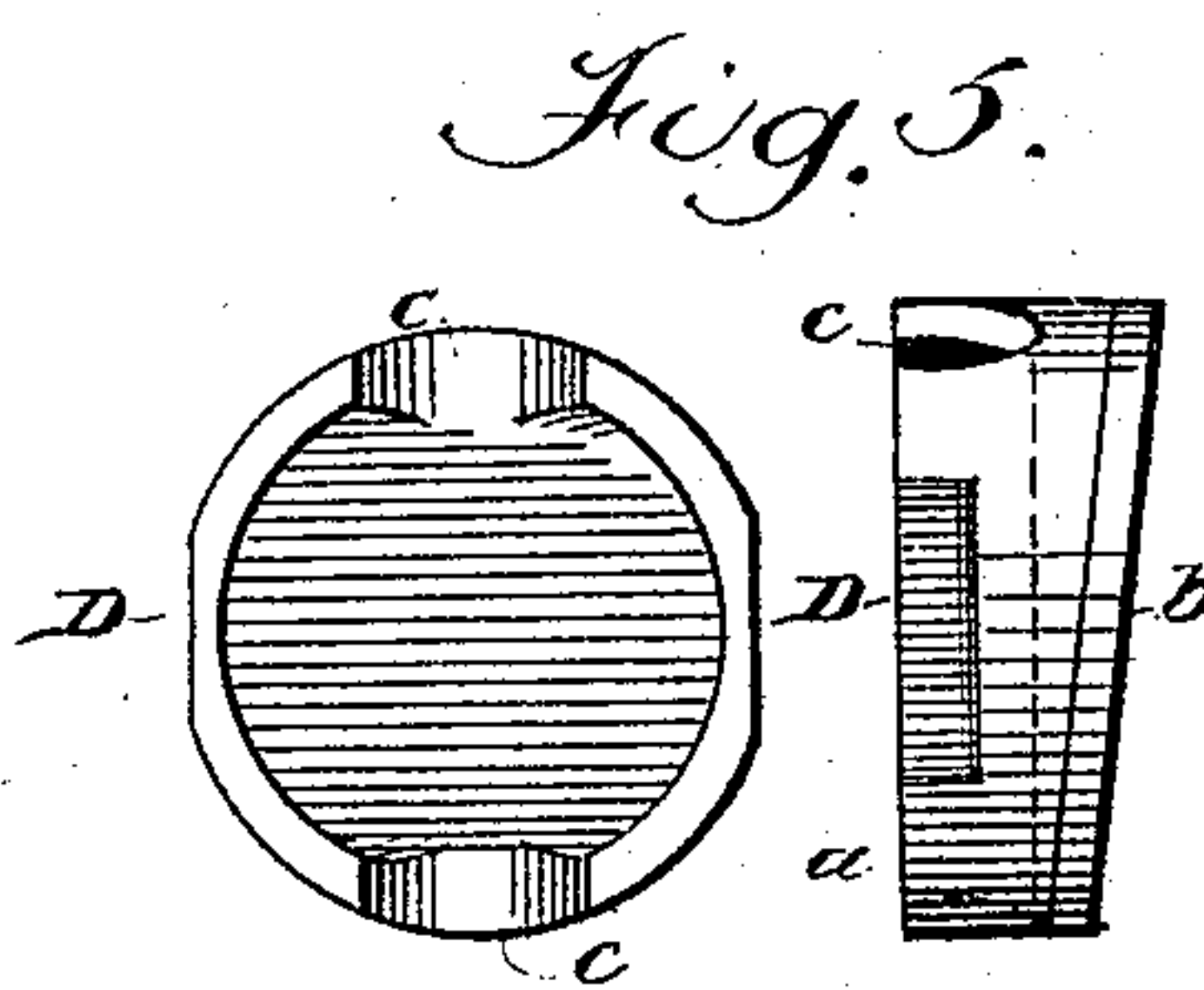
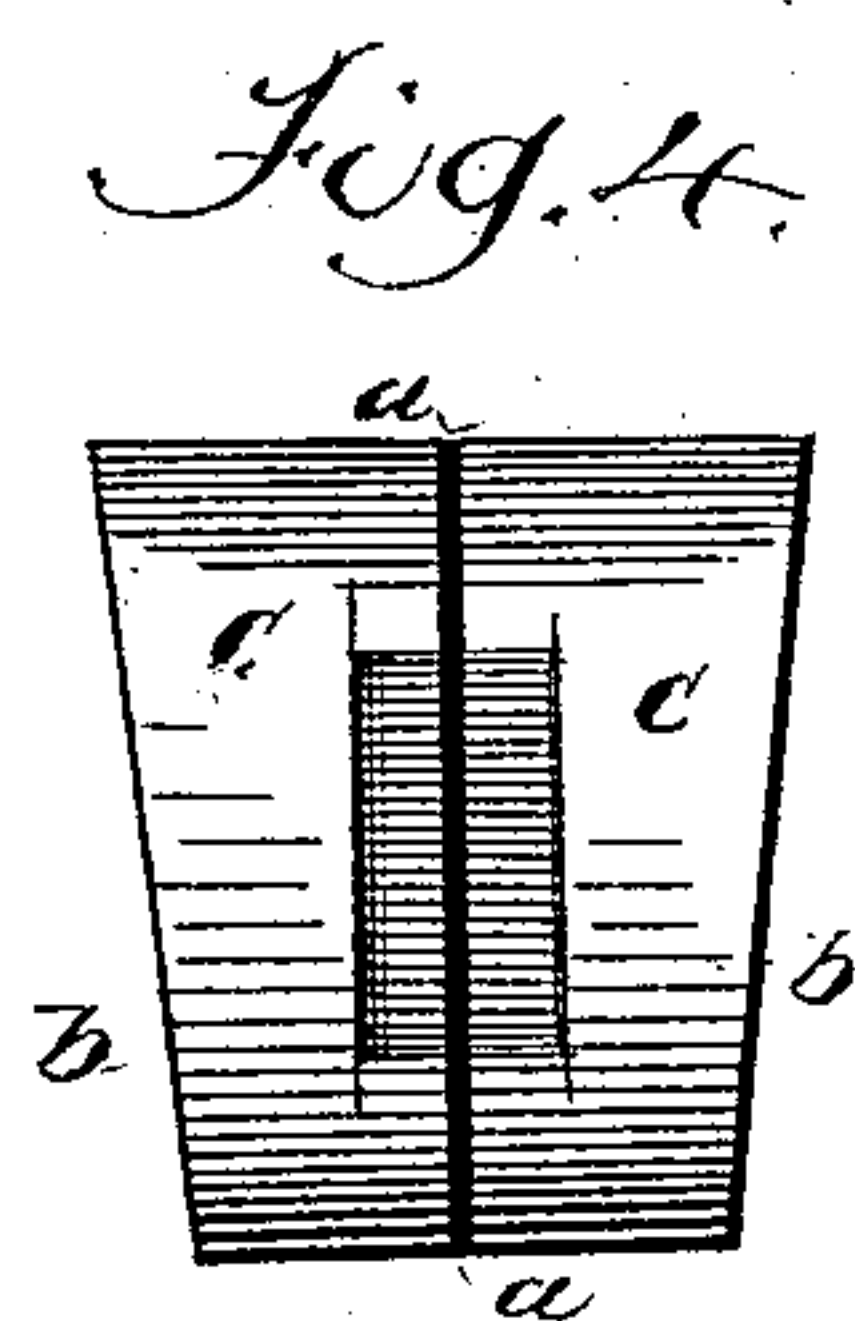
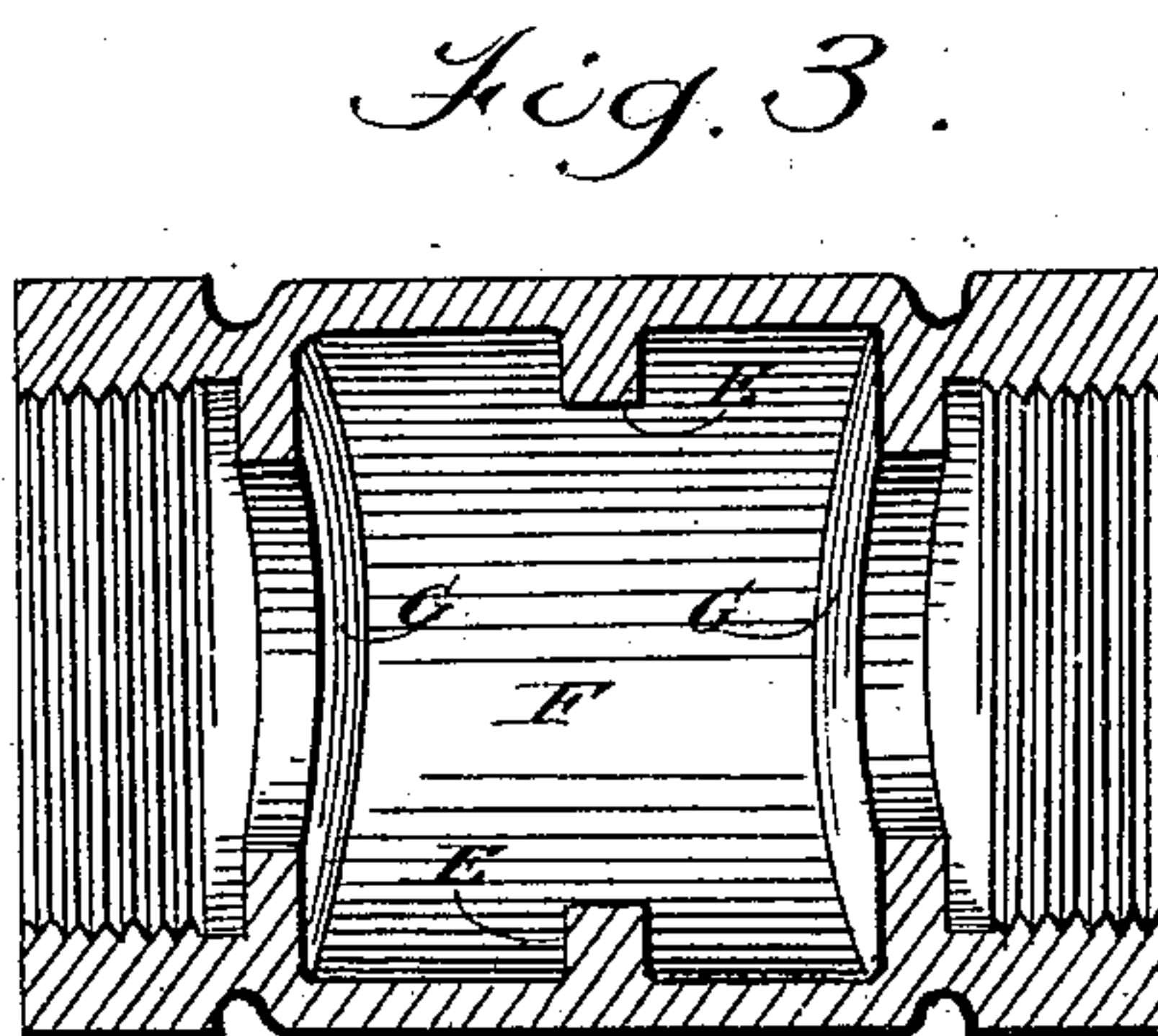
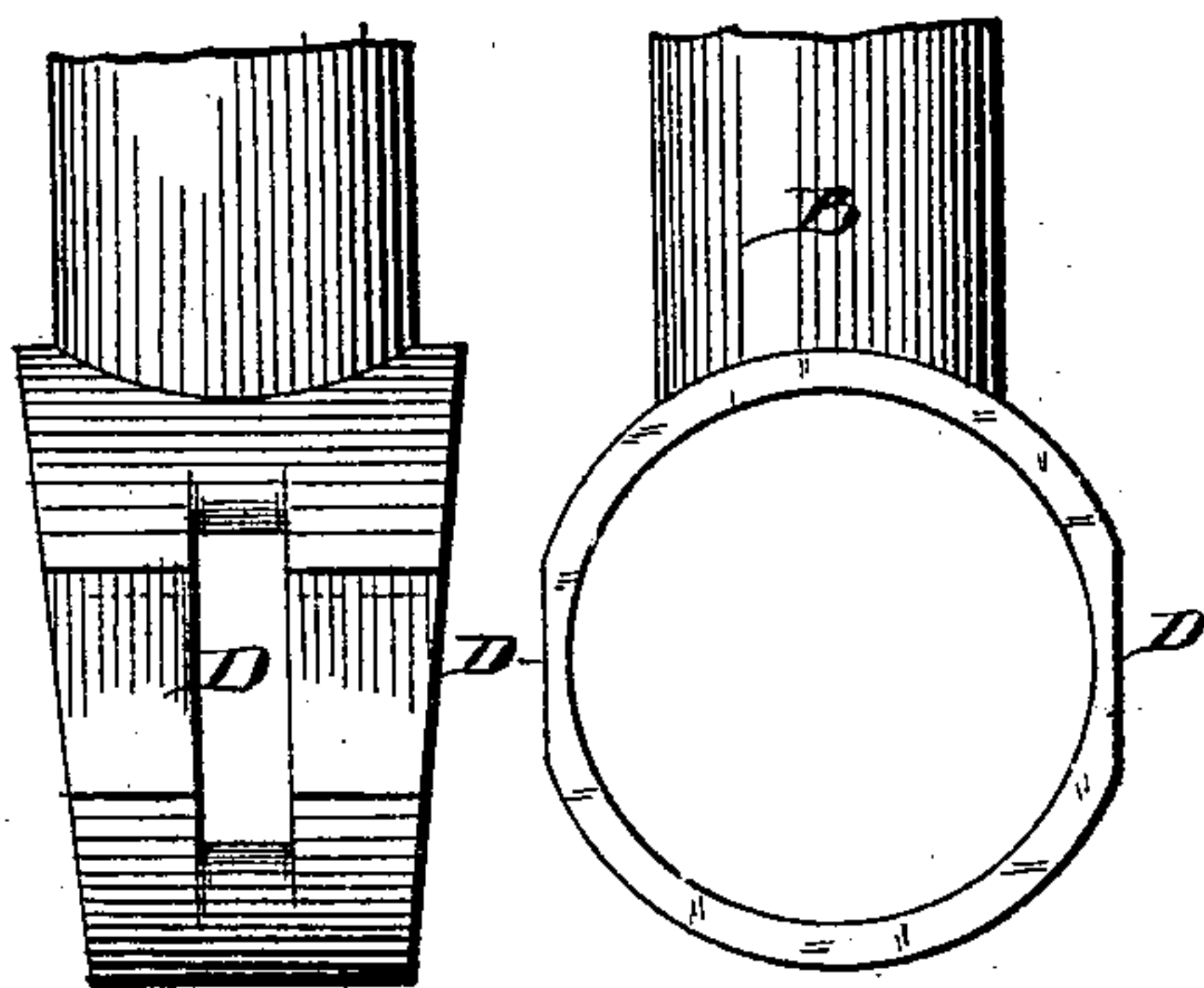
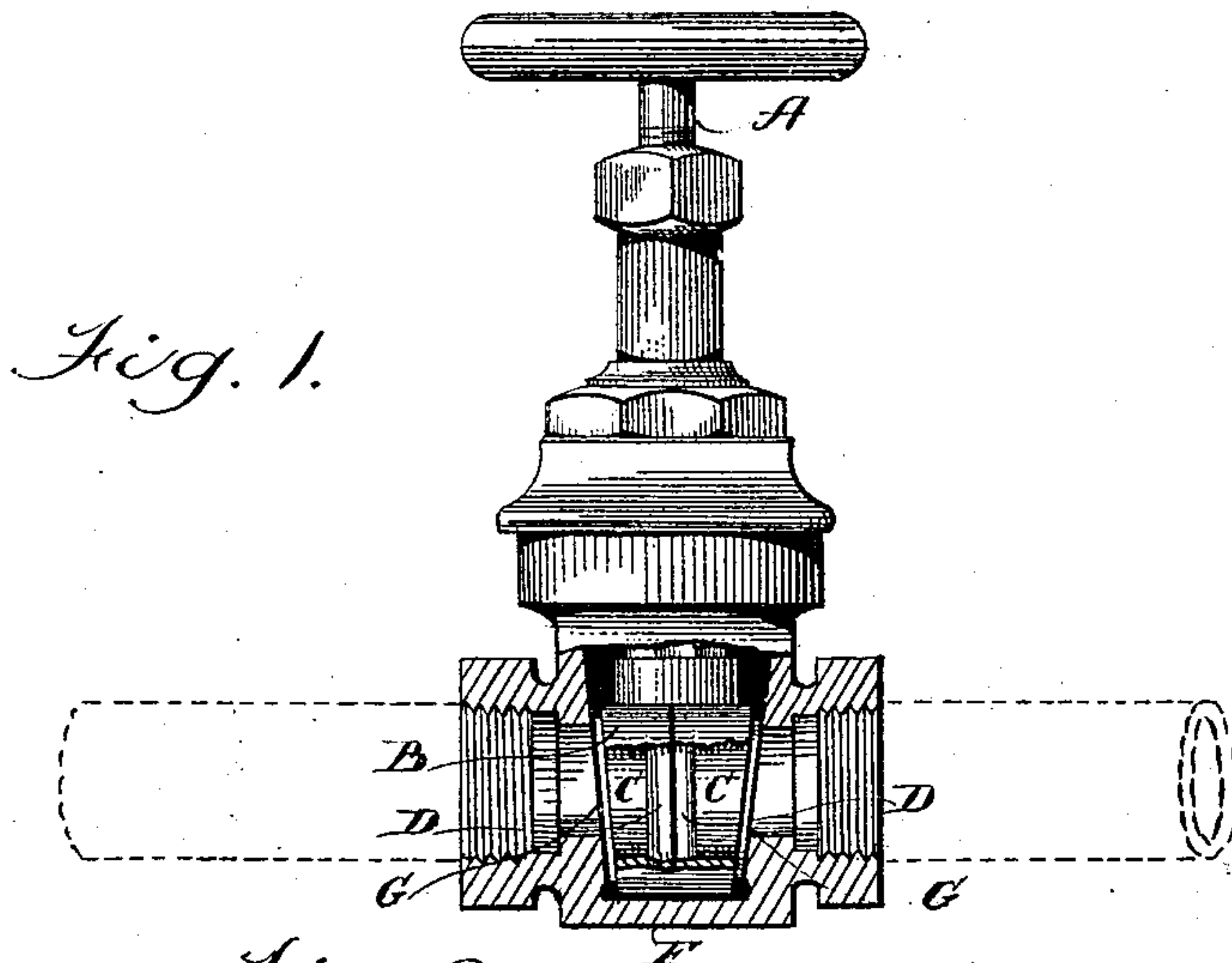


(No Model.)

H. R. FRISBIE.
VALVE.

No. 275,184.

Patented Apr. 3, 1883.



Attest;
Wm Bishop.
H. A. Trubee.

Inventor;
Henry R. Frisbie
By Atty.

J. M. Smith.

UNITED STATES PATENT OFFICE.

HENRY R. FRISBIE, OF BRIDGEPORT, CONNECTICUT.

VALVE.

SPECIFICATION forming part of Letters Patent No. 275,184, dated April 3, 1883.

Application filed December 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. FRISBIE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in valves, but more especially to that class of valves in which two disks or valve-plates are wedged so as to close upon two corresponding and opposite seats, and has for its object to present a valve whose face-plates or disks, when in proper operative position, shall have a contour laterally of a wedge, while at the same time the said plates or disks shall be so constructed and arranged as to be reciprocal in their action to compensate for any unequal wear arising from the contact of said disks with the valve-seats.

With these ends in view my invention consists in two disks so constructed that their inner surfaces are contiguous, while their outer surfaces are inclined to correspond with the incline of the valve-seats, as will be presently explained.

My invention further consists in providing a pocket for the reception of the valve-disks, all as hereinafter fully described.

In order that those skilled in the art to which my invention appertains may understand its construction and operation, I will proceed to describe the same in detail, referring by letter to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view in elevation of my improved valve, with the case and the pocket broken away, showing the shape and position of the disks inside the said pocket. Fig. 2 is a detail view of the pocket, showing channels through which the guide-lugs travel. Fig. 3 is a longitudinal horizontal section of the body or case, showing the guide-lugs. Fig. 4 represents detail views of the disk-plates; and Fig. 5 is a modified form of disk, hollow inside, and having an opening to permit the passage of the spindle.

Similar letters denote like parts in the several figures of the drawings.

A is the valve-stem, which operates the pocket B in one of two ways—viz., by being riveted to the pocket or having a male thread at its extremity—the upper or stem portion being confined as against all motion, except rotary, by two collars, all of which is clearly shown in the present existing state of the art. This pocket is made hollow, and in shape as shown in Fig. 2, so as to accommodate at its open sides two disks, C.

D D are channels in said pocket, which act as guideways to the lugs E in the body or case F of the valve, and the pocket is planed off or flattened at the sides of these channels in order that as the guide-lugs travel in said channels the flattened or planed surfaces on the pocket may come in contact with or abut against the corresponding surface on the body or case of the valve, and thus prevent any rocking motion of the valve. The channels D extend through the disks C, as well as the pocket B, so that when the guide-lugs E pass through said channels the disks will thereby be prevented from turning, so that a uniform bearing-surface will always be presented to the valve-seats G, all of which will be readily understood by reference to Figs. 1 and 2. The disks C are made alike, each having interior surfaces, *a*, contiguous, and abutting in vertical planes, while their exterior or packing surfaces, *b*, are inclined uniformly, presenting the appearance of a wedge, as will be seen by reference to Figs. 1 and 4. The valve-seats G are also inclined in precisely the same way, the object of the incline or wedge shape being to make a closer packing and to avoid unnecessary friction in the operation of the disks against the valve-seats. The interior faces of the disks abut, so that in case one of the packing-surfaces wears away faster than the other the latter will, by virtue of its incline coming in contact with the incline of the valve-seat, become forced farther into the pocket B, thereby causing the former to protrude until it bears against its valve-seat. When by constant use one or both disks have become so worn as not to afford a bearing, either of itself or by reciprocity of the other, a new disk or disks may be substituted with great facility, as they are made interchangeable. These disks may be made of suitable material, solid; as shown in Fig. 4, in which case the valve-

stem A is riveted or otherwise secured through the neck of the pocket B; or they may be hollow, with opening c for the valve-stem to pass through, in which case the pocket travels on a male threaded stem, and the latter is confined as against all but rotary motion, as hereinbefore set forth. Furthermore, the disks may be made of any suitable packing material; or other material may be used in their construction, and a separate packing ring or surface used in connection therewith.

I do not wish to be understood as claiming the wedge-shaped disks in connection with the similarly-inclined valve-seats, as I am aware that this particular combination is not new, broadly; but

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

1. In a valve, two disks having contiguous inner faces, and arranged within a pocket, whereby a lateral reciprocatory play is had and unequal wear of the disks compensated for, substantially as set forth.

2. The valve-case having guide-lugs, in combination with the channeled pocket, and disks channeled to correspond therewith, whereby the disks are prevented from turning and uniform bearing-surfaces are presented.

3. A valve-case having inclined seats, in combination with the disks constructed and arranged, as described, to have a lateral play

within the pocket, and with their inner surfaces contiguous, substantially as shown.

4. In a valve, two solid disks having contiguous inner faces, in combination with a pocket to carry said disks, and a stem riveted to the pocket.

5. In a valve, the pocket B, with channels D and interior disks, C, and adapted to be operated by the stem A, as set forth.

6. The stem A, riveted to pocket B, said pocket being channeled, as described, in combination with disks C, channeled to correspond therewith, and case F, having guide-lugs E, as set forth.

7. The case provided with guide-lugs and inclined seats, in combination with the pocket having inclined outer faces and channeled sides, the disks also channeled at opposite sides, and the stem, all as shown and described.

8. The pocket B, provided with channels D and interior disks, C, in combination with the valve-case F, having guide-lugs E, and seats G, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY R. FRISBIE.

Witnesses:

GEO. W. WARNER,
CHAS. E. WILMOT.