

(No Model.)

H. P. HOOD.
STRAIGHT WAY VALVE.

No. 384,849.

Patented June 19, 1888.

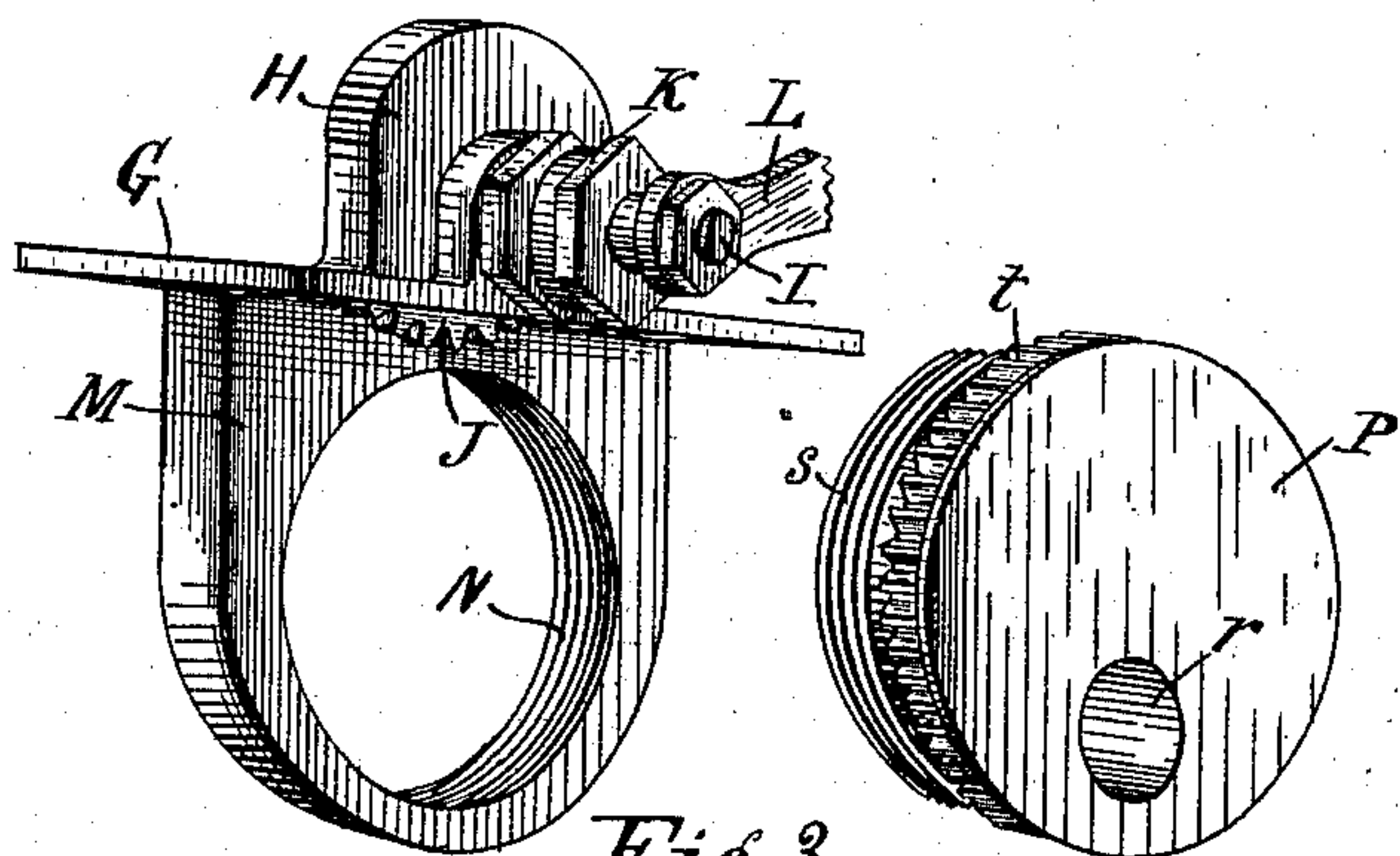


Fig. 3.

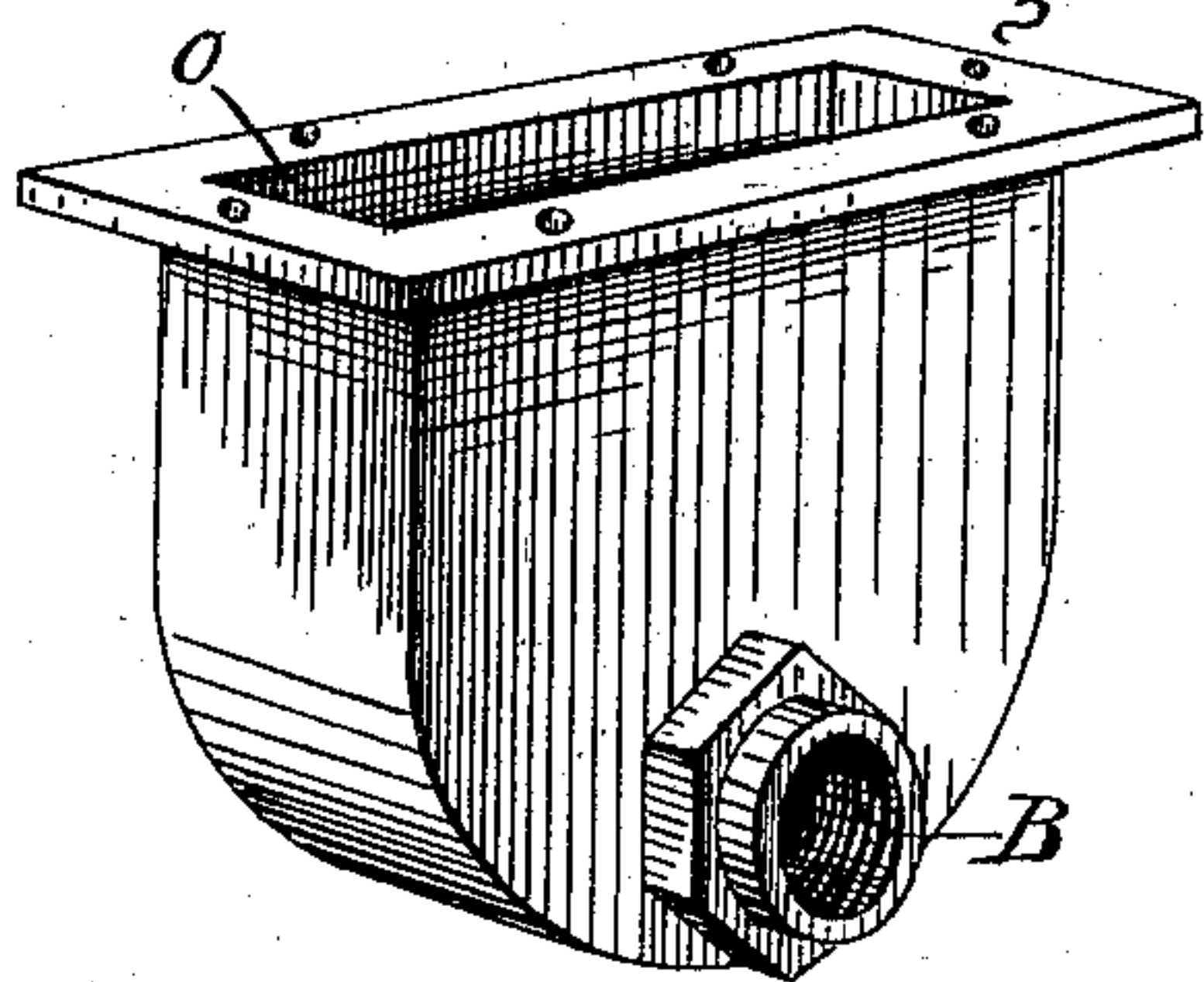


Fig. 1.

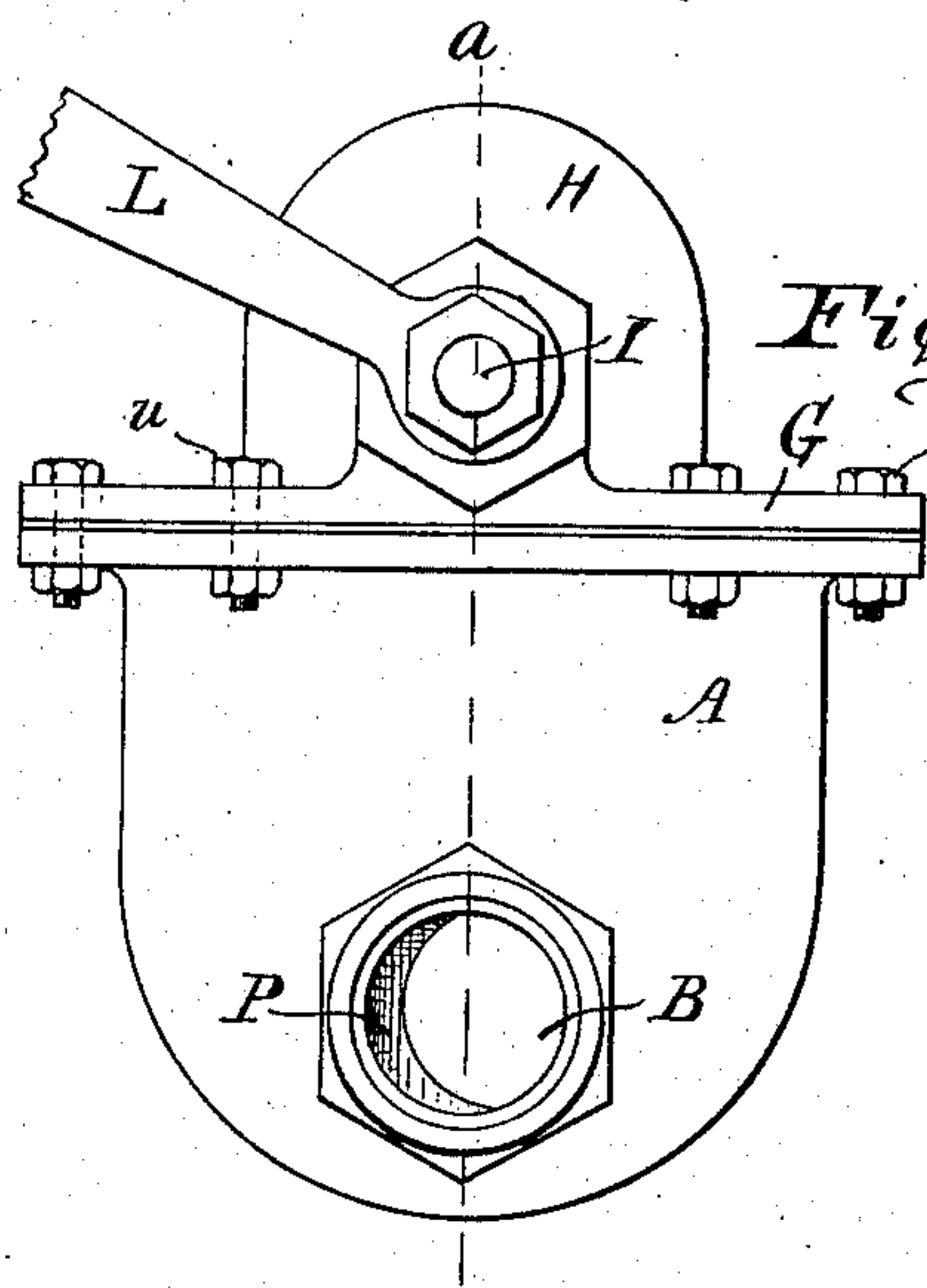
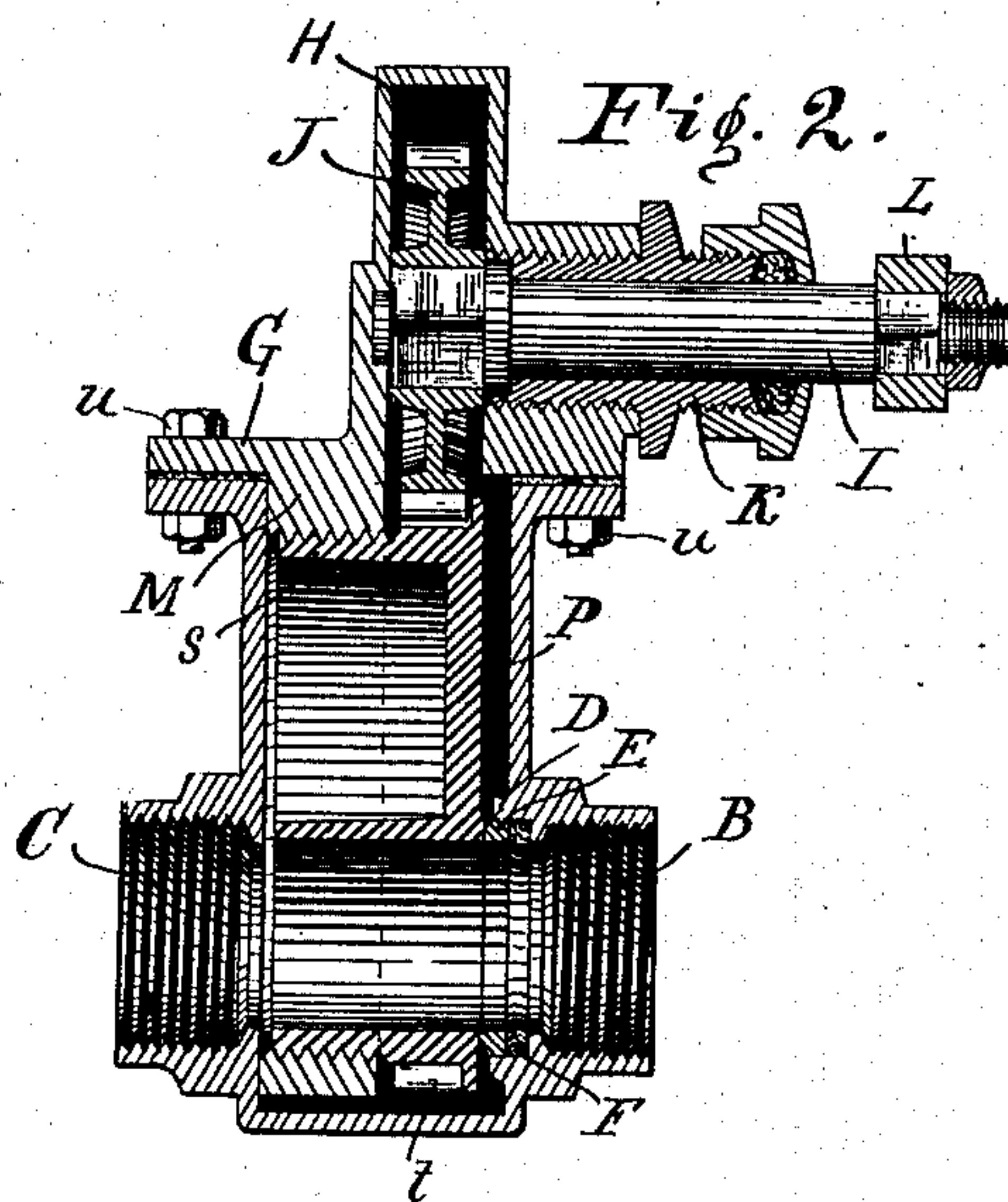


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRISON P. HOOD, OF INDIANAPOLIS, INDIANA.

STRAIGHT-WAY VALVE.

SPECIFICATION forming part of Letters Patent No. 384,849, dated June 19, 1888.

Application filed April 23, 1888. Serial No. 271,537. (No model.)

To all whom it may concern:

Be it known that I, HARRISON P. HOOD, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Straight-Way Valve, of which the following is a specification.

My invention relates to an improvement in a straight-way valve for which Letters Patent No. 375,872 were issued to me January 3, 1888.

The valve described and shown in said Letters Patent consists, essentially, of a cylindrical shell or case having screw-threaded openings in the opposite ends of the case, which openings are eccentrically arranged relatively to the axis of the case, a valve-seat formed around one of said openings, and a valve consisting of a cylindrical disk having an opening eccentrically arranged relatively to the axis of the disk. Said disk has a screw-threaded periphery, which is arranged to turn in a corresponding screw-threaded bearing formed in the interior of the case, and has also on a portion of its periphery cog-teeth, which engage suitable mechanism for turning the disk from the exterior of the valve case. In the valve there is shown and described the bearing for the valve-disk is formed integral with the case, and the end of the case, which contains the valve-seat and one of the threaded openings by which the valve is secured to a line of pipe, is made removable from the rest of the case for the purpose of inserting the valve-disk. This construction is objectionable for large valves, for the reason that the valve-case must be removed from the line of pipe before access can be had to the valve-disk for repairs, and the closing of the valve tends to open the joint between said removable end and the body of the valve-case.

The object of my present improvement is to obviate these difficulties and to provide means for quickly opening and closing the valve.

The accompanying drawings illustrate my invention.

Figure 1 represents a front elevation. Fig. 2 represents a section at *a*, Fig. 1. Fig. 3 represents a view in perspective of the parts of the valve separated.

A is the valve-case, having in its opposite sides screw-threaded openings B and C, adapted

to receive the ends of the line of pipe, the case having one edge open, as at *o*, Fig. 3.

D is the valve-seat formed in the interior of the case around one of said openings.

E is an annular metallic ring resting on an annular ring, F, of rubber or other elastic material, and forming a yielding valve-seat within the seat D, as fully explained in my before-mentioned Letters Patent.

G is a cap-plate which covers the opening *o* in the valve-case, and has formed on its upper side a hollow chamber, H, in which is mounted on a short shaft, I, so as to turn therewith, a gear-wheel, J. Shaft I passes through the stuffing-box and gland K, and is turned by a lever, L, secured to its outer end. Projecting from the under side of the cap-plate G is a flat plate, M, having formed therein a screw-threaded cylindrical bearing, N. The valve consists of a circular disk, P, having an opening, *r*, arranged eccentrically to the axis of the disk. The peripheral surface of disk P is extended by means of an annular flange, *s*, projecting from one side of the disk, and a portion of said peripheral surface is screw-threaded to fit the bearing N. On the remainder of the periphery cog-teeth *t* are formed, which intermesh with the teeth of the gear-wheel J. The arrangement is such that when the valve-disk has been screwed into its bearing in plate M, and the cap-plate is in position on the valve-case, the plate M will project into the case and rest against one side thereof, and the opening *r* in the disk will register at some point of the revolution of the disk with the openings B and C in the case. The cap-plate being secured to the valve-case by bolts *u*, with the opening in the disk registering with the opening in the case, a half-revolution of gear-wheel J rotates the disk so as to bring its solid portion opposite the openings B and C, and at the same time screws the disk outward in its bearing N, thus forcing the disk against the valve-seat and effectually closing the openings.

It will be observed that with this construction, when the valve is closed, the pressure of the valve against its seat reacts against the opposite side of the case, which is integral with the side in which the valve-seat is formed, and that therefore there is no tendency to force open the joint between the cap-plate and the valve-

case. It will be observed, also, that the valve-disk, with its bearing, and the mechanism for rotating the disk, may be removed from the valve-case without disturbing the relation of the case to the pipe or the relation of the valve-disk to its bearing and operating mechanism.

I claim as my invention—

1. In a valve, the hollow valve-case having an opening in one edge to receive the valve and its bearing and openings in two of its sides adapted to receive the ends of a pipe, the interior valve-seat formed around one of said side openings, the disk having cog-teeth on its periphery and an eccentrically-arranged opening which registers with the opening in said valve-seat, the removable cap-plate having a bearing for the disk projecting from its inner side and a hollow chamber on its outer side, the gear-wheel mounted in said chamber and intermeshing with the teeth on the disk, and the shaft, all combined and arranged to co-operate in the manner and for the purpose set forth.

2. In a valve, the hollow valve-case having an opening in one edge to receive the valve and its bearing and openings in two of its sides adapted to receive the ends of a pipe, the in-

terior valve-seat formed around one of said side openings, the removable cap-plate having a bearing for the valve-disk projecting from its inner side and carrying mechanism on its outer side for turning the disk, and the eccentrically-perforated disk arranged to turn in said bearing and to move longitudinally therein when so turned, all combined and arranged to co-operate substantially as specified.

3. In a valve having a valve-case provided with an interior valve-seat and a rotating valve-disk, the combination, with the valve-case and its valve-seat, of a removable cap-plate having a bearing for the rotating valve-disk projecting from its inner side, the valve-disk mounted in said bearing, and mechanism for turning the valve-disk, mounted also on the cap-plate, all arranged substantially as specified, whereby the valve-disk may be removed from the valve-case without disturbing its relation to its bearing or its driving mechanism, substantially as set forth.

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Witnesses:

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