

(No Model.)

H. H. B. MEYER.
INDICATOR VALVE.

No. 412,644.

Patented Oct. 8, 1889.

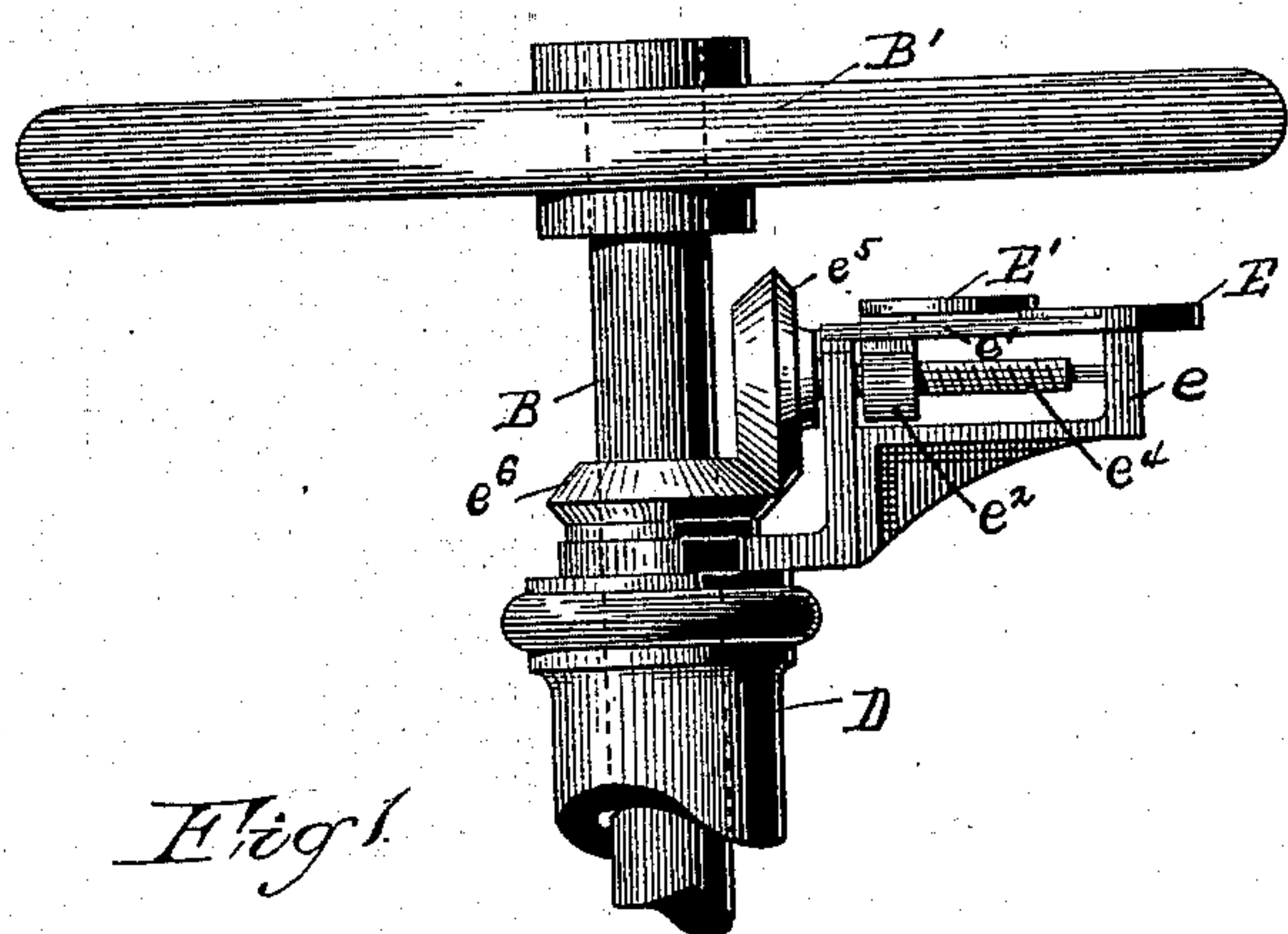


Fig. 1.

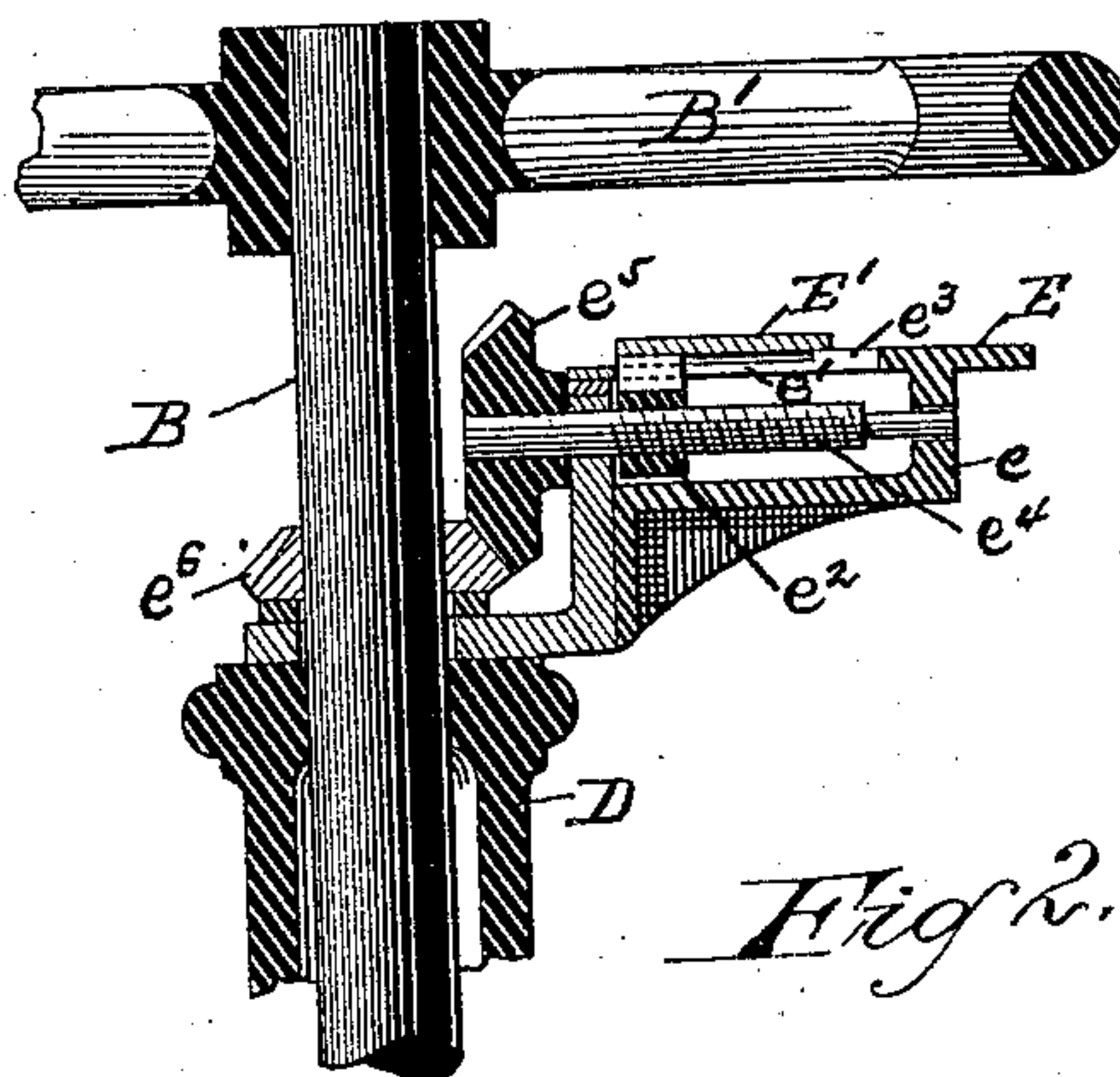


Fig. 2.

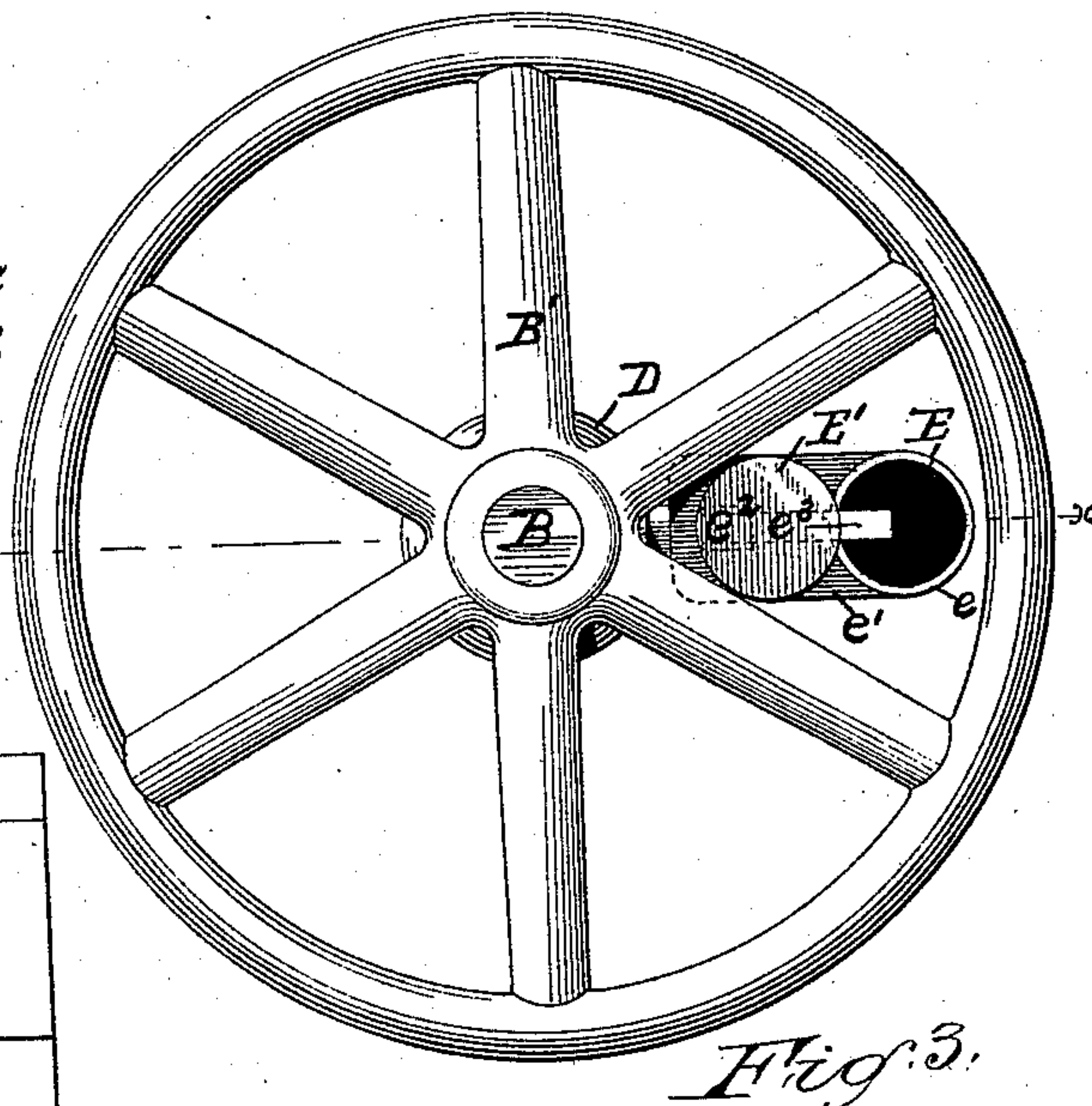
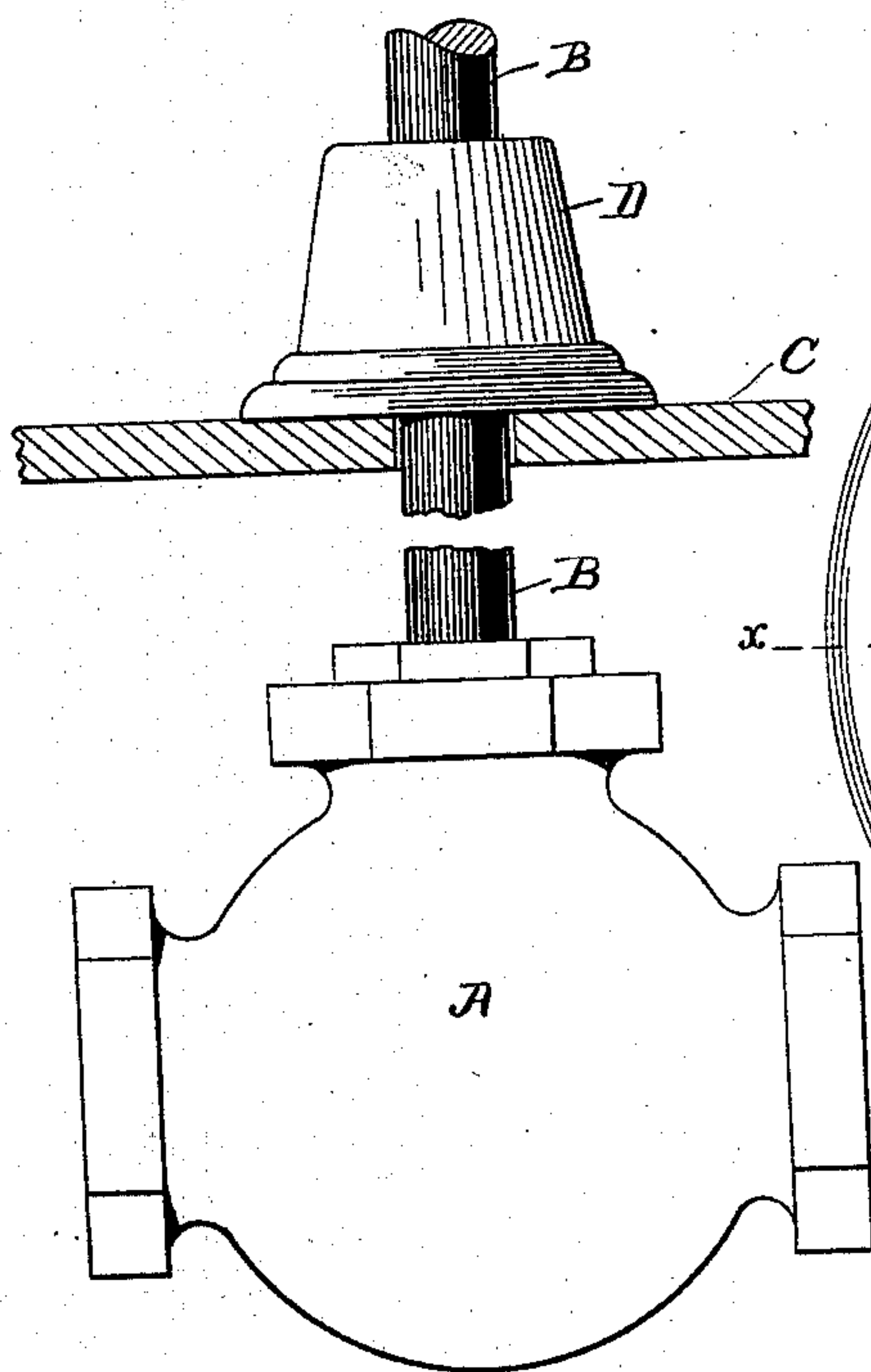


Fig. 3.

WITNESSES:

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HERMANN H. B. MEYER, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO FRED ERICK W. FLOYD, OF NEW YORK, N. Y.

INDICATOR-VALVE.

SPECIFICATION forming part of Letters Patent No. 412,644, dated October 8, 1889.

Application filed February 19, 1889. Serial No. 300,408. (No model.)

To all whom it may concern:

Be it known that I, HERMANN H. B. MEYER, of Brooklyn, county of Kings, State of New York, a citizen of the United States, have
5 invented an Improved Indicator-Valve, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to an indicator device for automatically showing the position of a valve in its chamber; and my invention consists in the combination, with the stem of the valve, of two disks located one above the
15 other flatwise, the upper disk being adapted in diameter or area to cover and conceal the under disk, and the said disks being adapted to slide or move one over the other in the direction transversely of each other, and
20 actuating mechanism, substantially as hereinafter set forth, intermediate said valve-stem and the disks, whereby the movement of the stem in opening and closing the valve will give a concurrent and corresponding
25 movement of the disks over each other flatwise transversely, so that it may be readily perceived what position the valve has relatively to its seat by noting to what extent the upper disk covers the under, as hereinafter
30 specified.

Figure 1 is a side elevation of a globe-valve with an indicator containing my invention. Fig. 2 is a vertical section of the parts shown in the upper portion of Fig. 1, and taken on
35 line $x x$, Fig. 3; and Fig. 3 is a plan of the parts shown in the upper portion of Fig. 1.

A is a globe-valve, and B is the valve-stem thereof.

40 C represents a flooring or platform, below which the valve is shown and through and above which the stem B extends.

D is a standard or frame fixed on the flooring and constituting a bearing in which the valve-stem works.

45 B' is a hand-wheel on the valve-stem, by means of which the same is operated.

This character of valve and the described location and arrangement of its operative parts are employed in places (notably in gas-works)
50 where the pipes controlled by the valve are be-

low a flooring or under ground and the actuating parts are manipulated above said flooring. Where the valve is thus separated from and not visible at the place of manipulation of its actuating parts, my present invention is
55 designed for use in indicating to the person manipulating the hand-wheel B' the position of the valve in its chamber as the valve is opened or closed.

E and E' are two disks, which are preferably circular, and both of the same or equal
60 area or diameter, so that one will cover and conceal the other when placed one above the other coincidently flatwise. I arrange these disks so that they will slide over or past each
65 other transversely of each other flatwise, and to accomplish this I find it preferable to fix or mount one of the disks, desirably the under one, rigidly upon a frame or standard e , as
70 shown at E. The other or upper disk E', I mount upon a platform e' , which is desirably a part of said frame e , and may be extension laterally from the disk E. The frame e , disk
75 E, and platform e' may be cast or formed in one piece, as shown in the drawings. The disk E', resting and riding on the platform e' , is capable of moving over and upon and covering the disk E, and of moving trans-
80 versely flatwise away from and off of and uncovering partially or entirely the said disk E.

I communicate the motion of the valve-stem B in opening or closing the valve in its chamber to the disk E' in the above-described preferable arrangement by suitable mechanism
85 connected to and actuating said disk E' and intermediate said disk and valve-stem, arranging and locating the parts relatively to each other, so that when the valve is closed the disk E' is over and covers the disk E, and so that as the stem B moves to open or thereafter to close the valve the disk E' will be
90 given a concurrent movement flatwise in the direction transversely to and away from and off of the disk E, or in the direction toward and over said disk. I show an actuating mechanism in the drawings which accomplishes this purpose. The disk E' is carried by or
95 connected to a nut e^2 , and the platform e' may be longitudinally slotted, as shown at e^3 , to permit the play of the nut, and said nut works

upon and traverses a screw e^4 , journaled in the frame e . The said frame being mounted upon the top or upper end of the standard D , which I find preferable, and desirably extending at right angles thereto below the hand-wheel B' , so that the disks E and E' are in a horizontal position below said wheel, and thus in plain sight of the operator, the end of the screw e^4 may be conveniently geared to the valve-stem by the bevel-gears e^5 and e^6 , the former being keyed to the screw and the latter to the valve-stem, as shown. By means of this mechanism it is evident that as the valve-stem is rotated to open or close the valve thereon the disk E' will be actuated to move flatwise transversely of the disk E , so as to partially or entirely uncover the disk E , according as the valve is partially or wholly opened, and to move back to position over and covering the disk E when the valve is closed. The operator of the valve can thus ascertain by a glance at the relative positions of the disks to just what extent the valve is open, or if it is closed.

Any other known and equivalent mechanism may be employed in place of that shown in the drawings and herein described, intermediate the disks and the valve-stem, to communicate the movement of the stem concurrently to the disks, and thus to actuate the disks, and the upper disk may be fixed, while the under one is movable, without material variation from the essential feature of my invention.

It will be found desirable to give to each disk a distinguishing hue or color—as, for example, making the under one opaque or black and the upper one white or polished.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an indicator-valve, the combination, with the valve-operating stem, of two disks located one above the other flatwise, the upper disk being of a diameter or area to cover or conceal the under disk, and adapted to move transversely one over the other, and disk-actuating mechanism, as described, located intermediate the said disks and the

valve-stem and operated by said stem, whereby said disks are caused to move flatwise transversely one upon the other concurrently with the movement of the valve-stem in opening and closing the valve, substantially as and for the purpose specified.

2. In an indicator-valve, the combination, with the valve-operating stem, of two disks located one above the other flatwise, the upper disk being of a diameter or area to cover or conceal the under disk, and one of which is fixed, while the other of which is carried by a nut and adapted to move transversely of and over and upon said fixed disk flatwise, a screw on which said nut works, and gearing, as described, connecting said screw and said valve-stem, whereby the movement of the valve carried thereby, causes a concurrent movement of the movable disk flatwise transversely of and upon the fixed disk, substantially as and for the purpose specified.

3. In an indicator-valve, the combination, with the valve-operating stem B , provided with a hand-wheel B' , of the frame e at right angles to the valve-stem and under the said hand-wheel, the disk E , fixed on said frame, the platform e' , the disk E' thereon, movable transversely and flatwise upon said fixed disk, the nut e^2 , carrying said movable disk, the screw e^4 , on which said nut works, and the gears e^5 and e^6 on said screw and said valve-stem, respectively, substantially as and for the purpose specified.

4. A valve-movement indicator consisting of two disks adapted to move transversely of each other, one over the other flatwise, a frame upon which said disks are mounted, a nut attached to one of said disks, a screw on which said nut works and journaled in said frame, together with gearing on said screw whereby said worm may be connected to and actuated by the stem carrying and operating a valve, substantially as and for the purpose specified.

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Witnesses:

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