(No Model.)

J. THOMSON.

MECHANISM FOR CONTROLLING THE ACTION OF OSCILLATING DISKS.

No. 452,486. Patented May 19, 1891.

Fig. 1.

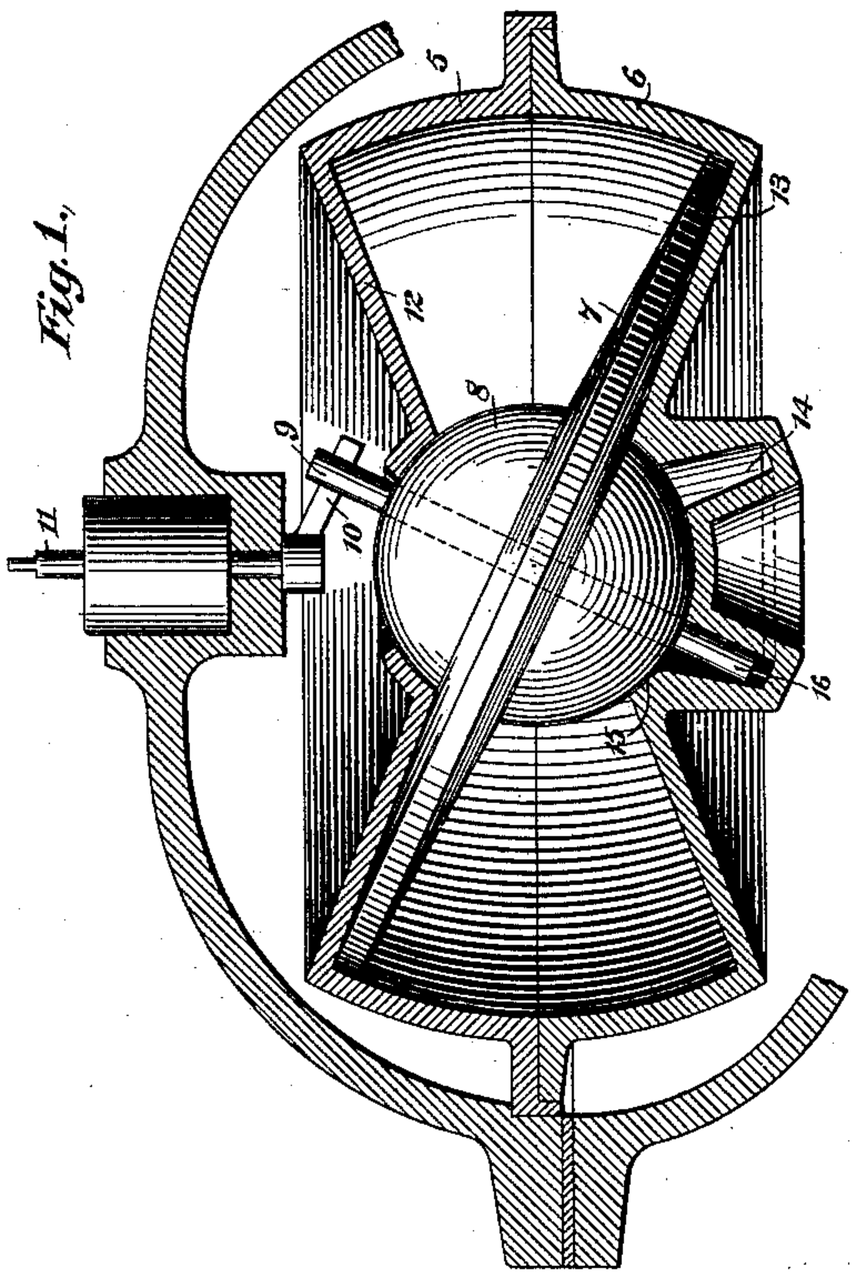
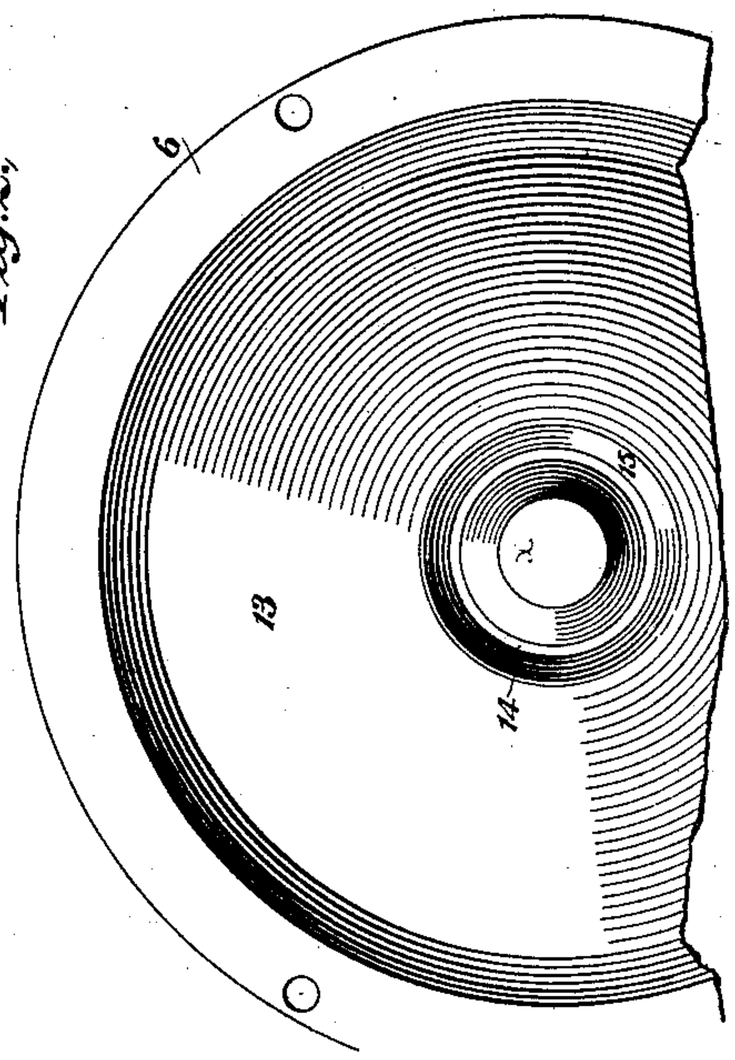


Fig. 2.



Witnesses
Geo. W. Breck.
Edward Thorpe.

Inventor:
John Thomson.

UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF BROOKLYN, ASSIGNOR TO THE THOMSON METER COMPANY, OF NEW YORK, N. Y.

MECHANISM FOR CONTROLLING THE ACTION OF OSCILLATING DISKS.

SPECIFICATION forming part of Letters Patent No. 452,486, dated May 19, 1891.

Application filed January 3, 1891. Serial No. 376,661. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing at Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Mechanism for Controlling the Action of Oscillating Disks, of which the following is a specification.

This invention relates to oscillating disks; and it consists in mechanism for controlling such actions, fully set forth hereinafter and illustrated in the accompanying drawings, in which—

Figure 1 is a central transverse section through the casings and disk-chamber exposing the disk in edge view, the arrangement being such as might be employed in water-meters, showing my improvement as applied to the lower section of the disk-casing. Fig. 2 is a top plan view of the lower section of disk-casing.

It is not thought necessary to here describe the action of the disk, as it is well understood by mechanicians, especially on reference to my patents, Nos. 387,828 and 387,829.

The disk-casing, as usually constructed, is formed of two sections, an upper 5 and lower 6. Operating within the disk-chamber is the disk 7 with its ball 8 and spindle 9. The upper portion of the spindle engages an arm 10, secured to a shaft 11. The spindle may thus either transmit its motion to the shaft or the shaft may cause the movement of the spindle and disk. Now, bearing in mind that the oscillation of the disk produces in its central axis at a right angle to the plane of the disk rotating or gyrating motion, the means here shown for controlling the proper motion of the disk—that is, to maintain contact with the frustums 12 13 of the chamber—will be readily understood.

The control of the disk is effected by forming a lateral bearing by means of a circular groove or channel 14 in the socket 15 of the chamber, the inner wall of said groove forming a conical bearing which the projecting end 16 of the spindle is adapted to engage. Hence the oscillating action of the disk causes the said end 16 of the spindle to rotate in the groove, the inner conical surface of which, through contact with the spindle, causes the disk to maintain its contact with the frustums of the measuring-chamber. It will be noticed that the upper portion of the slot is wider than the lower. The object of this is to permit the ready insertion or withdrawal of the disk and spindle. The inner bearing-surface of the groove is here shown conical, because so required by the cylindrical form of the spindle; but it is evident that the conditions might readily be reversed or otherwise altered.

It will be evident that the fixed bearing-cone may be separately applied to the casing and provided with means for adjustment.

Among the advantages of this mode of controlling the disk are that the device is entirely self-contained, not requiring the attachment of an additional frame to the chamber, and that the slight upward thrust of the controlling device may be made to balance the weight of the disk and ball to equalize the wear in the sockets. It will be evident that the disk-casing, instead of being out of contact at the center with the ball, as heretofore, presents a central concave bearing-surface X, which may be stationary.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

The combination, with the disk, ball, and spindle, of the casing having an annular groove within which the spindle is adapted to rotate, and a central bearing-piece for the ball, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN THOMSON.

Witnesses:
FRANK LAMBERT,
EDWD. K. ANDERTON.