No. 618,192. Patented Jan. 24, 1899.

J. THOMSON.

WATER METER.

(Application filed Feb. 13, 1896.)

(No Model.)

Fig. 1.

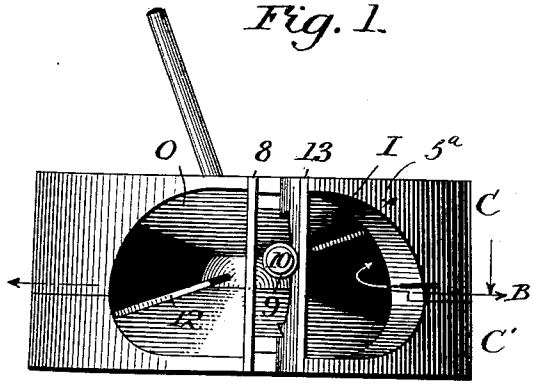


Fig. 4.

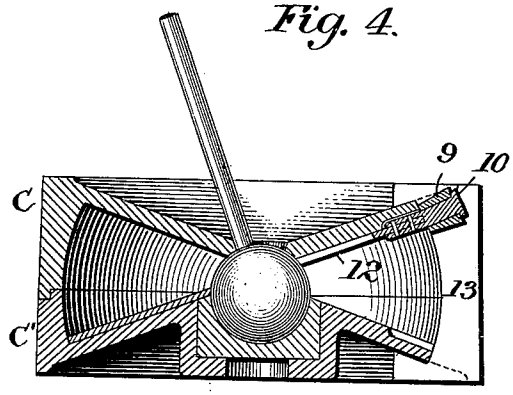


Fig. 2.

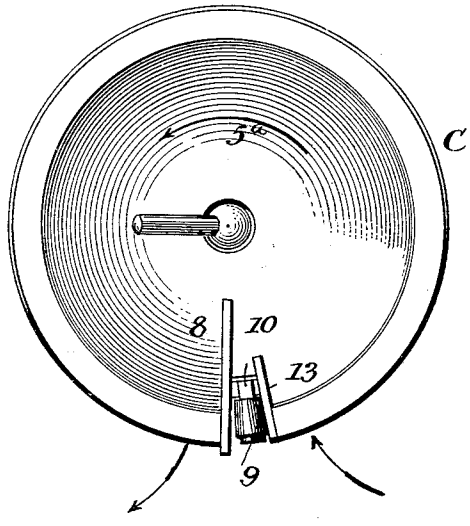
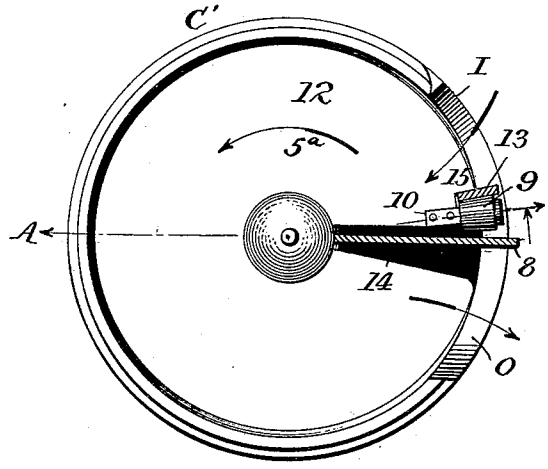


Fig. 3.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF NEW YORK, N. Y., ASSIGNOR TO THE NEPTUNE METER COMPANY, OF JERSEY CITY, NEW JERSEY.

WATER-METER.

SPECIFICATION forming part of Letters Patent No. 618,192, dated January 24, 1899.

Application filed February 13, 1896. Serial No. 579,172. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing at New York, (Brooklyn,) Kings county, State of New York, have invented certain new and useful Improvements in Water-Meters, of which the following is a specification.

My invention relates to disk water-meters, and has for its object to improve and simplify the construction and arrangement of parts thereof; and to this end it consists of the various features of construction and arrangement, substantially as hereinafter set forth.

The present invention relates more especially to the construction and arrangement of the thrust-roller and its coöperating and contingent parts; and the general object of the invention is in the direction of the invention shown in my prior patent, No. 535,641, dated March 12, 1895. The state of the art in this class of meters being well known, it is only necessary to show in the drawings the portions of a meter directly connected with my improvements.

Figure 1 is an elevation of a disk-chamber casing, showing the inlet and outlet ports. Fig. 2 is a top plan view of Fig. 1. Fig. 3 is a top plan view of the lower section of the casing with the disk therein, the separation being on the line B, Fig. 1, the diaphragm and thrust-plate being shown in section; and Fig. 4 is a vertical transverse central section of the disk-casing and the disk on the line A, Fig. 3.

The casing is shown as consisting of two parts C C′, united together in a well-known manner and having the inlet-port I and outlet-port O. The direction of the flow of the water therein is indicated by the several arrows, and these ports are separated in the usual way by a diaphragm 8. The thrust-roller 9 is mounted upon a journal 10, attached to or formed as a part of the disk 12, and the thrust-bearing for the roller is shown in the form of a plate 13, which is suitably mounted in the casing, in the present instance being inserted in a slot crosswise of the casing. The thrust-roller is connected to the disk at or near the edge of the disk-slot 14 and preferably on that side which operates in or is adjacent to the inlet-port, and the bearing-plate 13 is also located in the inlet-port.

The thrust of the disk 12—that is, its tendency to revolve with the flow, as arrow 5^a—is thus resisted by the thrust-roller bearing-plate 13, the diaphragm being entirely free from any contact either upon the inlet or outlet sides thereof. To insure adequate bearing-surface, the thrust-roller and its journal may be extended both beyond and within the outer edge of the disk, as shown, although it is evident that it can be wholly within or without the edge of the disk. So, too, the bearing-plate advantageously may be carried inwardly, so as to engage the disk, as at 15, to prevent the roller from coming into accidental contact with the diaphragm and to act as a bearing should the meter be operated backward.

Obviously the conditions of operation here described may be reversed, and other modifications in details in construction and arrangement may be made without departing from the spirit of my invention, and I do not, therefore, limit myself to the precise arrangement and construction here shown and described.

My invention is especially advantageous in connection with the use of metal disks for meters of small capacity liable to rapid operation in that the formation of a bearing or slot in the body of the casing is avoided, the roller operating in an open space.

What I claim is—

1. In a disk water-meter, the combination with the casing, diaphragm and disk, of a separate thrust-plate inserted in a port of the casing, substantially as described.

2. In a disk water-meter, the combination with the casing, diaphragm, disk and separate thrust-plate, of a thrust-roller extending into a port of the casing, substantially as described.

3. In a disk water-meter, the combination with the casing, diaphragm, and disk, of a thrust-roller, and a thrust-plate arranged in a port of the casing, substantially as described.

4. In a disk water-meter, the combination with the casing, diaphragm, and disk, of a thrust-plate, one side of which projects within the periphery of the disk, substantially as described.

5. In a disk water-meter, the combination with the casing and disk, of a thrust-roller, and a thrust-plate one side of which acts as a bearing for the roller, while the other side serves as a provisional bearing for the disk, substantially as described.

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

JOHN THOMSON.

Witnesses:
W. G. ZICK,
JULIUS BLIMBERG.