

J. C. KELLEY.
WATER METER PISTON.
APPLICATION FILED AUG. 22, 1908.

950,636.

Patented Mar. 1, 1910.

Fig. 1.

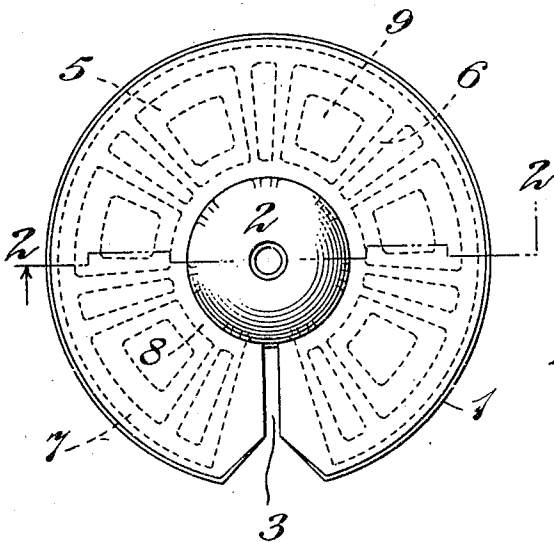


Fig. 3.

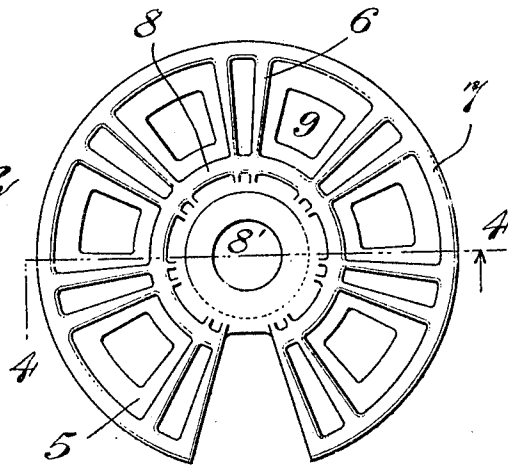


Fig. 2.

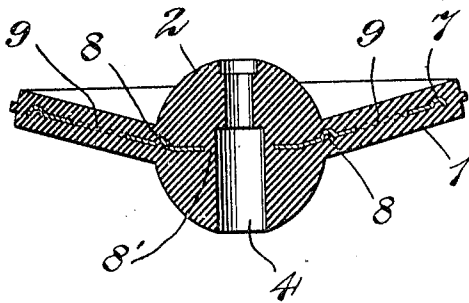
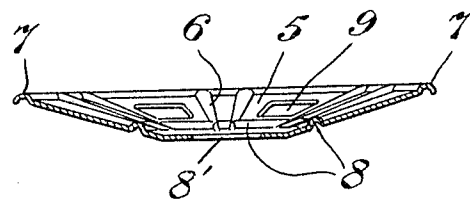


Fig. 4.



WITNESSES

A. C. Abbott
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UNITED STATES PATENT OFFICE.

JOHN C. KELLEY, OF NEW YORK, N. Y., ASSIGNOR TO NATIONAL METER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

WATER-METER PISTON.

950,636.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed August 22, 1908. Serial No. 449,792.

To all whom it may concern:

Be it known that I, JOHN C. KELLEY, a citizen of the United States, and a resident of New York city, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Water-Meter Pistons, of which the following is a specification.

My invention relates to water meters and more particularly to the construction of the piston as hereinafter described. It will be understood by reference to the accompanying drawings, in which—

Figure 1 is a top view of the piston showing the strengthening plate in outline; Fig. 2 is a central vertical section on the plane of the line 2—2 of Fig. 1; Fig. 3 is a top or face view of the strengthening plate; and Fig. 4 is a central vertical section through the plane of the line 4—4 of Fig. 3.

Similar reference numerals indicate similar parts in the several views.

The piston 1 is in the form of a disk or cone having a central spherical bearing hub 2 which fits in the corresponding recess of the case and makes a joint with the spherical surface thereof, while the sides of the piston will be in contact with the conical ends of the chamber. The piston has a radial slot 3 formed so as to fit freely over an abutment, as is well understood, to permit the water to flow from one side of the piston to the other in its operation. The hub 2 has a central bore 4 to receive the spindle of the registering mechanism.

To increase the sensitiveness in the movement of the piston it is preferably formed of hard rubber, which has nearly the same specific gravity as water, and, to reduce to a minimum the liability of distortion, is formed with a strengthening plate 4 in the following manner: Between halves of the piston, made of soft rubber, is laid a plate 5 of sheet metal, preferably steel, which may be shaped in a suitable die. The whole is then pressed and vulcanized.

The form of plate preferred by me is conical to conform to the shape of the piston and is strengthened by ribs or corrugations

in any convenient manner. In the manner shown the plate has a series of radial ribs 6 extending from about the center to the periphery, the latter being turned over to form a bead 7. In addition to the bead or corrugation 7 the plate may be formed with one or more intermediate corrugations 8 concentric with the central opening and intersecting the radial corrugations, said corrugations 8 being preferably arranged adjacent the point at which the body of the disk connects with the ball or hub 2. These corrugations increase the strength of the plate without increasing its weight.

The plate 5 is provided with a central opening 8' of greater diameter than the bore 4, and is of less radial extent than the disk of the piston, so as to be completely embedded in the piston. To permit of a proper union between the halves of the piston in the process of its manufacture, the plate 5 is provided with a series of perforations or openings 9 which may be conveniently located between the ribs or corrugations 6, as clearly shown in the drawings.

I do not wish to be limited to the character or number of corrugations shown in the drawings. Obviously they may be varied in character without departing from the spirit of my invention.

What I claim and desire to secure by Letters Patent is:—

1. A water meter piston, comprising a rubber disk and a metallic stiffening plate embedded in the body of the disk and having a central opening, said plate being formed with a peripheral stiffening bead, and a concentric bead adjacent the opening, beads connecting the inner and outer beads and dividing the body of the plate into a plurality of sections, each of said sections being perforated to permit the union of the rubber composing the two sides of the disk.

2. A water meter piston, comprising a rubber disk and hub, and a metallic stiffening plate embedded in the body of the disk, and having a central opening, said plate being formed with a peripheral stiffening bead, and a concentric bead located adjacent the

juncture of the disk with the hub, radially disposed beads connecting the inner and outer beads, and dividing the body of the plate into a plurality of segmental portions, 5 each of said segmental portions being perforated to permit the union of the rubber of the opposing two sides of the disk.

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

JOHN C. KELLEY.

Witnesses:

FRANK VINTEN,
ROBERT S. KELLEY.