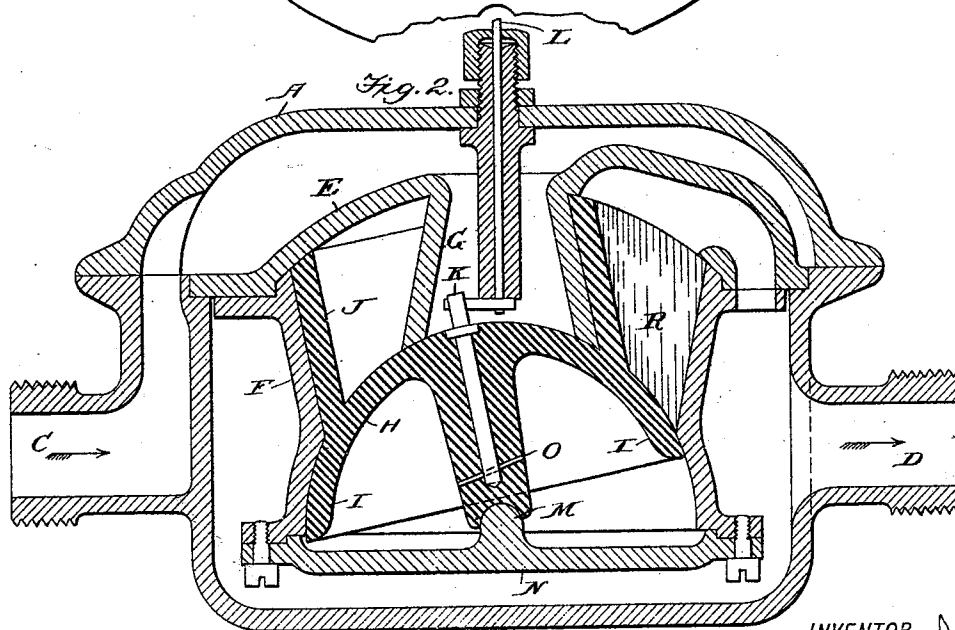
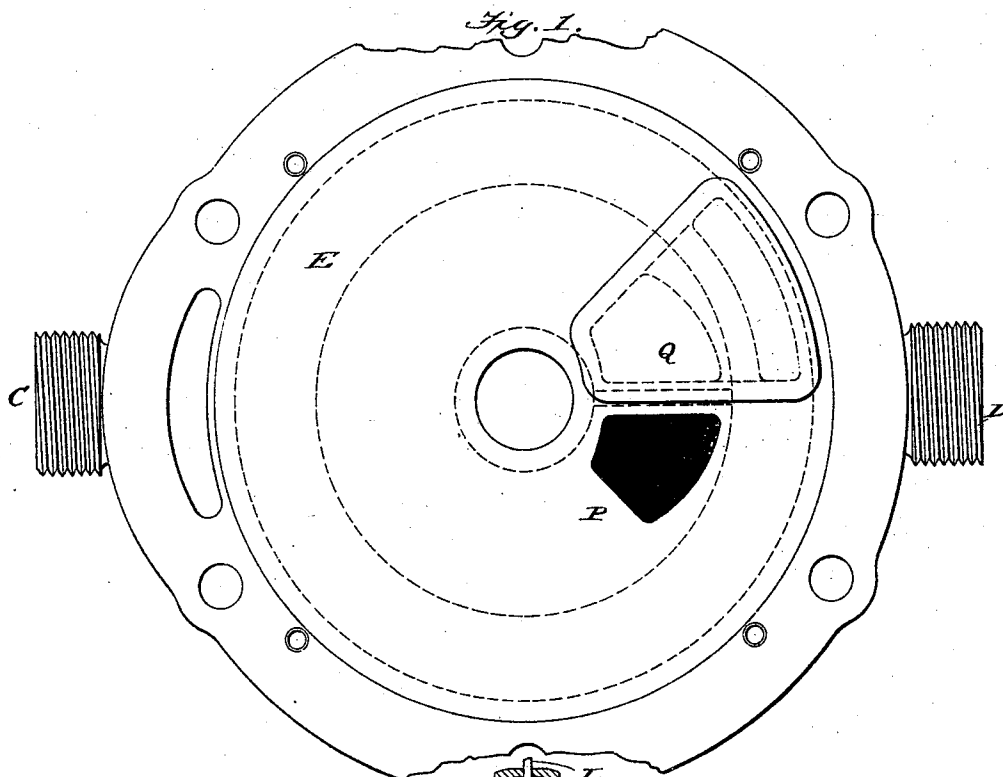


(No Model.)

L. H. NASH.
WATER METER.

No. 562,146.

Patented June 16, 1896.



WITNESSES:

Woodbury Lowrey
Edwin L. Bradford

INVENTOR

Lewis H. Nash
BY
Johnson & Johnson
HIS ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEWIS HALLOCK NASH, OF SOUTH NORWALK, CONNECTICUT, ASSIGNOR TO
THE NATIONAL METER COMPANY, OF NEW YORK, N. Y.

WATER-METER.

SPECIFICATION forming part of Letters Patent No. 562,146, dated June 16, 1896.

Application filed January 13, 1894. Serial No. 496,734. (No model.)

To all whom it may concern:

Be it known that I, LEWIS HALLOCK NASH, a citizen of the United States, residing at South Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Water-Meters, of which the following is a specification.

My present invention relates to nutating-piston water-meters; and it consists of certain novel parts and combinations of parts pointed out in the claims concluding this specification.

In an application filed by me on December 23, 1893, which bears Serial No. 494,559, I have described in general terms the meter shown in the accompanying drawings and have broadly, but not specifically, claimed the same.

The following is a description of the accompanying drawings:

Figure 1 is a top view of the meter with the cover removed; and Fig. 2 is a vertical section through the same, the cover being in place.

The following is a description of the structure illustrated in said drawings:

A is the upper case, and B the lower case, of the meter.

C is the inlet-spud, and D the outlet-spud.

The meter-chamber proper is formed by a plate E, having a spherical interior surface, by a plate F, forming a conical surface with the apex downward, and a plate G, forming a conical surface with the apex upward. The piston is composed of a ball H, having a joint-forming flange I I, and is provided with a displacing-flange J in the form of a cylinder.

K is a pin projecting from the ball-bearing of the piston operating, through the spindle L, the registering mechanism of the meter. The piston is supported on a spherical projection M from the plate N.

O is a pin to hold the pin K in position.

R is a diaphragm or abutment which the piston is slit to straddle.

The water enters through the spud C, passes through the inlet-port P, Fig. 1, thence through the meter-chamber, causing the piston to move with a motion of nutation, and thence out through the outlet-port Q and the outlet-spud D.

In the meter above described the conical

surface G, with its apex upward, is partially inclosed with the conical surface F, with its apex downward; but the relation of these parts might be reversed. The displacing-flange J of the piston is shown as cylindrical; but, as far as some of the features of my present invention are concerned, it might be conical. In the drawings I have shown a piston having a spherical flange I extending the entire way around the displacing portion J of the piston; but, if preferred, this flange might be limited to a radial extension extending under the abutment, substantially as shown by me in a pending application, filed March 21, 1893, bearing Serial No. 467,008.

Various other modifications might be made without departing from the spirit of my invention and without exceeding the scope of the concluding claims.

Many of the details illustrated and above described are not essential to the several features of my invention. All this will be indicated in the concluding claims, where the omission of an element or the omission of reference to the detail features of the elements mentioned is intended to be a formal declaration of the fact that the omitted elements or features are not essential to the inventions therein severally covered.

What I claim is—

1. In a nutating-piston water-meter, the combination of a piston and a case having a spherical surface and opposite side surfaces one within the other, the inner side surface being conical with its apex upward and the other side surface being conical with its apex downward.

2. In a nutating-piston water-meter, the combination of a cylindrical piston and a case having a spherical surface and opposite side surfaces, one of said side surfaces being conical with its apex upward and the other being conical with its apex downward.

3. In a nutating-piston water-meter, the combination of a case having a spherical surface and opposite side surfaces and a nutating piston having a cylindrical displacing-flange.

LEWIS HALLOCK NASH.

Witnesses:

J. EDGAR BULL,
M. WILSON.