

No. 661,067.

Patented Nov. 6, 1900.

L. H. NASH.  
WATER METER.

(Application filed June 4, 1900.)

(No Model.)

FIG. 1

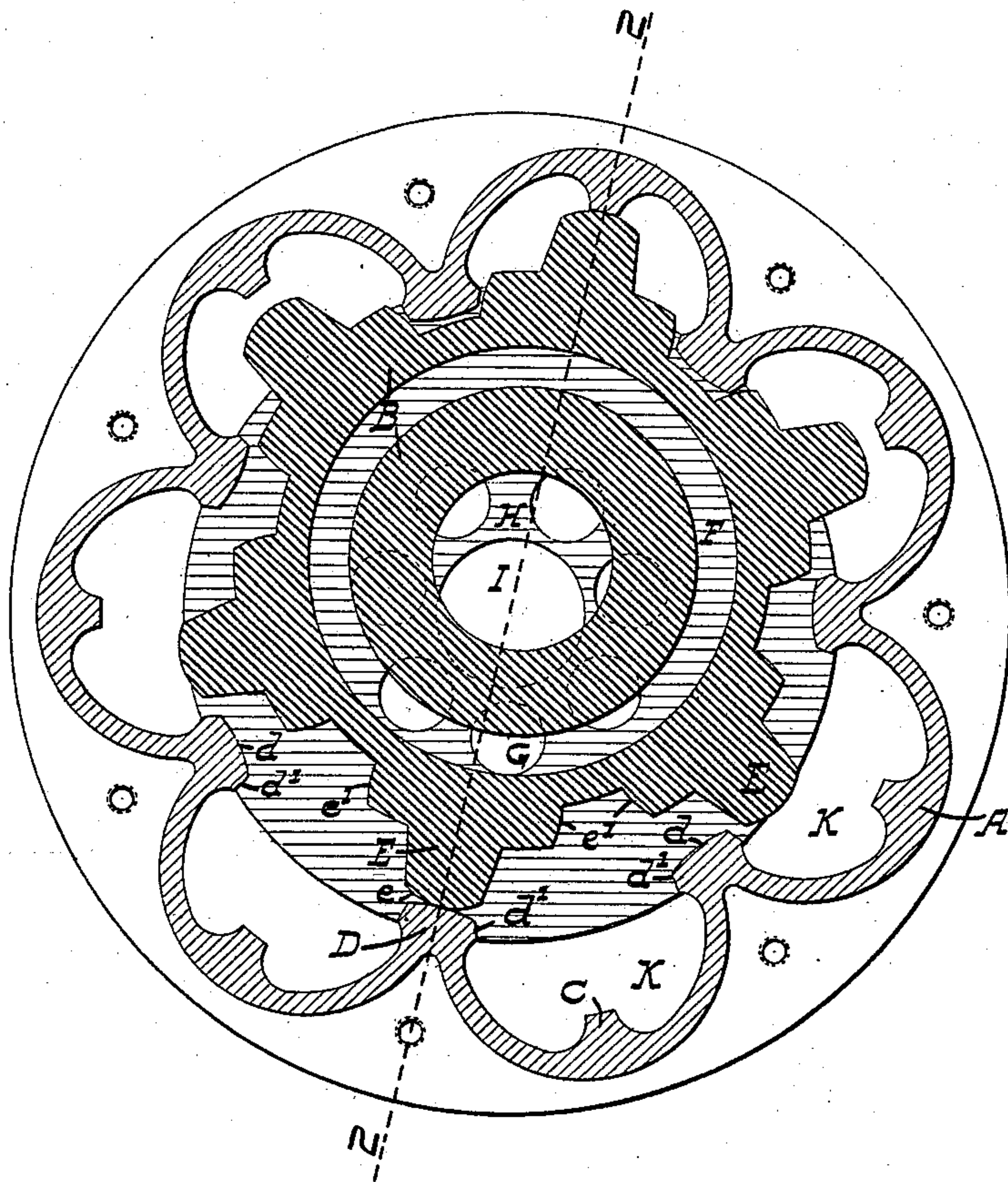
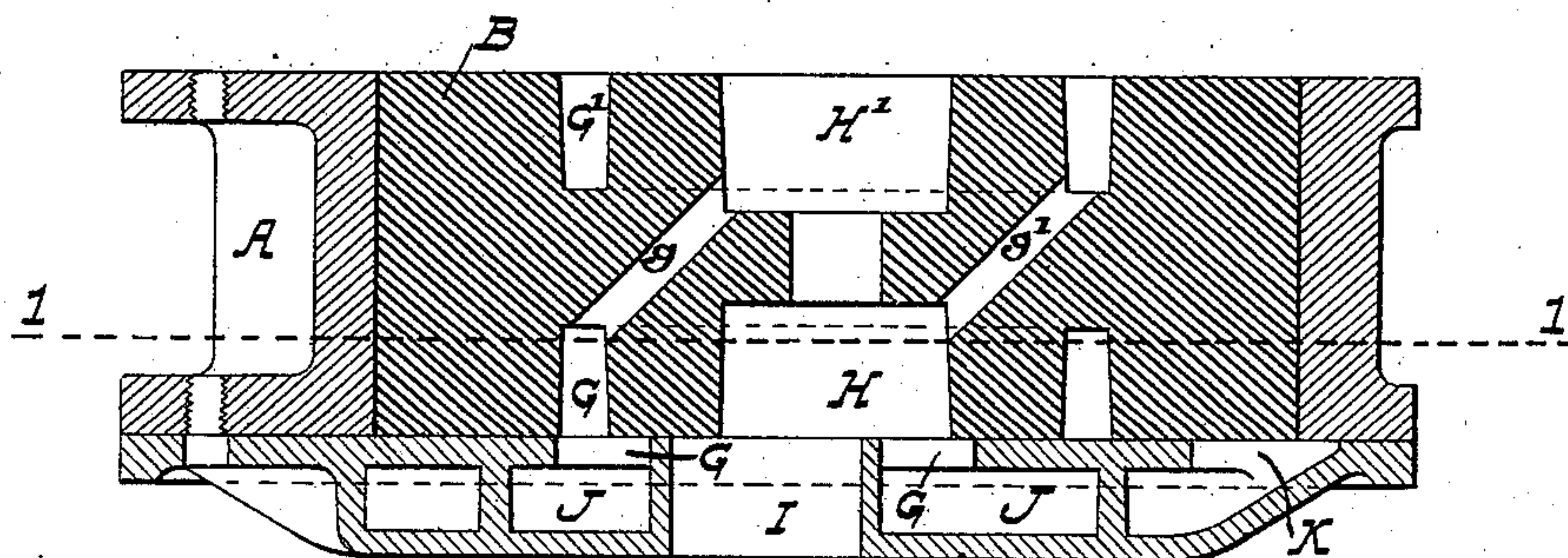


FIG. 2



WITNESSES

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# UNITED STATES PATENT OFFICE.

LEWIS HALLOCK NASH, OF SOUTH NORWALK, CONNECTICUT.

## WATER-METER.

SPECIFICATION forming part of Letters Patent No. 661,067, dated November 6, 1900.

Application filed June 4, 1900. Serial No. 19,011. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS HALLOCK NASH, a citizen of the United States, and a resident of South Norwalk, in the county of Fairfield and State of Connecticut, have invented a new and Improved Water-Meter, of which the following is a full, clear, and exact description.

My invention relates to an improvement in water-meters of that type shown in my Patents No. 211,769, issued January 28, 1879, and No. 408,507, of August 6, 1889, said type consisting of a cylinder having inwardly-extending projections or teeth forming pockets between them and having ports through the heads opening within the pockets and a piston within the cylinder having peripheral projections or teeth adapted to enter the pockets in the cylinder and less in number than said pockets in the cylinder. In meters constructed as shown in said patents pockets were formed in the cylinder-wall between the joint forming or bearing surfaces at the inner ends of its projections and the port-openings in the heads, in which sand and similar foreign matter might lodge and interfere with the action of the meter. In my present invention it is designed that each tooth of the piston shall engage all the peripheral surfaces of the cylinder lying between adjacent port-openings in the head in passing from one pocket to the next and that upon entering the pocket some portion of the piston-tooth shall project beyond the inner edge of the port-opening from one end to the other, so that the entire surface of the heads within the port-openings therein are completely swept over by the piston, and any sediment which may enter the cylinder is afforded no place for lodgment, but is promptly swept into the port-openings and discharged.

My invention comprises the novel features which will be hereinafter particularly pointed out in the claims.

In the figures of drawings accompanying, one form of carrying out my invention is shown, the same being a form now preferred by me. It is, however, to be understood that my invention is not limited in its application to this particular form of meter, but may be applied to any form of meter of the class mentioned, some of these forms being shown in the patents above referred to. I do not

therefore wish to limit my invention to the particular form of meter herein shown.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional plan upon the line 1 1 of Fig. 2, and Fig. 2 is a sectional elevation upon the line 2 2 of Fig. 1 with the upper head removed.

The cylinder A has the usual pockets in its inner periphery, formed by the inwardly-projecting bearing-points D and ports K within these pockets, opening into passages in the heads. The piston B also has the projecting teeth E, which are adapted to enter these pockets, the annular passages G and G', ports g, and the central chambers H and H'. The heads also have the ports G and I, all of said parts being in the main like corresponding parts in the patents mentioned. The operation of the meter is, in its general features, like that of the device shown in said patents.

In my present invention the inner or end surfaces *d* of the bearing-points D between pockets in the cylinder, which are engaged by the surfaces *e* upon the ends of the piston-teeth, join the side surfaces *d'*, which are engaged by the side surfaces *e'* of the piston-teeth, and said surfaces *d'* extend to the inner edges of the port-openings K. Also the piston-teeth E in their innermost position within the pockets project beyond the inner edges of the port-openings K. The port-openings K extend from one of the bearing-points D to the other and into recesses formed in the sides of said bearing-points. As a consequence of these features the entire surface of the heads within the lines of the inner edges of the port-openings K and the bearing-surfaces *d* and *d'* is swept over by the piston, and any sediment or foreign substance which may enter the cylinder with the water is forced into the ports and carried out again. This construction leaves no pockets in the cylinder where such matter may lodge, but its entire interior is swept over at each revolution of the piston.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A meter of the class described having a



case provided with joint-forming projections undercut or recessed on their sides and ports extending between said projections and entering said recesses, combined with a piston  
 5 provided with joint-forming projections engaging those of the case.

2. A meter of the class described having the inner surfaces of the cylinder between the port-openings in the inner faces of the heads  
 10 conforming to the paths of travel of the outer surfaces of teeth or projections upon the piston, the sides of said projections of the cylinder being undercut or recessed outside of the inner edges of said port-openings, and said  
 15 port-openings extending into said recesses, substantially as described.

3. A water-meter having a cylinder provided with inwardly-extending teeth or projec-

tions forming peripheral pockets, the cylinder-heads having port-openings within and  
 20 extending entirely across the pockets, and a piston having teeth less in number than the pockets in the cylinder and adapted to enter said pockets, the outer ends and that portion  
 25 of the side surfaces of the teeth of the cylinder lying within the inner port-line being engaged respectively by the end and side surfaces of the teeth upon the piston in passing  
 30 from one pocket to the other, and the teeth of the piston in their outer positions overhanging the inner edge of the port, substantially as described.

LEWIS HALLOCK NASH.

Witnesses:

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 C. J. RATHJEN.