J. P. MATTHEWS.

PUMP VALVE.

APPLICATION FILED APR. 12, 1913.

1,084,867.

Patented Jan. 20, 1914.

Fig. 1

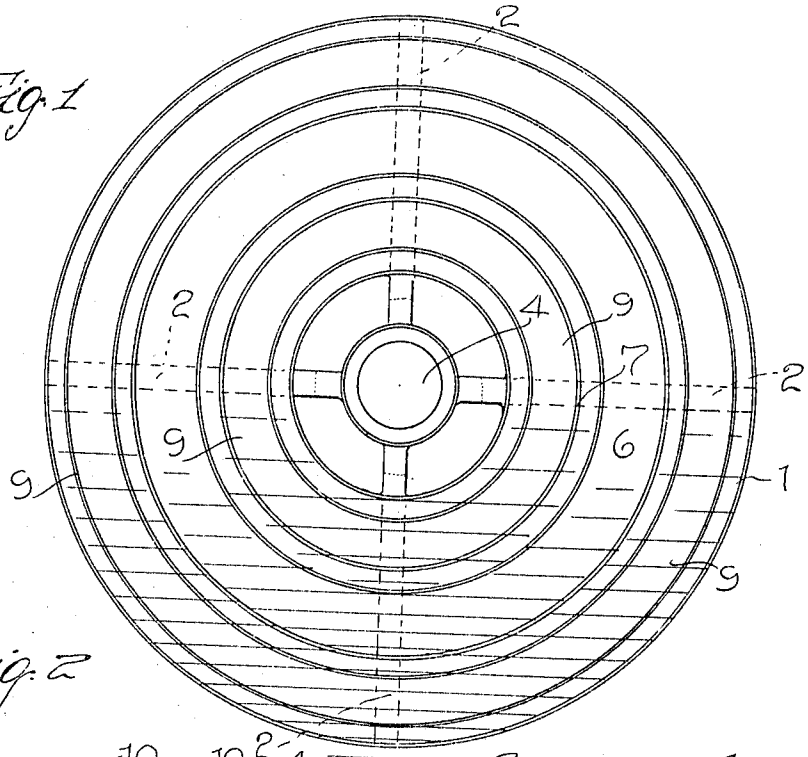


Fig. 2

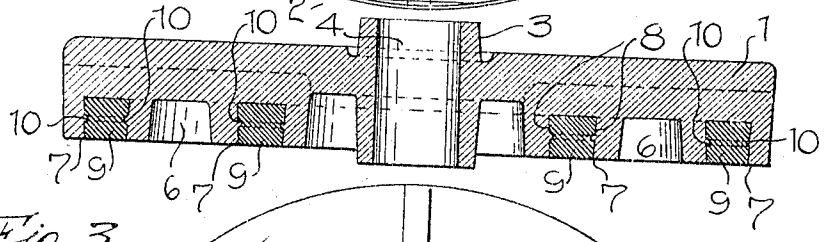
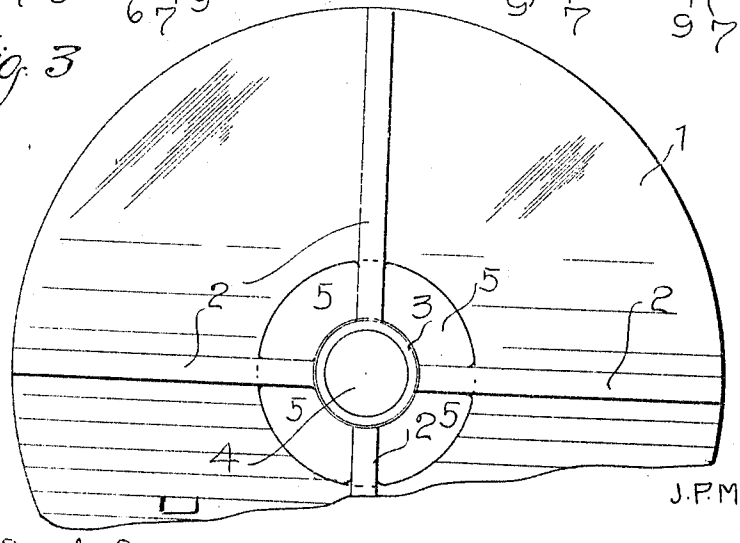


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN POOLE MATTHEWS, OF CROSBY, MINNESOTA.

PUMP-VALVE.

1,084,867. Specification of Letters Patent. Patented Jan. 20, 1914.

Application filed April 12, 1913. Serial No. 760,705.

To all whom it may concern:

Be it known that I, JOHN POOLE MATTHEWS, a citizen of the United States, residing at Crosby, in the county of Crow Wing and State of Minnesota, have invented certain new and useful Improvements in Pump-Valves, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to new and useful improvements in valves and more particularly to a pump valve which is adapted for use in the water ends of pumps for all purposes, the object of the invention being to provide a pump valve which is particularly designed to perform heavy service where the pumps are in almost constant use.

Another object of the invention is to provide a pump valve of the above character which will possess advantages in points of efficiency and durability, is inexpensive of manufacture and at the same time is simple in construction and operation.

With the above and other objects in view, this invention consists in the novel features of construction and the combination and arrangement of parts to be hereinafter more fully described, pointed out in the claims and shown in the accompanying drawings, in which—

Figure 1 is a top plan view of a valve constructed in accordance with my invention; Fig. 2 is a transverse sectional view; and Fig. 3 is a top plan view.

Referring more particularly to the drawings, 1 indicates the circular body of my improved valve having i med upon one face thereof, the radially projecting ribs 2, said ribs converging to a central point and integrally formed with the outwardly projecting annular flange 3, which surrounds the central opening 4 of the body. The body 1 is provided at its central portion with a plurality of air openings 5 which are adapted to encircle the central opening 4. The body 1 is provided upon its opposite face with a plurality of annular grooves, as indicated at 6 and 7, said grooves having their side walls inclined inwardly as shown at 8, so that the inner side of the groove is slightly wider than the outer or opening side.

Arranged within the grooves 7 are the annular packing rings 9 which may be formed of rubber or any other suitable pliable material. The rings 9 are compressed and forced into the openings 7, the rings extending when pressed into position so that they will conform to the shape of the grooves. From this it will be seen that by having the inner ends of the grooves wider than the other ends, the expansion of the rings will fill the grooves at the inner ends thereof and prevent the removal of the rings. The annular side walls of the grooves 7 are further provided with the centrally arranged beading 10, which is adapted to engage within annular grooves formed in the sides of the packing 9, thus further assisting in retaining the rings 9 within the grooves. The annular grooves 6 which are arranged between the grooves 7 provide a suitable air space between the valve seat and the body of the valve.

The central opening 4 formed within the body may be threaded or otherwise provided with means for securely fastening a valve stem which is adapted to be inserted therein. It will be readily apparent that while the annular packing rings are securely held against displacement by the tapering walls of the grooves and the beading 10, they may be quickly and readily removed or inserted therein, due to the fact that they are constructed or formed of any suitable pliable material which permits of the expansion and contraction of the rings.

From the above description taken in connection with the accompanying drawings, it will be readily apparent that I have provided a simple and durable pump valve, which is particularly designed to perform heavy service where the pumps are in almost constant use. It will also be apparent that I have provided a simple and durable pump valve which will be efficient in its operation and which is simple in construction and can be manufactured at a comparatively low cost.

While I have shown and described the preferred form of my invention, it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying my invention into practice without sacrificing any of the novel features of construction or departing from the scope of the appended claims.

What I claim is:—

1. A pump valve including a body having annular grooves formed in one face thereof, said grooves having undercut side walls and

certain of said grooves having a beading formed upon the annular walls thereof and pliable packing rings adapted for insertion within said grooves and having annular grooves upon the outer edges to receive said beading.

2. A pump valve including a body having a central opening, radial ribs formed upon one side of said body, the other side of said body being provided with annular grooves, said grooves comprising a central groove and an inner and outer groove, said inner and outer grooves having undercut side walls, a beading formed upon the annular walls of said grooves and pliable packing rings adapted for insertion within said grooves and having annular grooves upon the outer edges to receive said beading.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN POOLE MATTHEWS.

Witnesses:

A. W. UHL,

D. B. MCALPINE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."