No. 684,399. Patented Oct. 15, 1901.

F. M. ASHLEY.

PLUG VALVE.

(Application filed Apr. 27, 1899.)

(No Model.)

Fig. 1.

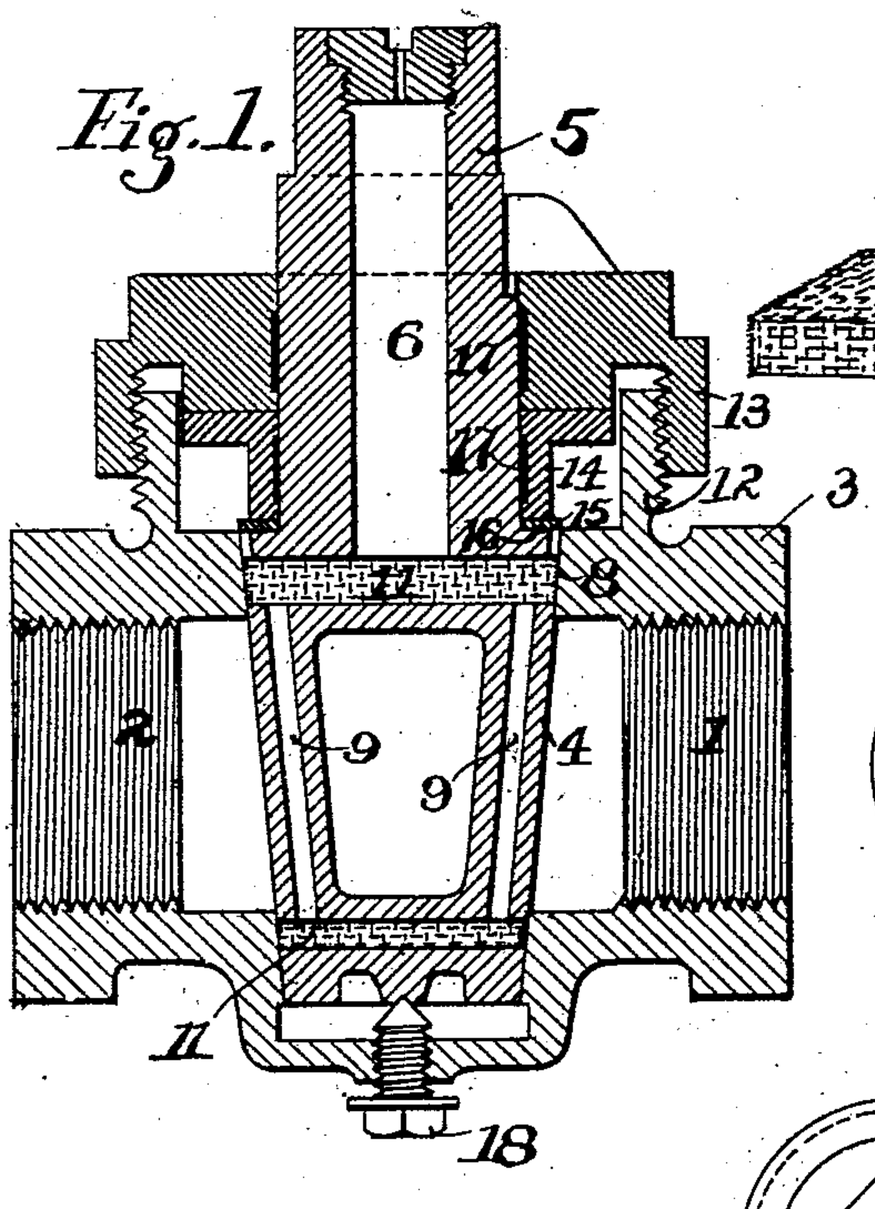


Fig. 5.

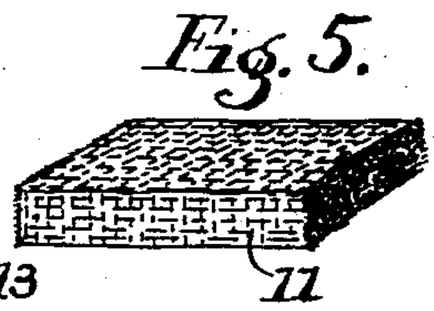


Fig. 2.

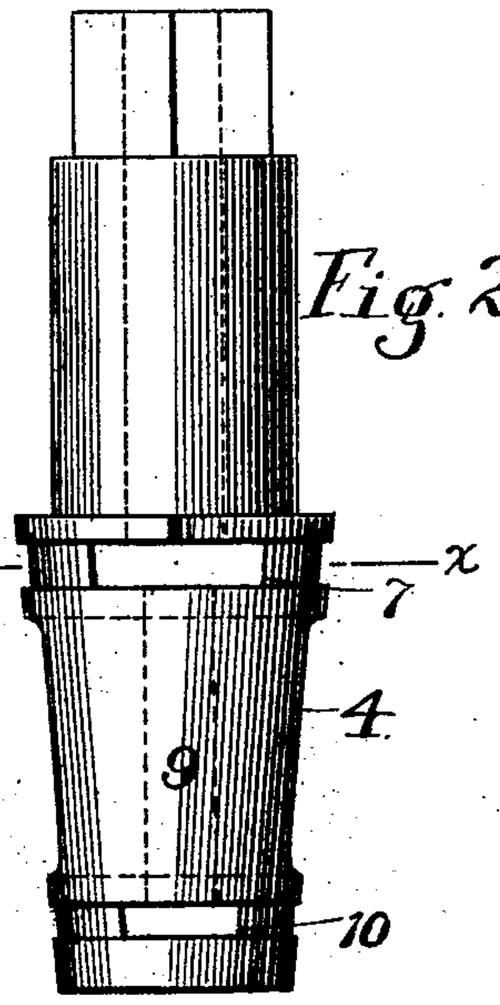


Fig. 3.

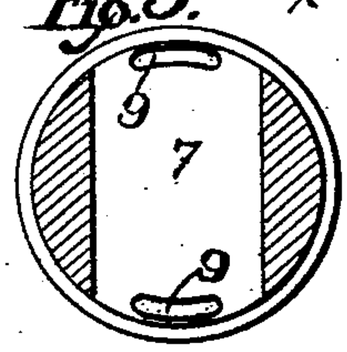


Fig. 4.

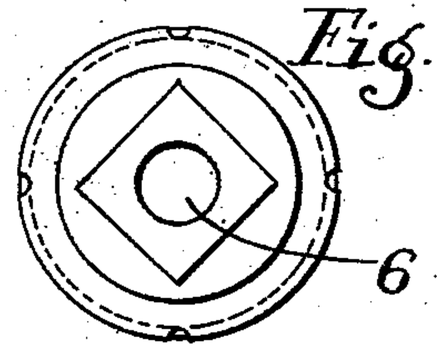


Fig. 7.

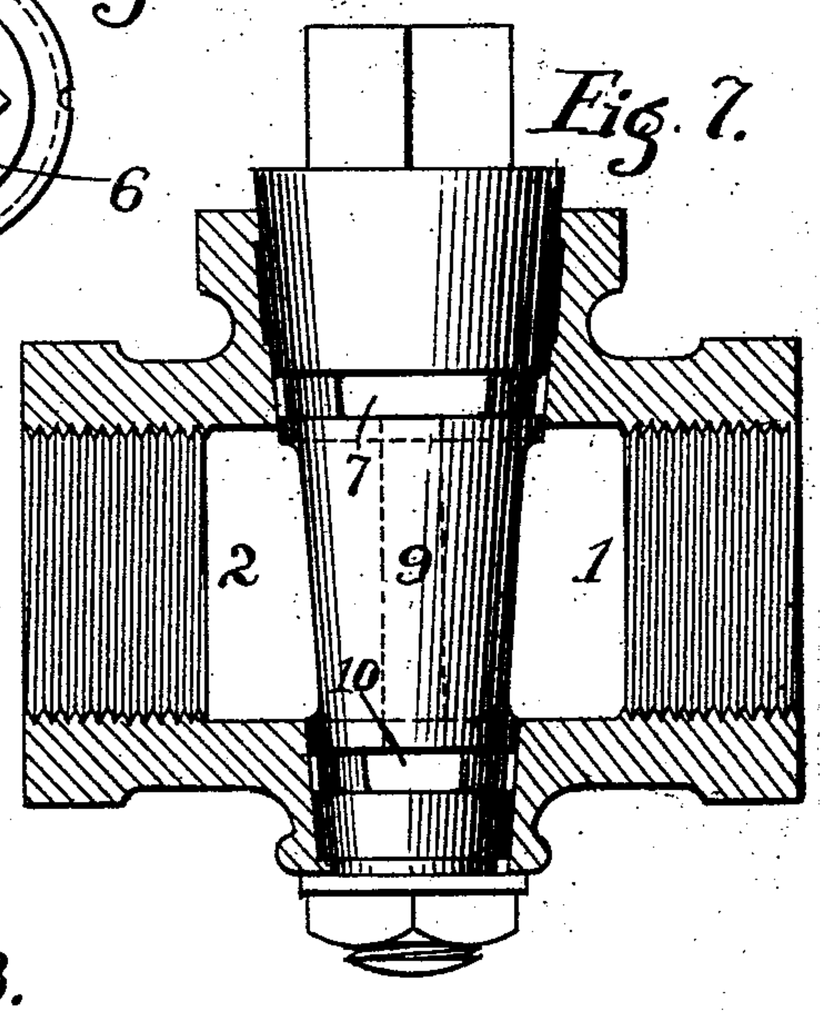


Fig. 6.

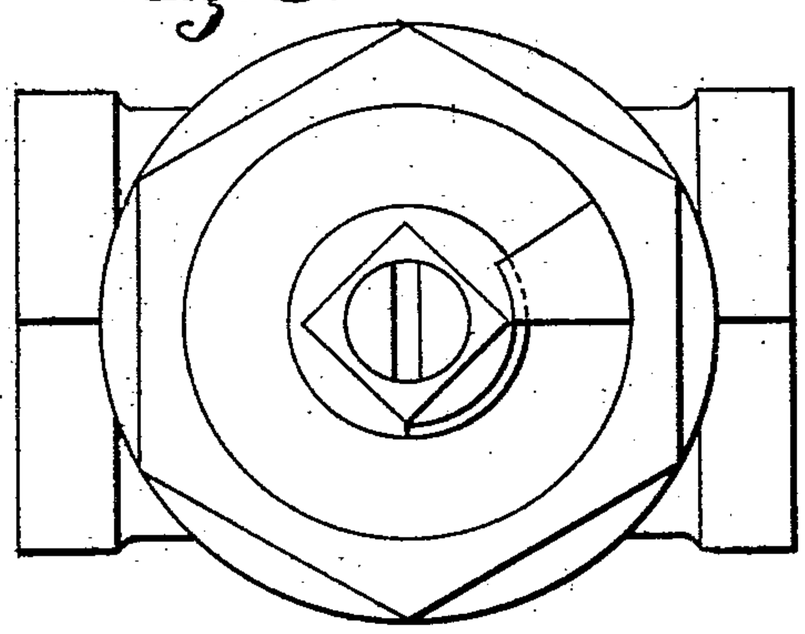
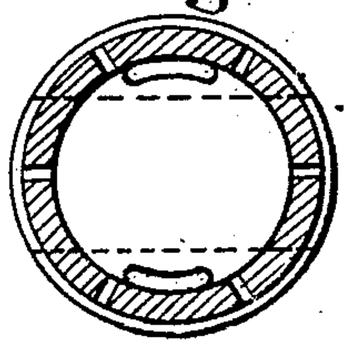


Fig. 8.



WITNESSES:

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PLUG-VALVE.

SPECIFICATION forming part of Letters Patent No. 684,399, dated October 15, 1901.

Application filed April 27, 1899. Serial No. 714,686. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. ASHLEY, a citizen of the United States, residing at New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Plug-Valves, of which the following is a full, clear, and exact specification.

This invention relates to plug-valves; and its object is to construct a valve which shall be substantially self-lubricating.

It has heretofore been proposed to construct plug-valves having passages in the casing thereof whereby oil may be supplied to the different bearing-surfaces of the plug in a casing. This, however, is objectionable, for the reason that if the plug be removed the oil will run out of its reservoir or if the valve be adjusted the flow of oil will either be restricted or uncontrolled, according as the valve is forced into or out of its seat.

According to my invention I propose to provide a valve in which the plug may be adjusted without interfering with the lubrication thereof and from which, if desired, the plug may be entirely removed without allowing the oil to escape from its reservoir.

The invention will be more particularly described hereinafter with reference to the forms illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of a valve embodying my invention. Fig. 2 is a side view of the plug. Fig. 3 is a horizontal section on line *x x* of Fig. 2. Fig. 4 is a plan view of the plug. Fig. 5 is an enlarged detail view of the absorbent material. Fig. 6 is a top view of the valve shown in Fig. 1. Fig. 7 is a sectional view of a modified form of valve, and Fig. 8 is a horizontal sectional view of the modification.

Referring more particularly to the drawings, 1 and 2, respectively, represent the inlet and outlet openings of the valve-casing 3. The casing 3 is provided with the usual cone-shaped seat, into which the plug 4 is adapted to fit. The stem 5 of the plug is provided with a passage or reservoir 6, leading to a transverse passage 7 in the plug, occurring at the upper bearing-surfaces 8. From the passage 7 one or more passages 9 9 extend downward to a lower transverse passage 10, occurring at the lower bearing-surfaces between the plug and the seat. In order that the flow of the lubricant may be properly restricted, I prefer to provide a body of absorbent material 11 in each of the transverse passages 7 and 10, which may extend the entire length of the passage and rub against the face of the bearing, if preferred. In the drawings, 12 represents an annular bushing upon the valve-casing adapted to receive a cap 13, the latter serving to hold a sleeve 14 in position against a ring 15 of packing material which rests upon a shoulder 16 upon the plug 4. If preferred, one or more rings of lubricating material 17 17 may be located in the cap and sleeve at points where they will bear against the plug 4. In order to loosen the plug in adjusting the valve, I provide a screw 18 in the casing, impinged against the lower end of the plug and adapted to raise the same out of its seat. By screwing down the cap 13 the plug may be forced into its seat.

In operation the oil or other lubricant is poured into the passage 6 and from there slowly passes through the porous material 11 in the passage 7 to the bearing-surfaces 8 and also to the passages 9 9, through which it flows through the transverse passage 10 and the porous material 11 therein. The lubricant slowly passes through the absorbent material 11 in the passage 10 to the lower bearing-surfaces.

It will be observed that should the plug be entirely removed from the casing the lubricant will not run out, but will be held in place by the porous material.

Having thus described my invention, I declare that what I claim as new, and desire to secure by Letters Patent, is—

1. In a plug-valve, the combination of a casing having an upper and a lower seating, a plug adapted to engage said seatings, and having transverse passages opening upon the same, a reservoir in said plug, and a passage or passages in said plug leading from said reservoir to said transverse passages, substantially as described.

2. In a plug-valve, the combination of a casing, having an upper and a lower seating, a plug adapted to engage said seatings, and having transverse passages opening upon the same, a reservoir in said plug, a passage or passages in said plug leading from said res-

ervoir to said transverse passages, and porous material in said transverse passages, substantially as described.

3. In a plug-valve, the combination with the seatings, of a plug having a reservoir, and passages within said plug extending from said reservoir to the upper and lower seatings, substantially as described.

4. In a plug-valve, the combination with the seatings, of a plug having a reservoir therein, upper and lower transverse passages in said plug extending to said seatings, a passage between said reservoir and said upper transverse passage, and a substantially vertical passage or passages in said plug from said upper to said lower transverse passage, substantially as described.

5. In a plug-valve, the combination with the seatings of a plug having a reservoir therein, upper and lower transverse passages in said plug extending to said seatings, a passage between said reservoir and said upper transverse passage, a substantially vertical passage or passages in said plug from said upper to said lower transverse passages, and porous material in said transverse passage, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRANK M. ASHLEY.

Witnesses:
C. V. EDWARDS,
ALEX. FERGUSON.