

(No Model.)

2 Sheets—Sheet 1.

E. WARE.
VALVE.

No. 399,302.

Patented Mar. 12, 1889.

Fig. 1.

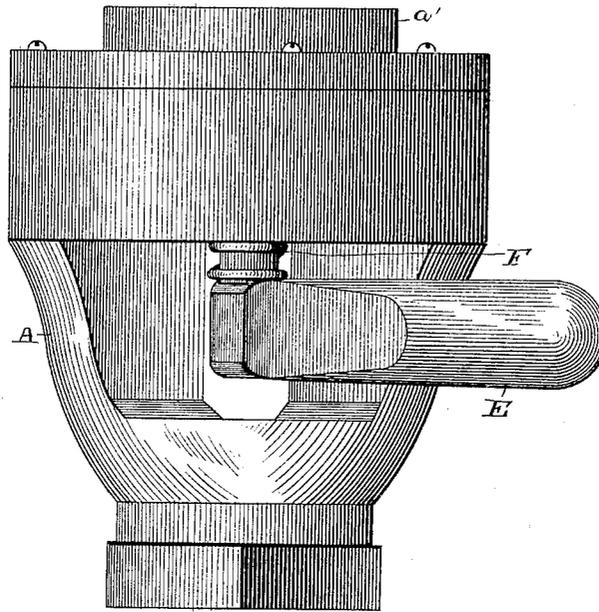
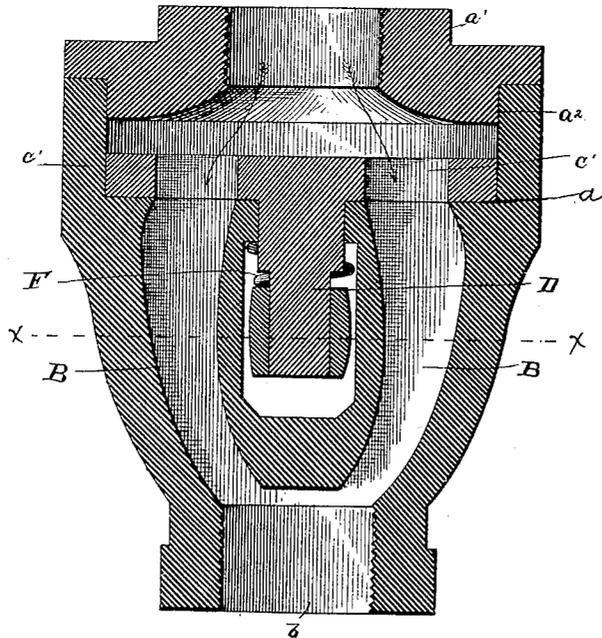


Fig. 2.



WITNESSES.

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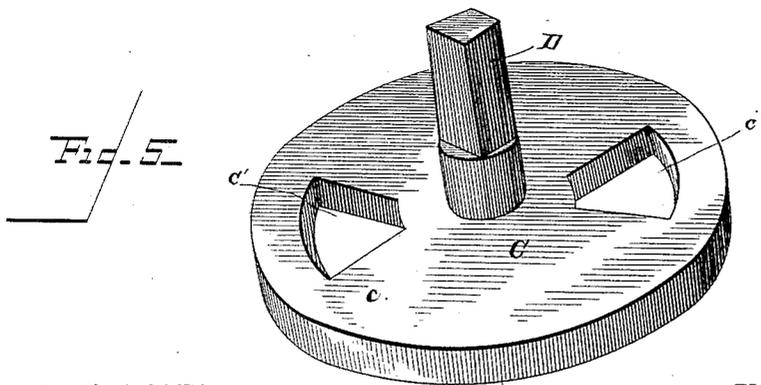
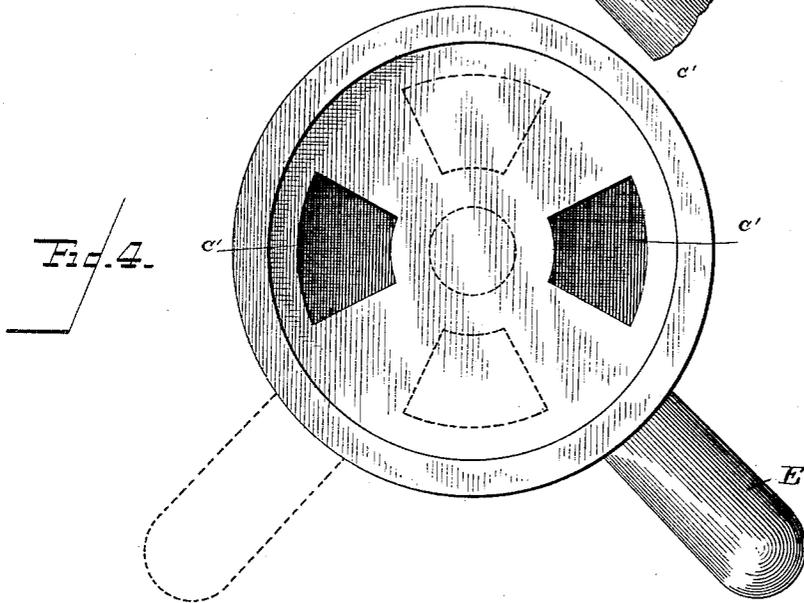
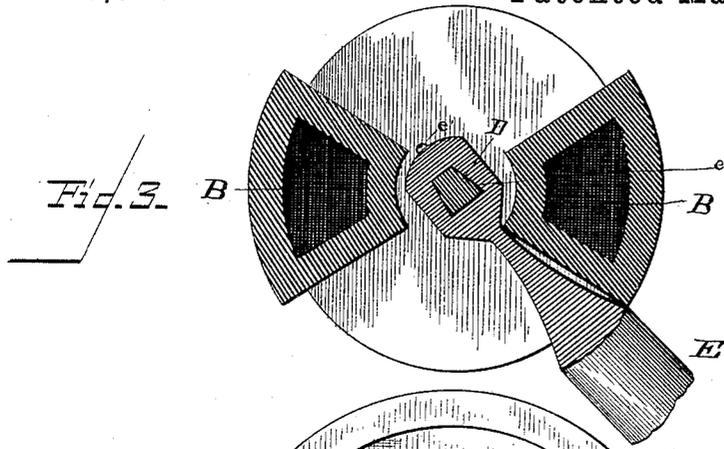
(No Model.)

2 Sheets—Sheet 2.

E. WARE.
VALVE.

No. 399,302.

Patented Mar. 12, 1889.



WITNESSES

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UNITED STATES PATENT OFFICE.

ELIJAH WARE, OF OMAHA, NEBRASKA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 399,302, dated March 12, 1889.

Application filed November 1, 1888. Serial No. 289,737. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH WARE, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Valves, of which the following is a specification.

This invention relates to valves; and its object is to provide a device of this character in which the fluid has a nearly direct passage therethrough, in which all exposed surfaces liable to be cut by steam are obviated, and in which the employment of packing or stuffing in connection with the valve proper or its stem to prevent leakage is entirely dispensed with.

A further object of the invention is to provide a valve possessing advantages in point of simplicity in construction, ease of operation, and general efficiency.

In the drawings, Figure 1 is a side elevation of a valve embodying my invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view on the line *xx*, Fig. 2. Fig. 4 is an end view with the cap removed, illustrating the operation in dotted lines. Fig. 5 is a detail perspective view of the valve proper.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates a cylindrical casing the bottom *a* of which forms the valve-seat. The top of the casing is adapted to be closed by a cap, *a'*, having a circumferential flange, *a²*, corresponding to and fitting within the edge of the casing, said cap being preferably secured to the latter by screws.

From the bottom of the casing, at opposite sides, project downwardly and inwardly two ports, B B. These ports are segmental in cross-section and the side walls are radial relative to the casing, one of the side walls of one port and the opposite side wall of the other port being preferably on a radial line taken through the center of the casing. The inner ends of these ports converge slightly, as shown, and open into the casing, while at their opposite or lower ends they merge into a single way, *b*, preferably provided at its outer end with interior screw-threads and with an angular outer surface, by which it is adapted to be connected with a pipe.

C designates the valve, which comprises a flat

circular portion, *c*, forming the valve proper, which fits closely within the casing against the valve-seat and is provided with openings *c' c'*, corresponding to the port-openings. Centrally from the interior surface of the valve and through an aperture in the bottom of the casing between the ports projects a stem, D. The inner portion of this stem is cylindrical in shape, said cylindrical portion projecting some distance beyond the casing, while the outer portion is reduced to a trapezoidal shape. The latter is adapted to be received by a corresponding eye, *e*, formed in an operating-handle, E, said handle being secured upon the stem by a screw, *e'*. The side of the handle near its point of intersection with the stem is reduced, as shown, to permit sufficient movement thereof to entirely open or close the valve. A coil-spring, F, is provided around the stem between the casing and handle to retain the valve in contact with its seat when the pressure is not exerted against the same.

The operation and advantages of my invention will be readily understood by those skilled in the art to which it appertains. When the handle is at the extreme left side or in engagement with the port at that side, the valve is entirely closed, and when moved to the right, completely across the space between the ports, (but one-fourth the circumference of the casing,) the valve is fully opened. When open, the ports and openings in the valve coincide, leaving no projecting or exposed portions to be cut by steam when used as a steam-valve. The fluid enters in the direction indicated by the arrows, Fig. 2, and it will be obvious that the greater the pressure of the fluid upon the valve the latter will be more firmly held against its seat and the fluid prevented from reaching the stem, and thus leakage around said stem is obviated.

I claim as my invention—

In a valve, the combination of a casing having two distinct inclosed ports or passages of segmental configuration whose central integral walls have an opening therein for the entrance of the key, and forming stops, a flat valve-plate with two segmental openings therein adapted to be mounted in a suitable seat above the inclosed ports or passages, and provided with an integral stem which depends downward into the central opening between

the central integral walls of the said inclosed
ports or passages, a key adapted to enter said
central opening and engage with the lower
end of the stem, having reduced sides adapted
5 to bear against one of the side walls of each
of the inclosed ports when the valve-plate is
opened or shut, thereby to cause an exact reg-
istration, and a coiled spring inserted between
the key and the valve-casing around the stem

to cause the valve-plate to be retained in its ro
seat, substantially as described.

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

ELIJAH WARE.

Witnesses:

EUGENE L. WARE,

CLEVELAND H. WARE.