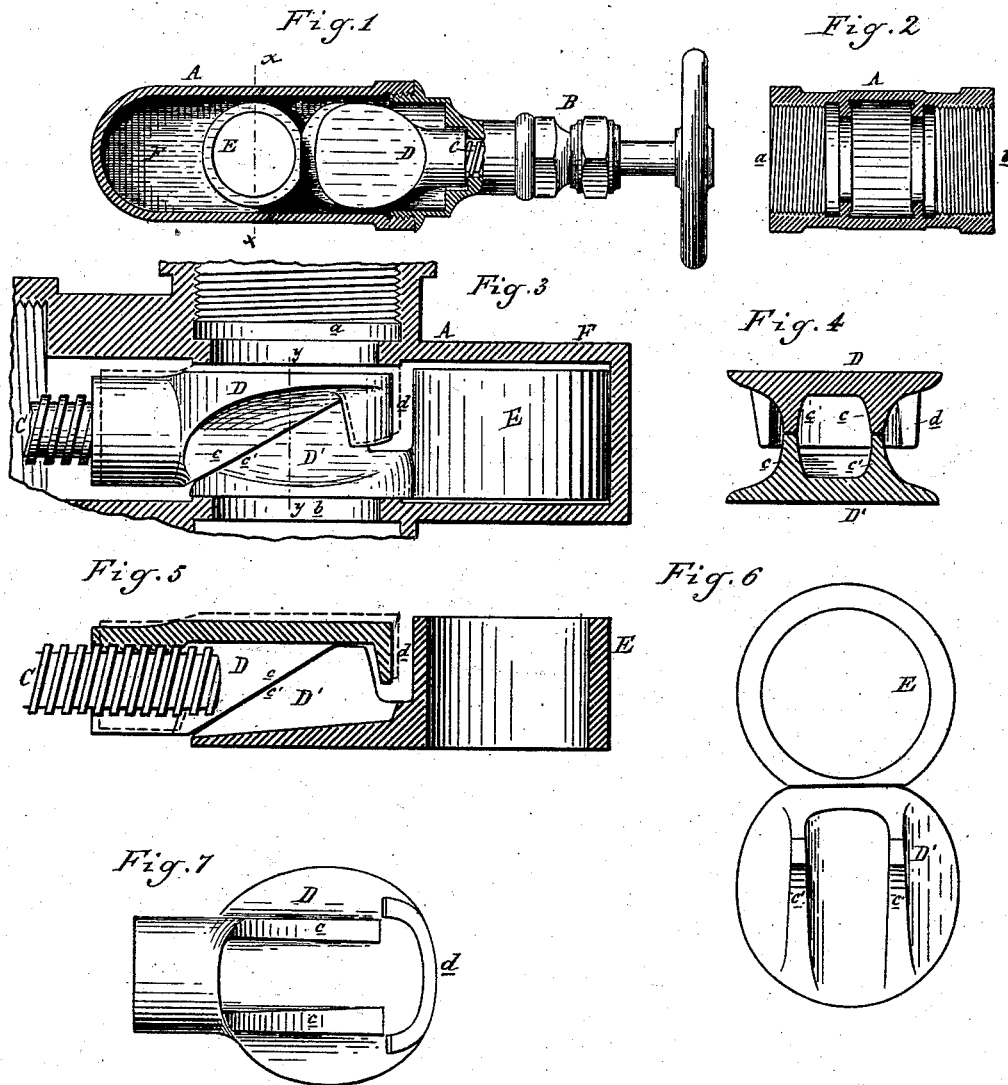


A. WEBER.  
Stop-Valve.

No. 216,921.

Patented June 24, 1879.



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# UNITED STATES PATENT OFFICE.

ADOLPH WEBER, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF HIS  
RIGHT TO HENRY W. ROOD, OF SAME PLACE.

## IMPROVEMENT IN STOP-VALVES.

Specification forming part of Letters Patent No. **216,921**, dated June 24, 1879; application filed  
January 7, 1879.

*To all whom it may concern:*

Be it known that I, ADOLPH WEBER, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Stop-Valves, of which the following is a specification.

The nature of my invention relates to certain new and useful improvements in the construction of what are ordinarily denominated "stop-valves;" and my invention consists, first, in the peculiar construction of the disks forming the valve, and in the manner of operating the same, whereby they will be forced apart to close the water-passage, and will be held together in their withdrawal from the water-opening; and, further, in the combination therewith of a ring connected to one of the disks, resting, when the valve is in the water-way, in an extended portion of the shell, and, when the valve is withdrawn, immediately around the water-passage, so as to allow the water to flow in an uninterrupted stream and to prevent deposit of sediment in the valve-shell.

As ordinarily constructed, when the disk-valves are withdrawn to allow the water to pass, usually under pressure, as soon as the water leaves the confinement of the conducting-pipes and enters one side of the shell, the stream enlarges, and portions thereof strike against the inner face of the opposite side of the shell, causing an interruption of the current and a tendency to deposit within the shell any sediment which it may be carrying. Such deposit after a time fills the shell, so that the valves are prevented from closing, when the shell must be cleaned out, often at a considerable expense of time and labor.

The object of my invention, therefore, is to obviate these difficulties. The invention will be found substantially hereinafter described.

Referring to the drawings, Figure 1 is a side elevation with the casing broken out. Fig. 2 is a cross-section at  $x x$  in Fig. 1. Fig. 3 is a sectional plan. Fig. 4 is a section on line  $y y$  in Fig. 3. Fig. 5 is a horizontal central section of Fig. 3. Figs. 6 and 7 are plan views of the inner faces of the valves.

In the accompanying drawings, which form a part of this specification, A represents the

shell of a stop-valve, provided with the usual inlet and outlet pipes  $a b$ , which communicate with and form the water-way through said shell. This shell is provided with the usual stuffing-box B and valve-stem C, which is threaded at the lower end, as shown in Figs. 1, 3, and 5.

D D' represent a pair of disk-valves, the outer face of each of these valves being of sufficient area to entirely close, when in place, the water-ways  $a b$  in the shell. The valve D is provided with a hollow neck, which is interiorly threaded to engage with the lower threaded end of the valve-stem. The opposite side or rear face of this valve D is provided with two ribs,  $c$ , extending from the foot or inner end of the neck, at an angle of about thirty degrees, (more or less,) toward the lower end of said valve. Both outer faces of these ribs are ground or planed to the same plane. Just below the termination of these ribs this valve is also provided with an inwardly-projecting segmental flange,  $d$ . The valve D' is provided with similar ribs,  $c'$ , finished in like manner, so that when the inclined faces of the ribs are in juxtaposition, as shown in Figs. 3, 5, the outer faces of the valves will be parallel with the segmental flange  $d$  of the disk D overhanging the ends of the ribs  $c'$  upon the valve D'. By this construction, when it is desired to remove the disks and open the water-way, the stem, being turned in the proper direction, acts to withdraw the disk D, and this disk, by its overhanging flange, acts upon and withdraws the disk D'. A reverse motion of the valve-stem allows the disk D' to drop, and being followed by the disk D, under the action of the stem, as soon as the disk D' is seated, the continued action of the stem seats the disk D and forces them laterally apart, thereby effectually closing the water-way.

To the lower end of the disk D' is secured the ring E, the interior area of which corresponds to the similar area of the water-way, while the width of the ring corresponds with the distance between the walls of the shell.

The shell is elongated below the water-way, as shown at F, Figs. 1 and 2, to form a casing for the ring E when the valves are closed.

When the valves are withdrawn and the

water-way opened, the ring is drawn up from its well into line with the water-way through the case, thereby allowing the water as continued and unbroken a passage through the shell as it would have through an ordinary pipe.

This valve may be used for gas, steam, or any liquids.

What I claim as my invention is—

1. The disk-valves D D', having inclined ribs *c c'* and the curved flange *d*, the disk D having hollow threaded neck to engage with the actuating-screw C, constructed and arranged substantially as described and shown.

2. The stop-valve shell A, having elongation F, in combination with the disk-valves D D', provided with inclined ribs *c c'* and flange *d*, the ring E, cast with the disk D', and the screw C, working in the threaded neck of the disk D, constructed and arranged substantially as described and shown.

ADOLPH WEBER.

Witnesses:

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CHARLES J. HUNT.