

No. 720,315.

PATENTED FEB. 10, 1903.

S. C. O. BERG.
BARREL WASHER.

APPLICATION FILED JULY 22, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

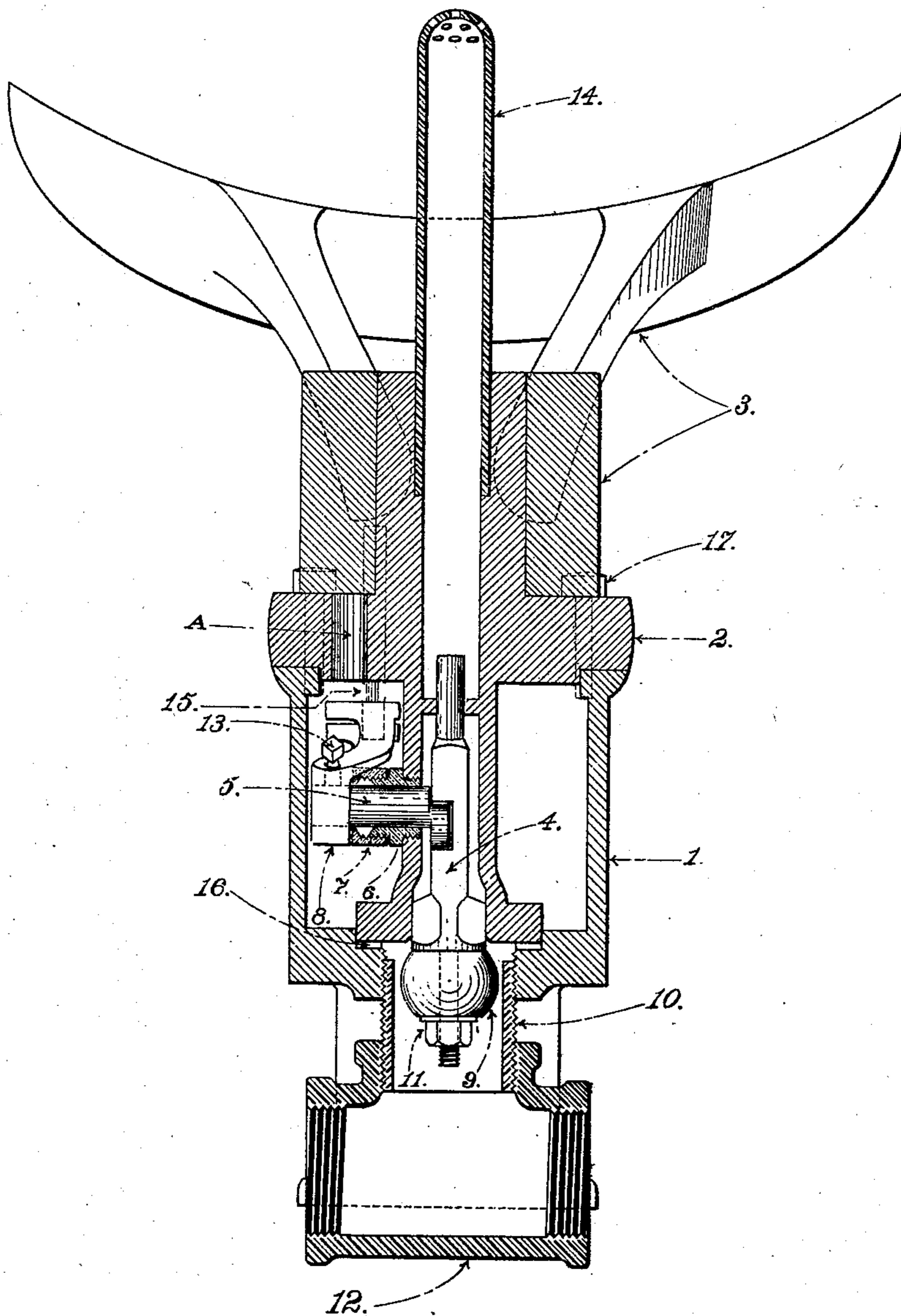


Fig. 1.

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INVENTOR

WITNESSES:
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J. A. Brownrigg.

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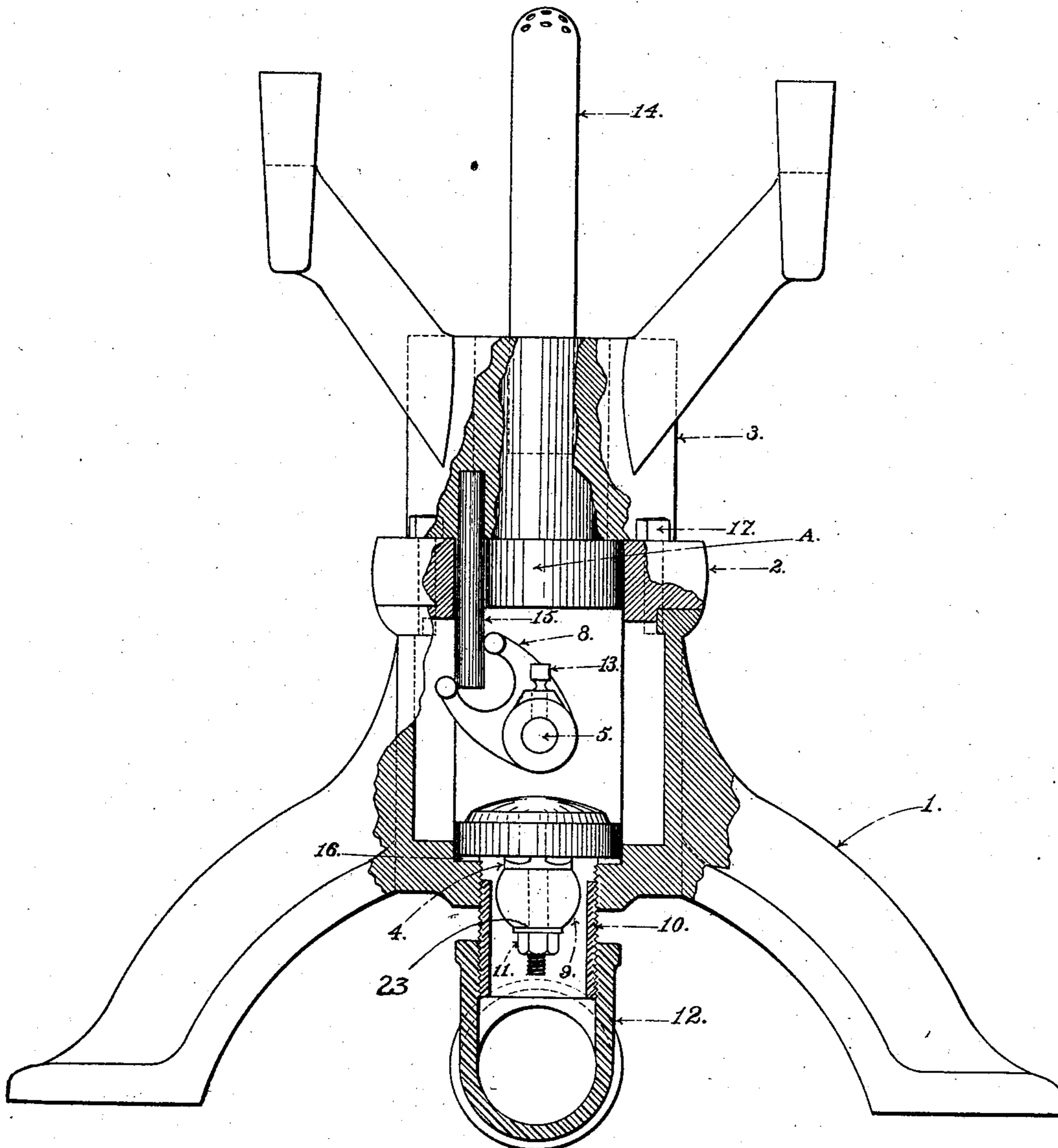


Fig. 2.

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UNITED STATES PATENT OFFICE.

SEGVART C. O. BERG, OF KANSAS CITY, MISSOURI.

BARREL-WASHER.

SPECIFICATION forming part of Letters Patent No. 720,315, dated February 10, 1903.

Application filed July 22, 1902. Serial No. 116,518. (No model.)

To all whom it may concern:

Be it known that I, SEGVART C. O. BERG, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Barrel-Washer, of which the following is a specification.

My invention is directed to the production of a barrel-rinser, with special reference to a construction by which all the operating parts are inclosed, to a novel structure provided for such closure and to the assembling of the parts of the structure in a way to render the device durable, to provision by which the valve may be conveniently renewed, and to a novel arrangement of its actuating parts; and my improvement consists of parts and combinations of parts, which will be set out in the claims appended hereto.

Referring to the accompanying drawings, Figure 1 is a vertical section of the barrel-rinser device on the line R R of Fig. 3, showing the valve in its open position. Fig. 2 represents a sectional elevation of a barrel-rinser, portions of the structure being seen broken away to expose the valve-operating parts. Fig. 3 is a top view of the device, the revoluble barrel-supporting saddle being removed to expose the slot and pin by which the rotary movement of the saddle is limited. Fig. 4 shows the valve and its operating guide-system. Fig. 5 is a perspective of the eccentric which engages and operates the valve, and Fig. 6 shows the bifurcated rock-crank by which the eccentric valve-stem is actuated by the connection with the revoluble barrel-supporting saddle.

The rinser is of the type in which the rinsing is by internal flushing through a nozzle inserted through the bung-hole of the barrel and in which the barrel is supported by a saddle supported by and rotatable on a standard of the device and by which the valve is operated by intermediate connections, and it is this structure which I have improved in the particulars which I will now describe. In this structure which is generally in use the part most liable to be destroyed is the nozzle by being knocked loose or broken or from the rusting of its screw connection with the supply-pipe, and to prevent these objections is one of the objects of my improvements.

Looking at Figs. 1 and 2 is seen the frame 1, which supports the operating parts of the device, and it consists of supporting-legs and a chamber-forming casting preferably integral with and rising centrally from the legs and open at its upper end. The bottom of the chamber or box is turned with a circular recess, within which is fitted a packing-ring 16, which forms a seat. Concentric with the recess the bottom has an internally-screw-threaded opening, into which nipple 10 is screwed and to which a T-coupling 12 is screwed to receive the pipe which supplies the flushing-water for the barrel. Surmounting the box-chamber is a casting, which forms the top or cap 2 of the frame-box part and incloses the chamber. Depending from this casting 2 into the chamber is an internal casting or leg part, hollow and formed at its lower end with a flanged head part adapted to fit within the recess in the bottom of the box-chamber and to be firmly seated therein upon the packing 16. Rising from the cap which forms the cover for the box-chamber is a cylindrical standard-bearing which has an annular central bore corresponding with and forming a prolongation of the hollow of the leg-casting which depends within the chamber. Into the upper open end of this bore the nozzle 14 is driven so as to be firmly bound therein, and being made of steel it can neither be loosened nor broken by the hard and rough usage to which it is subjected in placing and removing the barrel. Moreover, there is no chance for its rusting and becoming rotten at its driven end. Upon the cap 2 and its standard-bearing the saddle 3 is mounted and is for this purpose formed with a hub or base which rests upon the cap and fits its extension, so that the cap and its extension forms a bearing for the saddle, and from which bearing extension rises the saddle-arms on which the barrel is supported with the flushing-nozzle entering its bung-hole. It will thus be seen that the cap or cover for the chamber has an integral standard part which carries the nozzle and an integral depending leg part which forms the valve-seat and carries the valve and that a bore extends through the standard-bearing, the cap, and the leg, and this construction is a feature of my improvement.

The valve 9 is preferably of rubber and is secured upon the end of a stem 4 by means of a lock-nut 11 and a washer 23. The valve-stem 4 stands within the leg-casting that forms the valve-seat and has guide-webs fitting the inner walls of said leg-casting, while the upper end of the valve-stem is guided within a bridge-bar crossing the hollow of said leg-casting. In the side wall of the leg-casting is fitted a horizontal shaft 5, which has an eccentric at one end adapted to fit into a recess S in the valve-stem. A bushing 6, which forms a stuffing-box for the shaft 5 of the eccentric, is screwed into the wall of the hollow leg against a shoulder which forms a tight joint against the wall of the leg and limits the projection of the end of the bushing within the hollow of the leg. A stuffing-box nut 7 is screwed on the outer end of the shouldered bushing and completes the packing around the shaft of the eccentric. On the outer end of this shaft a crank part 8 is bound by a screw 13 and is formed with a fork or bifurcations *p p*, the function of which is to cause the rocking of the shaft 5 in its bushing and stuffing-box to cause the eccentric on this shaft to actuate the valve by pulling the valve-stem up and forcing it down to control the flow of the flushing-water up through the valve-seat-forming leg and out through the nozzle into the barrel, it being understood that the flushing-water is constantly under pressure from its supply. A pin 15, driven into the hub or base of the saddle, stands down through a slot A, formed in the box or chamber-cap, and engages the bifurcations *p p* of the part 8 to rock the eccentric-carrying shaft to open and close the valve, and this rocking of the shaft, it will be understood, is caused by the revoluble movement of the saddle with the barrel thereon, such movement being a quarter-circle and which is made when the barrel is seated on the saddle—that is to say, such movement of the saddle in one direction rocks the shaft to depress the valve-stem and open the valve, and the movement in the opposite direction acts to close the valve.

Referring to Fig. 3, it is important to note that the slot A, through which the saddle-pin 15 passes, serves also by its ends to limit the movement of the pin, and thereby form stops to limit the revoluble movement of the saddle, and hence the extent of the movement of the valve. In this operation of the valve it is important to provide for its adjustment to compensate for any wear and imperfect seating, and this adjustment is effected by adjusting the bifurcated part 8 on the eccentric-carrying shaft 5 by means of the screw 13. This adjustment is seen in Fig. 2, in which the saddle-pin is seen in engagement with the forks, so the turning of the fork-bearing part 8 on the eccentric-carrying shaft will cause the eccentric to make a tight seating of the valve. The form of the valve provides two seating-faces, and the way it is mounted on

its stem allows it to be reversed should one of its seating-faces become worn and allow leakage of the water by pressure through the nozzle. By the setting of the eccentric, therefore, either end of the valve may be used.

Looking at Fig. 1 it is seen that the cap which closes the chamber fits by a circular shoulder within and against the walls of the chamber and that the cap is fastened down by the screw-bolts 17 and by which the leg-casting is driven and firmly held down on the bottom of the chamber, so that this leg closes the bottom opening in the chamber with a packed joint and forms the seat for the valve.

An important advantage of forming the segmental slot in the cap is that the thrust of the saddle-pin in swinging the saddle with the barrel thereon to open and to close the valve is borne wholly by the cap-casting, which relieves the valve connections of all strain, and the forming of the leg integral with the cap allows the valve-stem to be suspended within the leg and its operating connections to be mounted in one side of the leg in operative relation to the valve-stem, ready to be inserted in place in the chamber, and that the fastening of the cap-casting upon the chamber-forming casting fastens at the same time the valve-seat-forming leg in firm position. Preferably the leg has the form of a rectangle to allow for the disposition of the valve connecting and operating parts within the chamber. As the flushing-nozzle is the part subjected to the roughest work in a barrel-rinsing device, I have made special provision for giving the nozzle a durable fastening-support to a considerable depth in the standard and terminating the reaming in an annular shoulder and driving the steel nozzle hard into the bore against its shoulder.

I claim—

1. A barrel-rinsing device comprising a casting having a chamber open at both ends, a separate casting having a cap closing the top of the chamber, a standard-bearing integral with the cap, and having the flushing-nozzle, a leg depending from the cap into the chamber and terminating in a seat adapted to close the opening in the bottom of the chamber, a casting having a bore extending from the flushing-nozzle through the standard-bearing to the leg-seating ends, a valve having its stem within the leg, a rock-shaft mounted in the side wall of the leg having an eccentric adapted to engage and suspend the valve-stem, a revoluble supporting-saddle for the barrel and means for connecting the saddle with the rock-shaft for opening and closing the valve.

2. In a barrel-rinsing device, a valve-carrying casting having on one side a standard-bearing, a flushing-nozzle driven therein, the other side of said casting having a leg terminating in a seat and a bore extending from the flushing-nozzle through the leg and opening at its seat-forming end, a valve having its stem within the leg, a rock-shaft mounted

horizontally in one side of the leg and provided at one end with an eccentric engaging the valve-stem and with a bifurcated crank part on its other end, the said parts constituting an entity for use with a barrel-support and a water-supply.

3. In a barrel-rinsing device and in combination with a chambered casting open at both ends, a cap-casting closing one end of the chamber and having a standard-bearing, a flushing-nozzle driven therein, a leg depending from the cap and terminating in a seat adapted to close the bottom opening of said chamber, and casting having a bore extending from the flushing-nozzle through the leg and opening at its seat-forming end, a valve having its stem within the leg, a rock-shaft mounted horizontally in one side of the leg and provided at one end with an eccentric engaging the valve-stem and with a bifurcated part on its other end, a revoluble saddle having a base-hub mounted on the standard-bearing a segmental slot in the cap-casting, and a pin depending from said hub passing through said slot and engaging the bifurcated part, all the valve-operating parts being thereby inclosed within said chambered casting.

4. In a barrel-rinsing device, and in combination with a flushing-nozzle, a support therefor, and a leg depending from said support and terminating in a seat-forming end, a casting having a bore extending from the flushing-nozzle to said seat, a valve having its stem within the leg, a rock-shaft mounted in one side of the leg, and provided with an eccentric engaging the valve-stem, a bifurcated part on the other end of the rock-shaft, a revoluble saddle-support and means connecting

it with the bifurcated part, and a chamber inclosing the valve-operating connections.

5. In a barrel-rinsing device, a revoluble saddle-support for the barrel having a seating-hub provided with a depending pin, a seating-support for said hub, having the flushing-nozzle and also having a segmental slot through which said pin depends, said slot forming a quarter-circle and a stop to limit the movements of the pin, in combination with a valve, means for opening and for closing it actuated by said pin, and a chamber-casting supporting the slotted casting and inclosing all the valve-operating connections.

6. In a barrel-rinsing device, a valve-carrying casting having on one side a standard-bearing, a flushing-nozzle driven therein, the other side of said casting having a leg terminating in a seat and a bore extending from the flushing-nozzle through the leg, a double-ended valve having its stem within the leg, a rock-shaft mounted horizontally in one side of the leg and provided at one end with an eccentric engaging the valve-stem and with a bifurcated crank part on its other end, a revoluble saddle having a base-hub mounted on the standard-bearing, a segmental slot in the standard-casting, a pin depending from said hub passing through said slot and engaging the bifurcated part and means for adjusting the eccentric-shaft to adjust the double-ended valve to its seat.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SEGVART C. O. BERG.

Witnesses:

ROBERT A. POLLOCK,
THOMAS A. BROWNRIGG.