No. 859,701. PATENTED JULY 9, 1907.

W. A. SPEAKMAN.

SPRAY DEVICE.

APPLICATION FILED FEB. 6, 1906.

Fig. 1.

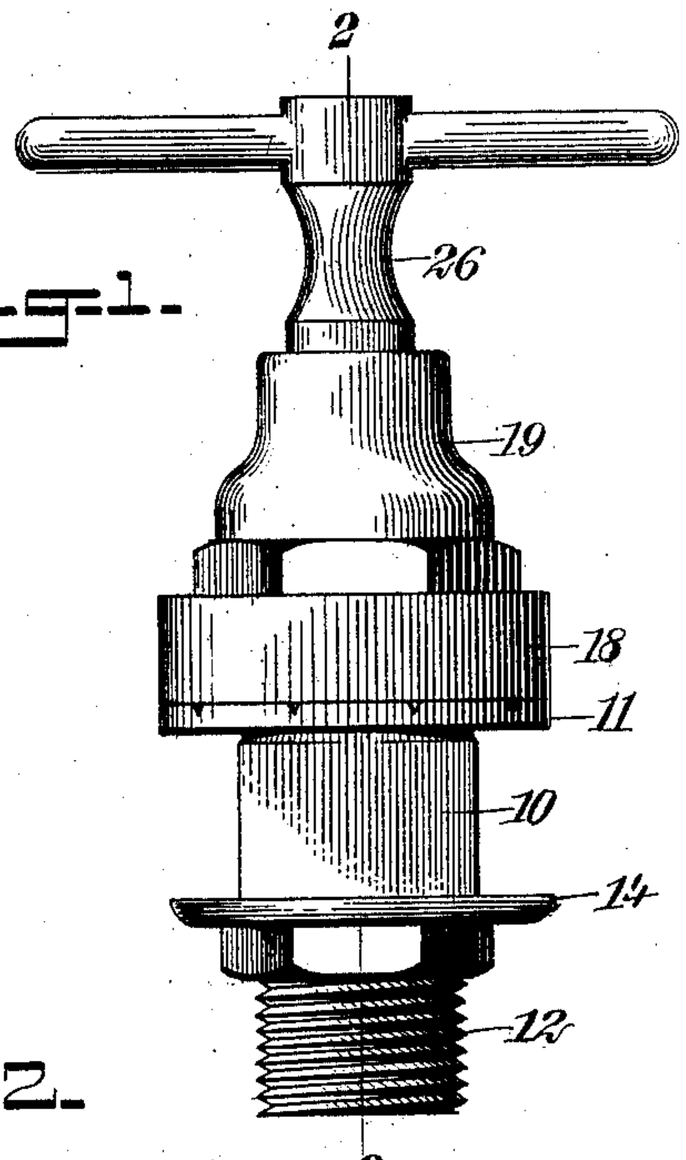


Fig. 2.

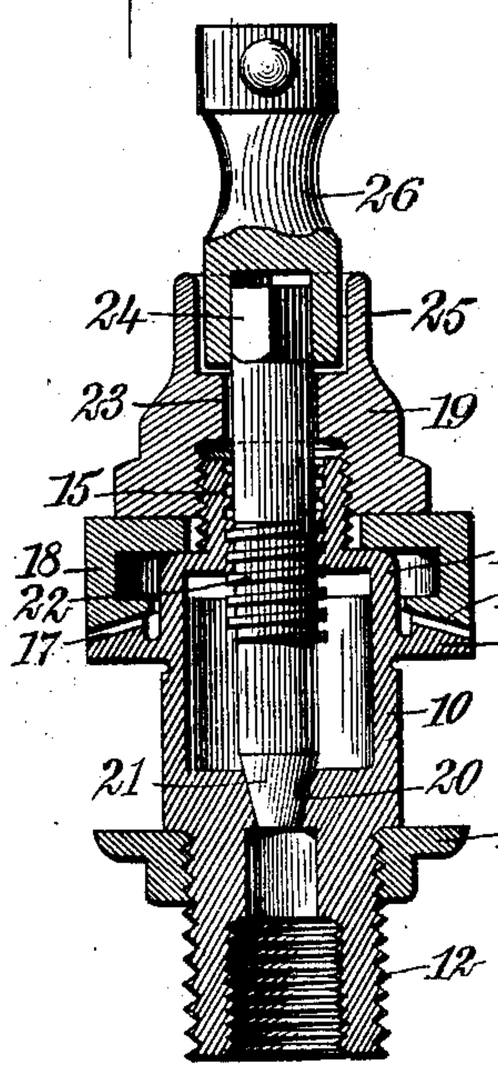


Fig. 3.

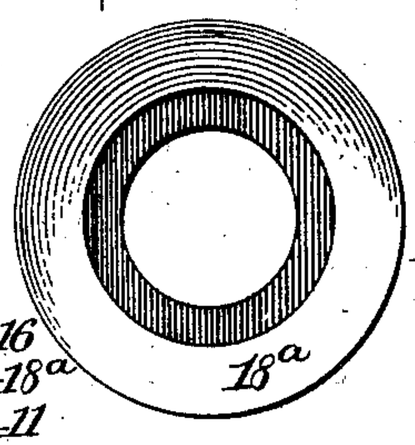


Fig. 4.

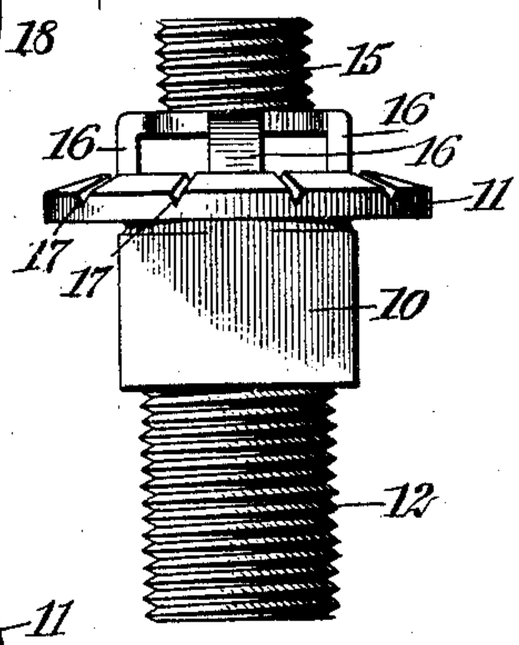
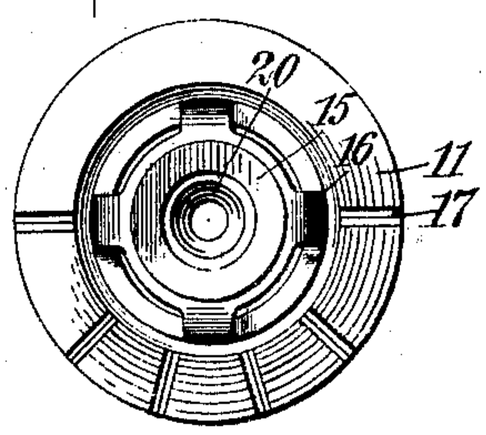


Fig. 5.



WITNESSES:

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SPRAY DEVICE.

No. 859,701. Specification of Letters Patent. Patented July 9, 1907.

Application filed February 6, 1906. Serial No. 299,710.

To all whom it may concern:

Be it known that I, WILLARD ALLEN SPEAKMAN, a citizen of the United States, and a resident of Wilmington, in the county of Newcastle and State of Delaware, have invented a new and Improved Spray Device, of which the following is a full, clear, and exact description.

The invention relates to a device for spraying water and other liquids.

It is particularly intended to form a spray device for flushing urinals, although it is useful in various other connections as will be fully understood by persons skilled in the art.

The essential objects of my invention are to provide a spray device which may be accurately regulated as to the amount of water passing from the same, and which will be so arranged that all of its parts are subject to ready access to permit inspection, adjustment and repair of the spray device, without in any manner removing it from its permanent setting. These and other objects of major or minor importance I attain by means of certain special features of construction and relative arrangement of parts, all of which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings which illustrate as an example the preferred embodiment of my invention, and in which drawings

Figure 1 is a side view of the spray device showing in place the key for the adjustment thereof; Fig. 2 is a sectional view on the line 2—2 of Fig. 1; Fig. 3 is an inner side elevation of the spraying part; Fig. 4 is a side elevation of the device with the spraying collar, nut, valve and clamp collar removed; and Fig. 5 is a plan view of the device as it appears in Fig. 4.

The spray device has a body 10 which is tubular, as shown best in Fig. 2, and has at its outer portion a spray flange 11. The end portion 12 of the body 10 is exteriorly threaded, and provided with a clamp collar 14. The body of the device is adapted, according to the embodiment of the invention here shown, to be inserted in an opening formed in the back of the urinal, so that the adjacent faces of the parts 11 and 14 may be clamped respectively against the front and rear surfaces of said back of the urinal so as to securely fasten the spray device in place, the water connection being made with the inner end 12 of the body of the spray device, which may be interiorly threaded for such purpose, as shown in Fig. 2. At the outer or forward extremity af the body 10 an interiorly and exteriorly threaded nipple 15 is located, which is sustained on and made preferably integral with the body 10 by means of the connecting piece 16, the same being spaced apart, as shown best in Fig. 4, so as to allow free movement of the water from the open front end of the body 10. The spray flange 11 has its outer surface beveled or inclined slightly toward the back of the urinal, and formed with grooves 17 constituting spray or water passages.

The spray collar 18 is arranged loosely to encircle the nipple 15 and to bear against shoulders on the lugs or connecting pieces 16, the said spray collar having a beveled rear surface 18ª lying flat against the beveled outer surface of the spray flange 11, so as to close all exit from the body of the spray device excepting through the spray grooves 17, which grooves owing to their inclination cause the water to flow from the spray device backward against the back of the urinal and trickle down the same, thoroughly flushing the urinal. The spray collar 18 is held in place by a nut 19 which operates on the exterior threads of the nipple 15, and is clamped against the outer face of the collar, as shown. Within the body 10 is arranged a valve seat 20. Coacting with this seat is a plug or needle valve 21 which controls the fluid movement through the spray device. Said valve is provided with threads 22 which operate with the interior threads of the nipple 15, and the stem of the valve projects through a central opening 23 in the nut 19 and is formed with a squared head 24 situated in a cavity formed by an annular flange 25 projecting from the outer side of the nut 19.

26 indicates a suitable key which may be employed to operate the valve.

In the use of the invention, therefore, the body is fastened, as described, in the back of the urinal and the spray collar 18 held firmly against the spray flange 11 by the nut 19, so that the water may flow in fine streams through the spray passages 17 against the back of the collar to flush the same. The water movement may be regulated to any desired extent or cut off entirely by operating the valve 21 through its stem and the key 26. This operation may be effected readily at the front of the urinal without in any way disturbing the setting of the device. Further, the valve 21 may be closed and the parts 19 and 18 readily removed to permit cleaning and inspection of the spray device, during which time the supply of water will be cut off and such cleaning and inspection may be carried on without hindrance. It will be seen, therefore, that the device provides an extremely simple and, therefore, practical means of spraying various apparatus particularly urinals, and when once placed in position its operation may be carried on continuously without necessitating removing it from the urinal or in any way disturbing the parts of the urinal itself.

It will be observed that since each spray device in a gang or battery, such as is usually employed in closets in public places, is separately controllable, the amount of water sprayed in each stall may be regulated according to the quantity required for that stall. Heretofore, this has not been possible, since the spray devices in urinals have been uniformly controlled by a single

valve arranged at some point in the pipe line to or in the closet.

Having thus described the preferred form of my invention, what I claim as new and desire to secure by Letters Patent is:

1. A spray device having a body with a spray flange adjacent to its discharge end, an exteriorly and interiorly threaded nipple sustained at the discharge end of the body, a spray collar engaging the spray flange and loosely encircling the nipple, a nut operating exteriorly on the nipple and engaging the collar, and a valve controlling the water movement through the body and operating interiorly in the nipple.

2. A spray device having a body with a spray flange adjacent to its discharge end, an exteriorly and interiorly threaded nipple sustained at the discharge end of the body, a spray collar engaging the spray flange and loosely encircling the nipple, a nut operating exteriorly on the nipple and engaging the collar, and a valve controlling the water movement through the body and operating interiorly in the nipple, the nut having a passage through which the valve extends, and both the valve and nut being exposed at the outer or front side of the body, for the purpose specified.

3. A spray device having a body with a valve seat therein, and a spray flange encircling the discharge portion of the body, said flange having spray grooves therein, an exteriorly and interiorly threaded nipple, connecting pieces or lugs joining said nipple to the discharge end of the body and spaced from each other, for the purpose specified, a spray collar encircling said nipple and lugs and bearing against the spray flange, a centrally orificed nut operating exteriorly on the nipple and bearing against the spray collar, and a plug valve coacting with the seat and operating exteriorly on the nipple, said valve extending through the orifice of the nut, and both the valve and nut being exposed at the outer or front side of the spray device.

4. A spray device having a body with a spray flange, a nipple at the discharge end of the body, a spray collar engaging the spray flange and loosely encircling the nipple, a nut threaded on to the nipple and engaging the collar, and a valve controlling the water movement through the body and operating through the nipple.

5. A spray device having a body provided with a spray flange, a nipple at the discharge end of the body, a spray collar engaging the spray flange and loosely encircling the nipple, a nut threaded on to the nipple and engaging the collar and a valve controlling the water movement through the body and operating through the nipple, the nut having a passage through which the valve extends, and both valve and nut being exposed at the outer or front side of the body, for the purpose set forth.

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

WILLARD ALLEN SPEAKMAN.

Witnesses:
WM. T. HILL,
WILLIAM H. GIBBONS.