July 1, 1930. E. L. DELANY 1,769,178

SPRAY NOZZLE

Filed June 22, 1927

Fig. 1.

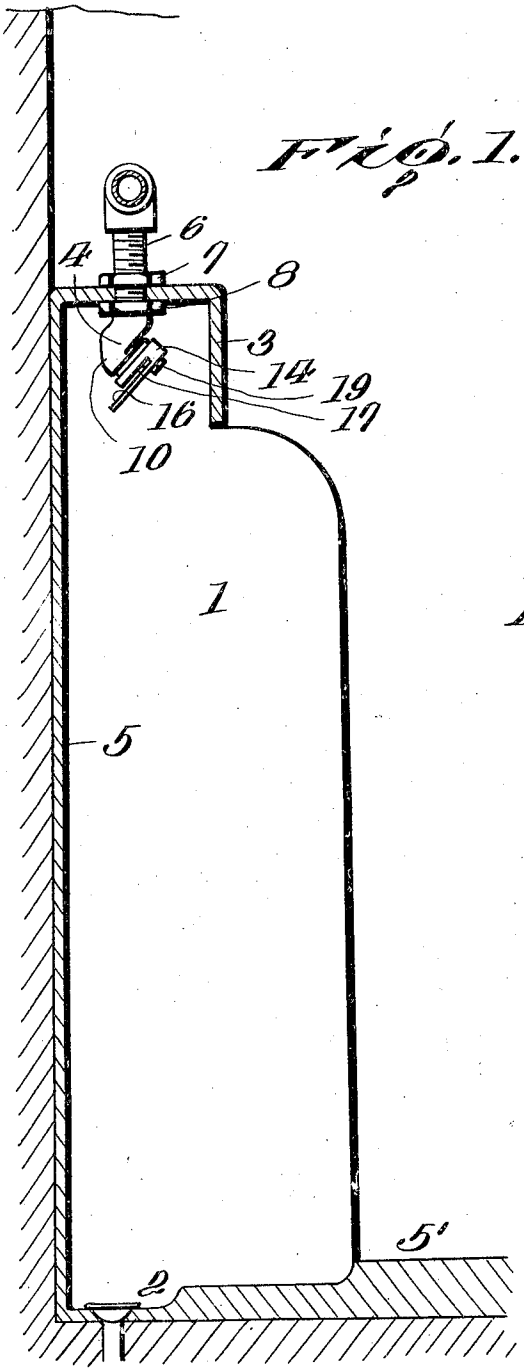


Fig. 2.

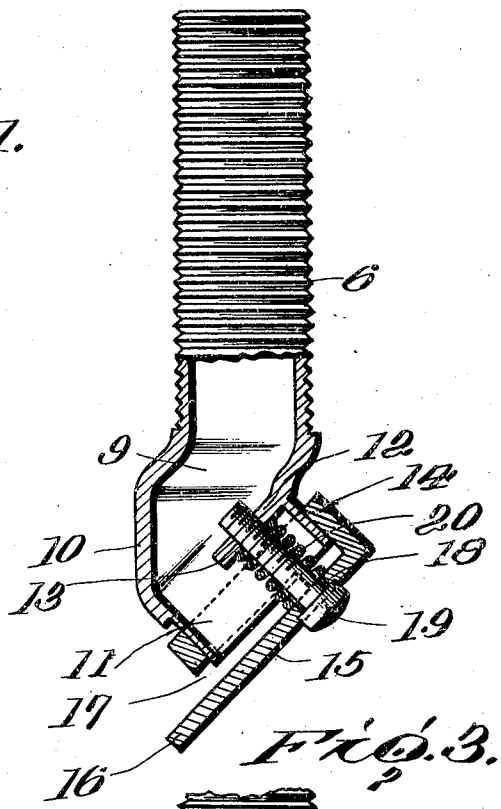
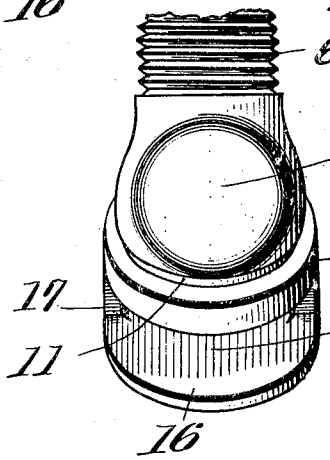


Fig. 3.



Inventor

Edward L. Delany.

By C. R. Wright, Jr.

Attorney

Patented July 1, 1930 1,769,178

UNITED STATES PATENT OFFICE

EDWARD L. DELANY, OF BROOKLYN, NEW YORK

SPRAY NOZZLE

Application filed June 22, 1927. Serial No. 200,661.

My invention relates to improvements in spray nozzles.

The object of my invention is to provide a spray nozzle adapted to spray a thin film of water or other liquid on a flat surface and having means whereby it can be adjusted to vary the spray of water or liquid discharged therefrom, and maintaining the same thickness of spray throughout its entire length of spraying opening.

Another object of my invention is to provide a nozzle more particularly adapted for urinals whereby there will be no splash of the water on the feet of the user and at the same time allowing of the adjustment of the nozzle while it is in operation, whereby the desired adjustment may be made at any time.

A further object of my invention is to provide a nozzle of this character which is made of few parts, readily adjusted and having certain details of structure and combination of parts hereinafter more fully described.

In the accompanying drawings:—

Figure 1 is a vertical sectional view of a urinal showing my improved spray nozzle applied thereto.

Figure 2 is a longitudinal sectional view of my improved nozzle.

Figure 3 is a front perspective of the nozzle.

Referring now to the drawings, 1 represents an ordinary urinal having the trough 2 at its lower end, and the hood 3 at its upper end in which is arranged my improved nozzle 4, and whereby the nozzle is hidden from view of the user of the urinal. In urinals of this character it is very essential that the entire vertical back plate 5 thereof be sprayed with a thin film of water, yet said film being so arranged that the water will not spray or splash on the feet of the user standing at the point 5'.

The nozzle 4 consists of a tubular threaded portion 6 whereby it may be attached to the hood 3 of the urinal by means of the nuts 7 and 8, as shown in Figure 1 of the drawings. The lower end of the tubular portion 6 is off set at an angle as indicated at 9, and provided with a vertical wall 10, and at the lower end thereof is provided with obliquely arranged cylindrical tubular portion 11 arranged at an angle of approximately 45° to the portion 6.

Within the obliquely arranged tubular portion 11 is an inwardly extending lug 12 provided with a screw threaded opening 13. Surrounding the lower end of the obliquely arranged tubular portion 11 and sliding on a true plane therewith is a cylindrical member 14 having the closed end 15 and having at one side the outwardly extending spray plate 16 extending a considerable distance beyond the same. The cylindrical member 14 has a slot 17 extending a little over one half way around, and the lower end of the slot is flush with the upper face of the spray plate 16, as clearly shown in Figures 2 and 3 of the drawings. The closed end 15 of the plate is provided with an opening 18 through which passes the adjusting screw 19, which has its inner end screwed into the opening 13 in the lug 12. Surrounding the screw, between the lug 12 and the closed end 15, is a coil spring 20 which is normally exerting outward pressure on the member 14 to force the same outwardly. The screw 19 is off center and therefore the member 14 can not rotate on the tubular member 11.

By adjusting the screw 19 it will be seen that the closed cylindrical member 14 is moved on the obliquely arranged cylindrical portion 11, and thus the distance between the lower end of the cylindrical portion 11 and the closed end 15 of the cylindrical portion 14 is varied for increasing or decreasing the thickness of the film of water passing from the nozzle.

It will be seen that the thickness of the spray in all adjustments is equal throughout the entire spraying opening.

Having thus fully described my invention what I claim is:—

1. A nozzle of the character described comprising a body portion, a cap enclosing the lower end of the body portion and longitudinally movable thereon and having a slot in one side thereof and means passing through the end of the cap and operated from the outside of the cap for longitudinally adjusting the cap on the body portion for varying the width of the slot.

2. A nozzle of the character described com-

prising a body portion, a cap enclosing the lower end of the body portion and having a slot in one side thereof, and means passing through the end of the cap and having an adjustable connection within the body portion for adjusting said cap for varying the width of the slot.

3. A nozzle of the character described comprising a body portion, a cap enclosing the end of the body portion and having a slot on one side thereof, a spray plate on one side of the cap and surrounding the slot and having its inner face in a plane with the inner face of the end of the cap, a spring normally holding the cap in an outward position and a screw loosely passing through the cap and screwed within the body portion and adapted to adjust the cap inwardly against the tension of the spring.

4. A nozzle of the character described comprising a body portion, a cap enclosing the lower end of the body portion and having a slot in one side thereof and a screw loosely passing through the end of the cap from the outside and having a threaded connection within water passage of the body portion whereby the turn of the screw adjusts the cap for varying the width of the slot.

5. A nozzle of the character described, comprising a body portion having a lug in the water passage thereof and having a threaded opening therein, a cap enclosing the lower end of the body portion and having a slot, a bolt passing through the end of the cap and screwed into the lug for adjusting the said cap for varying the width of the slot.

6. A nozzle of the character described comprising a body portion having a threaded opening within the water passage thereof, a cap enclosing the lower end of the body portion and having a slot in one side thereof, and a screw loosely passing through the end of the cap and threaded into the opening in the bore of the body portion for adjusting the cap for varying the width of the slot.

7. The nozzle of the character described comprising a body portion, a cap enclosing the lower end of the body portion and having a slot in one side thereof and means carried by the end of the cap and cooperating with the body portion within the water passage thereof for adjusting said cap on the body portion for varying the width of the slot.

In testimony whereof, I have signed this specification.

EDWARD L. DELANY.