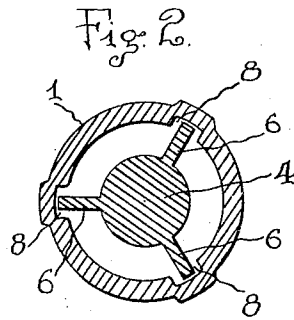
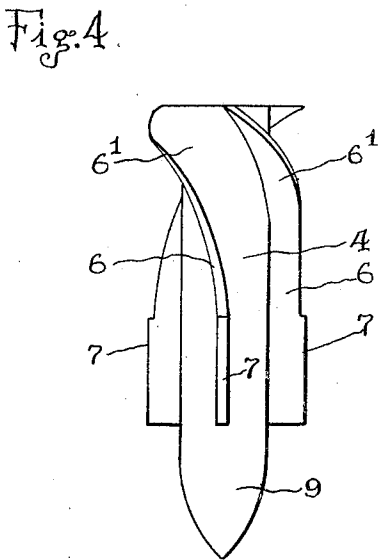
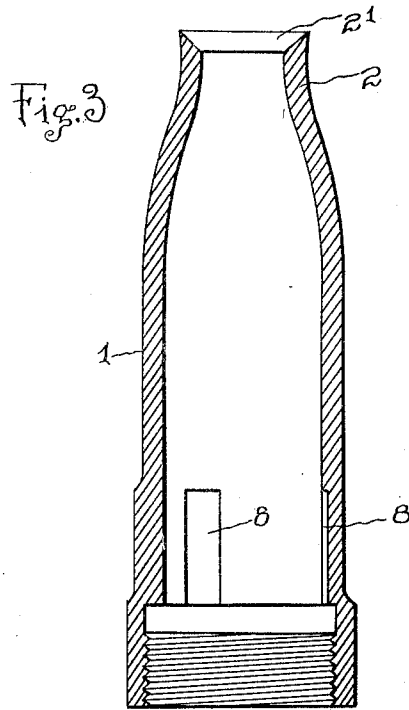
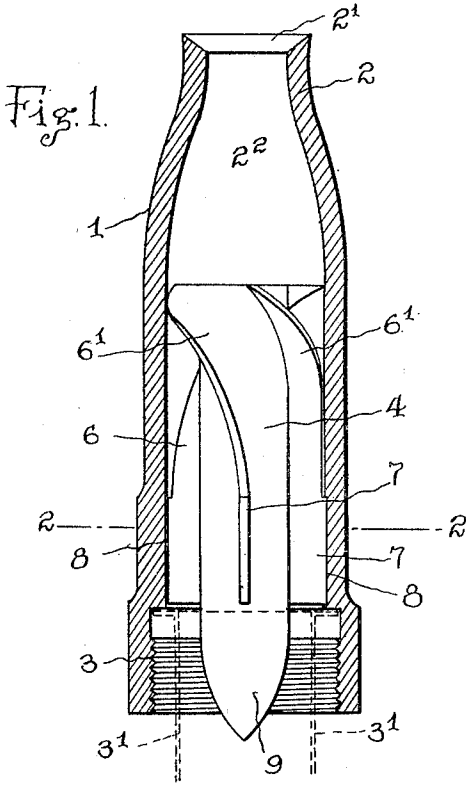


B. H. COFFEY.
 SPRAY NOZZLE.

APPLICATION FILED AUG. 11, 1919.

1,367,769.

Patented Feb. 8, 1921.



Inventor
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UNITED STATES PATENT OFFICE.

BARTON H. COFFEY, OF NEW YORK, N. Y., ASSIGNOR TO COOLING TOWER COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SPRAY-NOZZLE.

1,367,769.

Specification of Letters Patent.

Patented Feb. 8, 1921.

Application filed August 11, 1919. Serial No. 316,564.

To all whom it may concern:

Be it known that I, BARTON H. COFFEY, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Spray-Nozzles, of which the following is a specification.

My invention relates to improvements in spray nozzles and the object of my invention is to provide a simple and convenient spray nozzle in which may be attained a maximum efficiency in turning the water or other liquid from a rectilinear to a rotary movement and a maximum passage way to obviate the clogging of the device, combined with the ready removal of the spindle. Other objects will appear hereinafter.

The various features of novelty which characterize my invention are pointed out with particularity in the claims annexed to and forming a part of this specification.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a sectional elevation of my improved device,

Fig. 2 is a cross section of the same on the line 2—2 in Fig. 1

Fig. 3 is a sectional elevation of the case, and

Fig. 4 is a view of the vane spindle.

Similar characters refer to similar parts throughout the several views.

Referring to the drawings, 1 indicates a cylindrical casing having an internally tapered mouth section 2 with a discharge orifice 2¹ and provided with an internally screw threaded seat 3 adapted for attachment to a pipe 3¹ through which water or other liquid is to be fed to the nozzle.

In the casing 1 I provide a cylindrical spindle 4 provided with a plurality of vanes or blades 6 each comprising a longitudinally disposed lug 7 forming a locking base section adapted to be seated in the sockets 8 in the casing 1 and bent over intermediate its ends thereby merging into a spirally disposed upper section 6¹ arranged to produce maximum efficiency in turning the water from a rectilinear to a rotary direction.

A pointed conical nose 9 is provided on the inner or base terminal of the spindle 4 to extend into the pipe 3¹ to serve to divert the water to the passages between the vanes 6 and to minimize the impact of the water.

The spindle 4 terminates at its upper end below the tapered mouth section 2 of the casing 1 to form a circulation chamber 2² adjacent the mouth 2¹.

The device is assembled by inserting the spindle 4 in the casing 1 with the lugs 7 seated in their sockets 8, which serve to properly position the spindle and to lock it against rotation, and the device is then screwed down upon the pipe 3¹ which will form a shoulder to bear against the vanes or blades 6 and hold the spindle 4 securely in position. By this arrangement I prevent the casing being screwed on the pipe unless the spindle is in its correct position, and the parts are capable of being readily removed and taken apart for cleaning.

My device being thus assembled, the water or other fluid is admitted under suitable pressure from the supply pipe 3¹ and is diverted by the pointed nose 9 to the passages between the vanes 6 and a spiral rotary direction is imparted gradually by the upper spirally bent portions 6¹ of the vanes 6 from which the water is discharged into the chamber 2² where the direction of the current is further modified by the tapering walls of the mouth section 2 and is discharged from the mouth 2¹ in a spiral spray formation, the maximum efficiency in turning the water from a rectilinear to a rotary direction with a maximum passageway being thus attained.

Having thus described my invention, what I claim is:

1. A spray nozzle comprising a casing, sockets herein adjacent its base, and a spindle having a conical inner nose and a plurality of vanes each comprising a longitudinal lug section adapted to be seated in one of the said sockets and a spirally disposed blade.

2. In a nozzle, the combination of a casing, a socket therein adjacent its base, and a spindle including a body section and a vane having a longitudinally disposed section provided with an integral lug adapted to be seated in the socket in the casing and a spirally disposed wing section.

Signed at New York in the county of New York and State of New York this 28th day of July, A. D. 1919.

BARTON H. COFFEY.