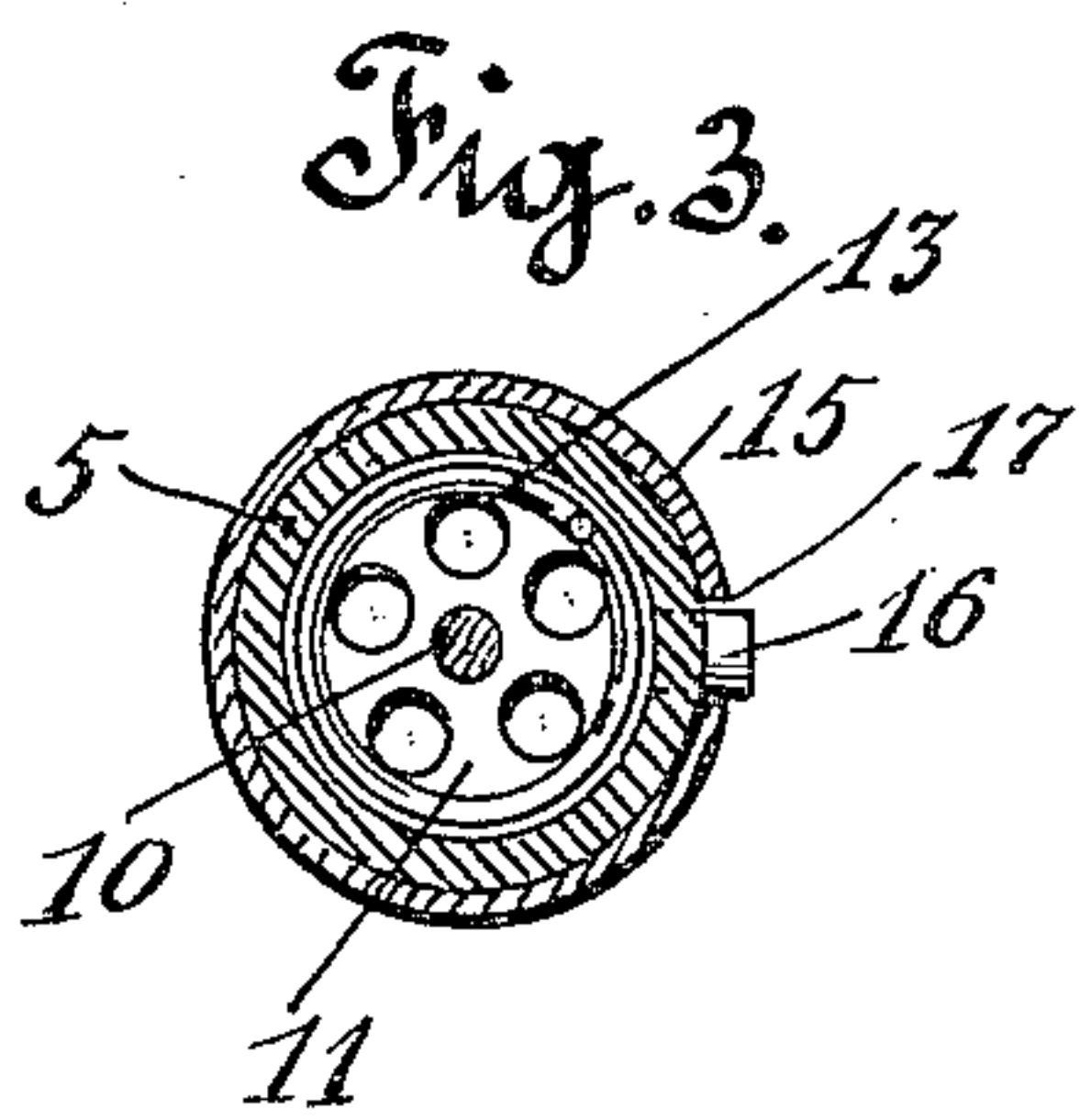
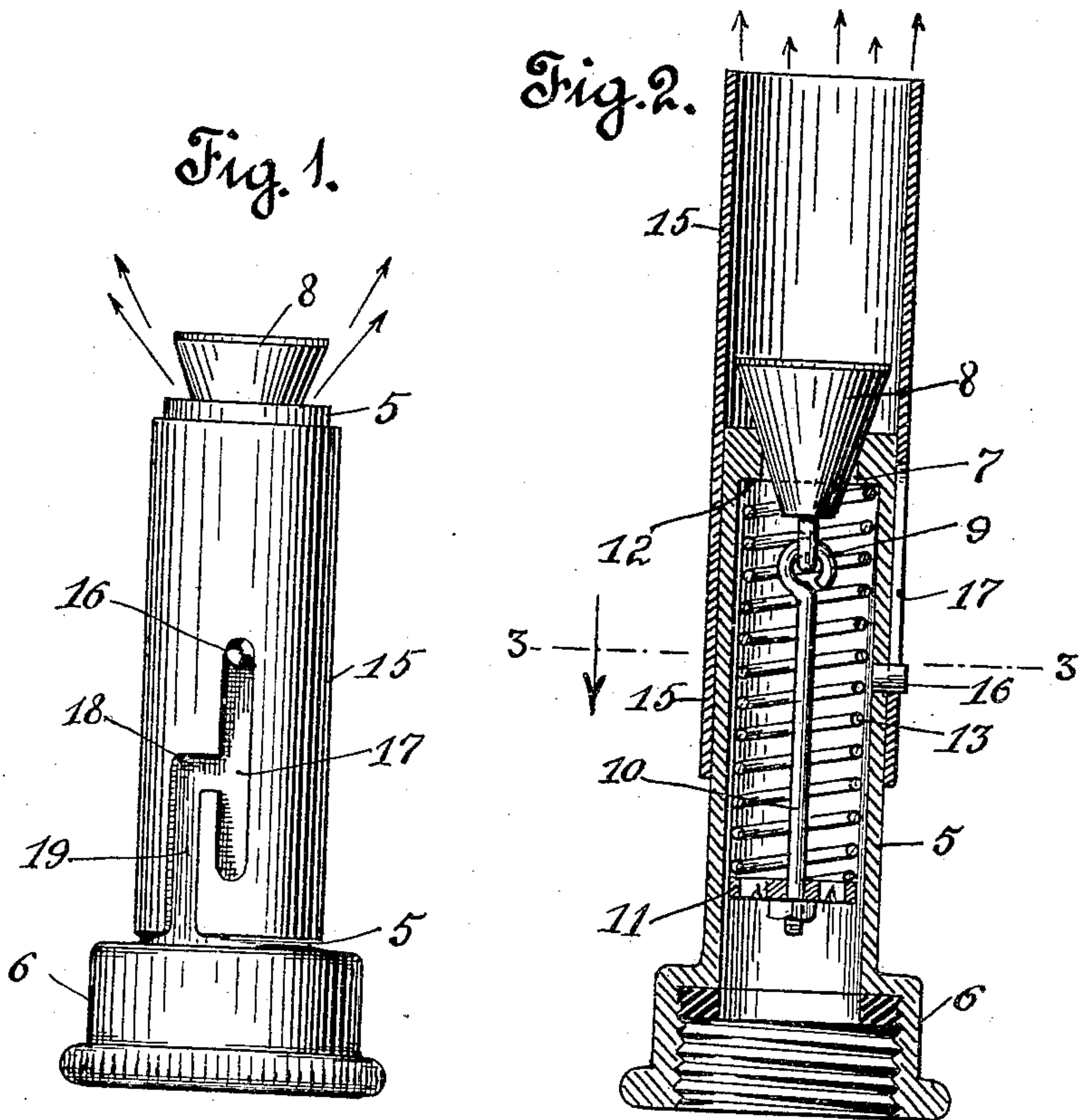


W. G. HUGHES.  
 SPRINKLER NOZZLE.  
 APPLICATION FILED APR. 6, 1909.

943,780.

Patented Dec. 21, 1909.



Witnesses,

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 M. A. Palmer.

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# UNITED STATES PATENT OFFICE.

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AND HENRY GEORGE MILLIER, OF LOS ANGELES, CALIFORNIA.

## SPRINKLER-NOZZLE.

943,780.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed April 6, 1909. Serial No. 488,232.

*To all whom it may concern:*

Be it known that I, WILLIAM G. HUGHES, a citizen of the United States, residing at Norwalk, in the county of Los Angeles and State of California, have invented new and useful Improvements in Sprinkler-Nozzles, of which the following is a specification.

This invention relates particularly to a means for controlling the configuration of a stream of water flowing through a sprinkler nozzle, and is intended primarily for use with my improved "nozzle" illustrated in my allowed application for United States Letters Patent Serial No. 382,243, filed July 5th, 1907. In the above mentioned application the nozzle is constructed, so as to deliver an approximately conical sheet or spray of water, no provision being made for changing at will the character of the stream delivered.

It is an object of my invention to provide a means whereby the stream may be directed from the nozzle in a fine spray, or a tubular stream specially applicable for long distance sprinkling.

A further object is to provide a simple and inexpensive device that can be operated instantly to change the character of the stream.

I accomplish the above objects by means of the device described herein and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of my improved nozzle equipped with my device.

Fig. 2 is a central vertical section through my nozzle equipped with my device. Fig. 3 is a cross section through the nozzle taken on line 3—3 of Fig. 2.

In the embodiment of my invention as illustrated in the drawings, 5 designates a tubular sprinkler nozzle having an enlarged lower end 6 interiorly threaded for hose connection. The upper end of the nozzle is provided with an annular discharge opening 7 adapted to form a seat for an approximately cone-shaped stopper 8 provided on the lower end thereof with an eye 9 that is engaged by the hooked upper end of the vertically disposed rod 10. Mounted on the lower end of rod 10 is an apertured disk 11 which is held in position on the rod by a nut or other suitable fastening means. Interposed between the upper face of disk 11 and the under face of the annular shoulder

12 that forms the opening 7, is a coiled compression spring 13 which serves to maintain the stopper in engagement with the opening 7.

It will be observed from the foregoing description that a stream of water passing through nozzle 5 will unseat stopper 8, and deliver through the discharge opening a conical spray of water therefrom, the pressure of water being greater than the compression of the spring 13.

By the above described nozzle it was only possible to deliver a conical spray of water, whereas if it was desired to deliver the stream at a distance, the nozzle would have to be replaced by another form. To obviate a change of nozzles and to render the above described nozzle capable of delivering a stream of more than a single configuration, I have provided a sleeve 15 adapted to have a sliding contact with the tubular nozzle 5. This nozzle is provided with a pin 16 rigidly secured to the periphery thereof, or it may be formed integrally therewith. This pin is adapted to engage a vertically disposed slot 17 formed in the sleeve 15, whereby the longitudinal movement of the sleeve is limited, as clearly illustrated in the first two figures of the drawing. To provide for the removal or replacement of sleeve 15 from the nozzle, I have provided additional slots 18 and 19, slot 18 being disposed at right angles to slot 17 and opening therefrom, and slot 19 extending downwardly from slot 18.

When the sleeve is in the position illustrated in Fig. 1, a conical stream of water will be delivered from the nozzle in a fine even spray, while if the sleeve is pushed outwardly as illustrated in Fig. 2 of the drawing, the stream delivered will be of a tubular form capable of being forced at great distances from the nozzle.

It will be apparent from the above description that I have provided a novel means, whereby the character of the stream delivered from a nozzle of the type described may be varied at will.

Having described my invention what I claim as new and desire to secure by Letters Patent is:—

A sprinkler nozzle, comprising a tubular body having a valve seat formed on its outer end, a valve stopper held in spring pressed engagement with said seat, said stopper adapted to discharge the water passing

through said nozzle in the form of a spray,  
and a sleeve slidably mounted on said nozzle,  
the end of said sleeve adapted to be pro-  
jected beyond the nozzle valve stopper,  
5 whereby to change the configuration of the  
stream of water issuing from said nozzle.

In witness that I claim the foregoing I

have hereunto subscribed my name this 31<sup>st</sup>  
day of March, 1909.

WM. G. HUGHES.

Witnesses:

EDMUND A. STRAUSE,  
MYRTLE A. PALMER.