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F. FERRANDO ET AL

2,315,844

SPRINKLER HEAD

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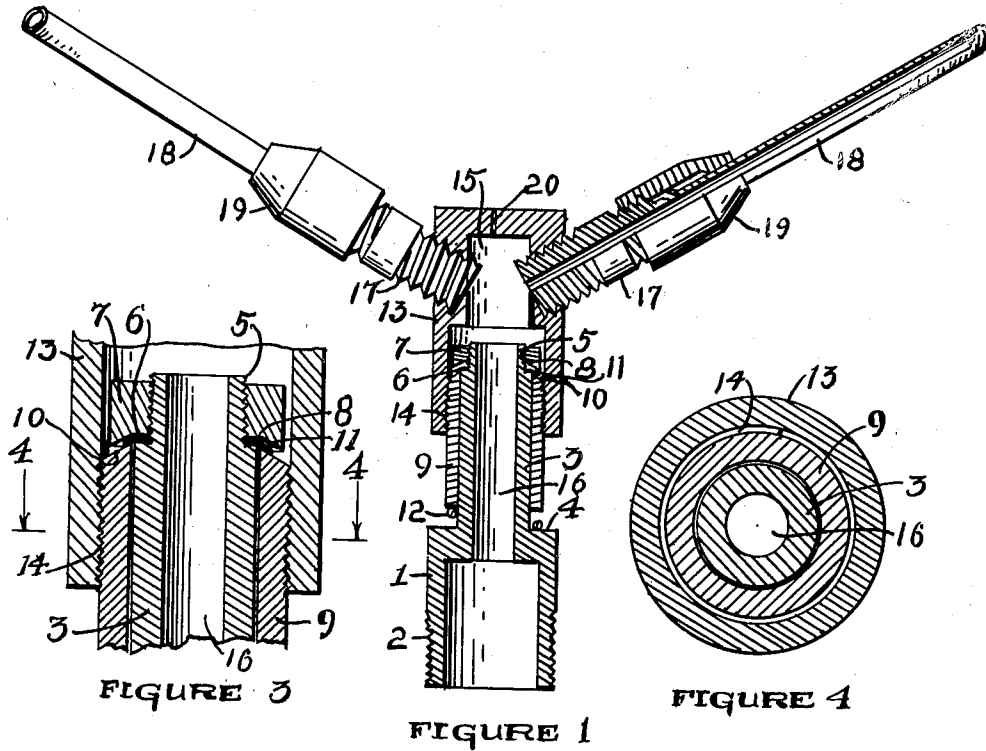
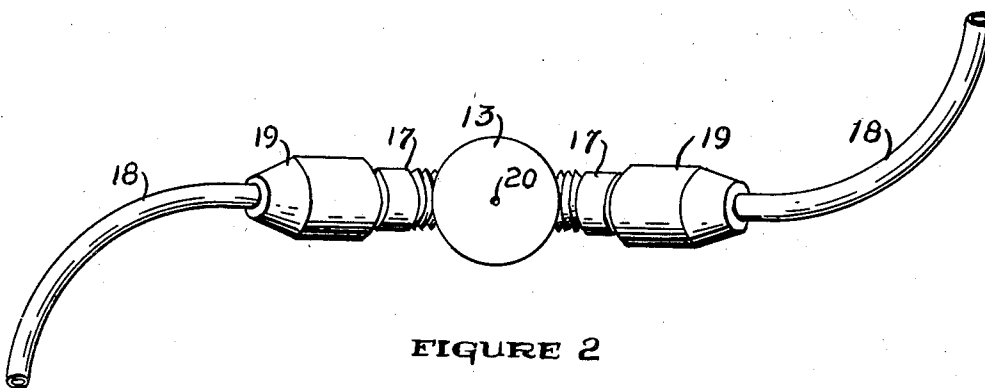


FIGURE 2

INVENTORS
Francesco Ferrando
BY *Giuseppe Ferrando*
John A. Kaismuth
ATTORNEY

UNITED STATES PATENT OFFICE

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SPRINKLER HEAD

Francesco Ferrando and Giuseppe Ferrando,
Menlo Park, Calif.

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1 Claim. (Cl. 299—69)

The present invention relates particularly to that form of sprinkler head commonly used in the distribution of water over lawns, but that may readily be adapted to other applications such as fire extinguishing installations, reference being made to our copending applications bearing Serial No. 363,510, filed October 30, 1940, now Patent No. 2,273,401, and Serial No. 389,929, filed April 23, 1941, now Patent No. 2,297,052.

One of the faults to be found with many prior known rotary sprinkler heads, is the difficulty of properly lubricating them and retaining the lubrication where some form of lubricating grease or oil is used, since the bearings are more or less exposed to the current of water through the sprinkler head, resulting in the washing out of the lubricant from the bearing.

The principal object of the present invention is, therefore, to provide a sprinkler head of the type indicated where in the rotating part will rotate freely and easily without the use of roller or other type of so-called anti-friction bearings, and without the customary greasing or oiling, freedom of rotation being secured through the assembly disclosed and water lubrication.

It is another object of the invention to provide a sprinkler head constructed and arranged in such a manner as to prevent the entrance of sand in any noticeable quantity between the rotating and non-rotating parts, and to permit the easy escape of any minute quantity of sand that might enter between said parts.

It is also an object of the invention to provide a structure of the character indicated that will be extremely simple in construction and assembly, economical to manufacture, strong, durable, and highly efficient in its practical application.

In the drawing:

Figure 1 is a longitudinal section through the center of the device, partly in elevation.

Figure 2 is a top plan view of the same.

Figure 3 is an enlarged view of a portion of the section shown in Figure 1.

Figure 4 is a sectional view of the device on line 4—4 of Figure 3.

Referring now more particularly to the drawing, we show at 1 the base member which may be mounted on any suitable liquid-delivery means through the medium of the threaded portion shown at 2.

The member 1 is tubular in form, having the end portion remote from part 2 of somewhat smaller diameter as shown at 3 and forming a shoulder at 4. The extreme end of this reduced portion is externally threaded as at 5, and on

this threaded end is screwed a washer 6 and nut 7. The nut 7 is larger in diameter than the body of tubular part 3 and is provided with a recess 8 for the purpose hereinafter described.

At 9 is shown a sleeve having an internal diameter slightly greater than the outer diameter of part 3 so that it may rotate freely thereon, the ease and freedom of rotation being augmented by the water which makes its way between the two parts and provides the desired lubrication.

The sleeve 9 is preferably somewhat shorter than the part 3, and has its top edge bevelled as at 10 to correspond to the bevelled side 11 of the recess 8 in nut 7. On the shoulder 4 and bearing upwardly against the bottom edge of the sleeve 9 is a spring 12. This spring barely overcomes the weight of the parts superimposed thereon. When the sprinkler head is in use the force of the water discharged therethrough will hold the bevelled edge 10 more or less snugly against the washer 6 and bevelled edge 11 of nut 7, and when the flow of water stops the spring 12 will support the parts in the same position, but some water finds its way between the sleeve 9 and part 3 to provide the desired lubrication without permitting the entrance of any sand. The resiliency of the spring 12 is slight and some vertical play of the sleeve 9 is permitted. For instance, when the water pressure is shut off the weight imposed on the spring 12 is sufficient to depress the same until the water in the rotating parts drains away.

At 13 is shown a cap member threaded on to the exterior of the top end of sleeve 9 as at 14 and having a chamber 15 formed therein having open communication with the conduit 16 in part 3.

Threaded angularly into opposite sides of the cap 13, and to communicate with the chamber 15, are nipples 17 which in turn communicate with jet tubes as 18 secured to the ends thereof by means of unions 19 which permit the adjustment of the tubes 18 to discharge in any direction. The forcible discharge of water in jets from the tubes 18 reacts to cause the rotation of the member including the parts 9, 13, 17, 18 and 19. The top end of the cap 13 may have orifices as 20 formed therein to permit the formation of a central spray, but in any case the pressure of water in chamber 15 when the device is in use, is sufficient to raise the sleeve 9 into the position hereinbefore described.

Where the liquid to be sprayed is free of any abrading substance or material such as sand, then the spring 12 and even the special formation of the top end of sleeve 9 may be omitted.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:

A sprinkler head comprising, a tubular base member having one end of reduced diameter to form a shoulder thereon, and stop means mounted thereon in opposed relation to said shoulder, a sleeve rotatably and slidably mounted on said

end between said shoulder and stop, resilient means disposed between the sleeve and shoulder to urge the sleeve toward said stop, and spraying means mounted on said sleeve to rotate and move as a unit therewith. 5

FRANCESCO FERRANDO.
GIUSEPPE FERRANDO.