Aug. 14, 1956 J. H. CADDELL 2,758,876

SPRINKLING DEVICE

Filed Dec. 15, 1954

Fig. 1.

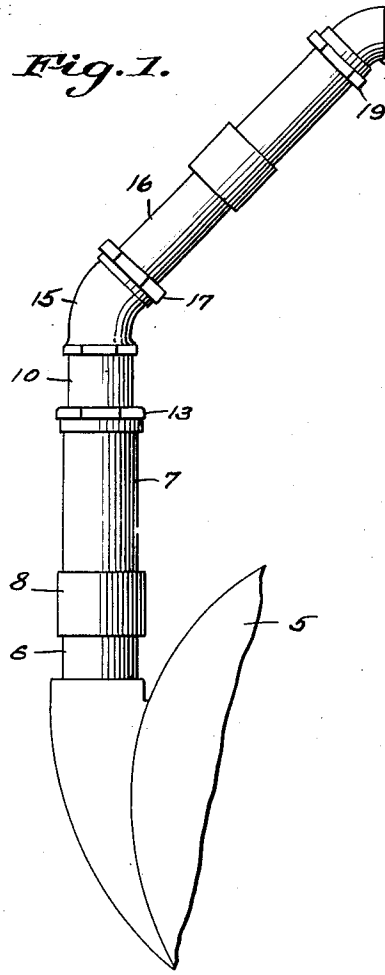


Fig. 3.

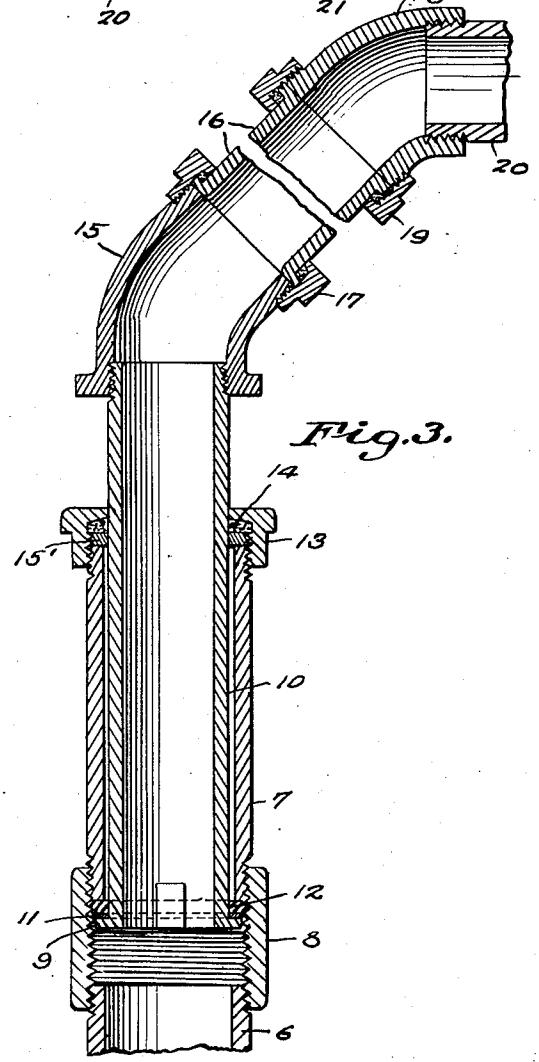
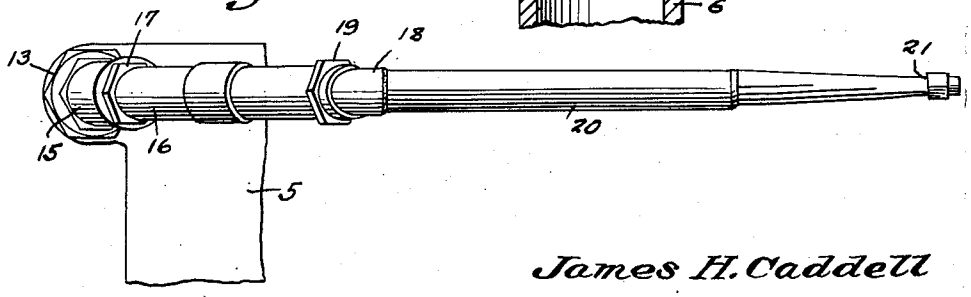


Fig. 2.



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SPRINKLING DEVICE

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1 Claim. (Cl. 299—69)

This invention relates to water sprinklers of the type wherein the nozzle is rotated by the action of the flow of water through and discharge of water from the nozzle.

An important object of the invention is to provide a sprinkler having a nozzle which will rotate freely, and at the same time will insure a water-tight connection between the supporting pipe and the nozzle of the sprinkler.

Still another object of the invention is to provide a water sprinkler including a movable main pipe section to which the nozzle is connected, the main pipe section being moved longitudinally of its supporting pipe by the high pressure of the water entering the nozzle.

A still further object of the invention is to provide a nozzle which will be of exceptionally strong construction and capable of withstanding extreme pressure to which it is subjected.

Still another object of the invention is to provide a lawn sprinkler including a substantially long nozzle, providing a sprinkler designed for use in sprinkling large areas wherein it is necessary to direct a water spray over a substantially great distance.

Another important object of the invention is to provide a rotary sprinkling nozzle which embodies connected pipe sections that are so constructed and arranged that by adjusting the pipe sections with respect to each other, the angle of operation of the nozzle and discharge of spray therefrom, may be varied to meet various sprinkling conditions.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is an elevational view of a sprinkler, constructed in accordance with the invention, a conventional water pump being shown in a fragmentary condition as providing the support for the sprinkler.

Figure 2 is a plan view thereof.

Figure 3 is an enlarged vertical sectional view through the sprinkler exclusive of the pump.

Referring to the drawing in detail, the reference character **5** indicates a section of a water pump which is connected in a pipe line, not shown, and through which water is supplied to the pump **5**.

Connected with the pump **5** is a stand pipe **6** to which the stationary pipe **7** is connected, by means of the threaded collar **8**.

As better shown by Figure 3 of the drawing, the adjacent ends of the stand pipe **6** and stationary pipe **7** are spaced a substantial distance apart, providing a clearance for an annular flange **9** that extends laterally from the lower end of the main rotating pipe **10**. This pipe **10** is free to move longitudinally of the stationary pipe **7**

and the annular flange **9** rests against the wear ring **11** that in turn rests against a washer **12** that is held in place against the lower end of the stationary pipe **7**, by frictional contact therewith.

The upper end of the stationary pipe **7** is threaded to receive the cap screw **13** in which a washer **14** is held, the washer **14** being engaged by the steel ring **15'** that contacts the outer surface of the main rotating pipe **10**. The washer **14** provides a fluid tight connection between the cap screw **13** and main rotating pipe **10**.

Threaded on the upper end of the main rotating pipe **10**, is an elbow **15** to which a pipe **16** is connected, by means of the nut **17**. The other end of the pipe **16** is connected with an elbow **18**, by the nut **19**, the elbow **18** having its upper end internally threaded to receive the threaded end of the pipe **20** or inner end of the nozzle. The nozzle includes a reduced end **21**, to confine the water to a fine spray.

In view of the fact that the sprinkler forming the subject matter of the present invention is exceptionally large, as designed for spraying water over large areas, the stationary or supporting pipe **7** of the sprinkler is substantially long, to accommodate the substantially long main rotary pipe section **10**, and the structure is such that the main rotating pipe **10** is braced throughout substantially its entire length to withstand lateral pressure which would be directed thereto by the extreme force of the water passing through the nozzle. It will further be seen that because of the construction of the nozzle at its point of connection with the main rotating pipe **10**, the force of the water discharged from the nozzle with tilting of the nozzle relative to pipe **16** will cause rotation of the nozzle. Then too, because of the construction of the connecting pipe sections and elbows between the nozzle proper, the pipe **16**, and the main rotating pipe **10**, the angle of the nozzle may be adjusted to cause rotation of the nozzle either rapidly or slowly, to meet the requirements of use.

Another important feature of applicant's invention is the fact that the water entering the elbow **15** and pipe **16** will, because the water is confined to a smaller area as it enters the discharge end of the nozzle, move vertically to the end that the annular flange **9** is forced into contact with the wear ring **11**, insuring a fluid tight connection between the nozzle and the stationary pipes, and at the same time allowing free rotary movement of the nozzle.

Having thus described the invention, what is claimed is:

In a pump having a stationary upwardly directed outlet nipple, a vertical stationary pipe, a coupling connecting said nipple and pipe together with the adjacent ends thereof in spaced relation, an inner vertical pipe rotatable in said first named pipe, a flange at the lower end of said inner pipe in said coupling, a wear ring carried by said flange engageable against the lower end of said stationary pipe, an obtusely angled fitting secured to the upper end of said inner pipe, an intermediate pipe secured to said fitting, a second obtusely angled fitting secured to the upper end of said intermediate pipe, and a nozzle secured to and extending from said second fitting.

References Cited in the file of this patent

UNITED STATES PATENTS

1,730,623	Orr	Oct. 8, 1929
1,917,632	Buckner	July 11, 1933
2,323,701	Barksdale	July 6, 1943
2,639,191	Hruby	May 19, 1953
2,659,626	Landry	Nov. 17, 1953

FOREIGN PATENTS

162,341	Austria	July 15, 1948