March 29, 1949. C. BARNETT 2,465,420

SPRINKLER HEAD

Filed Feb. 20, 1946

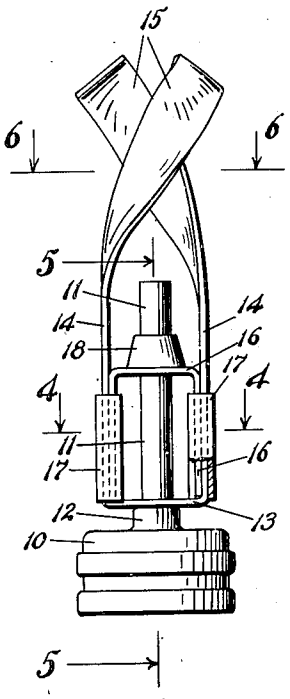


Fig. 1

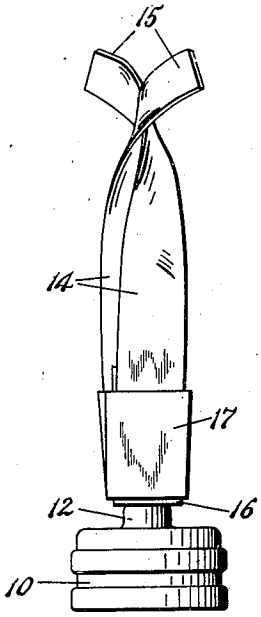


Fig. 2

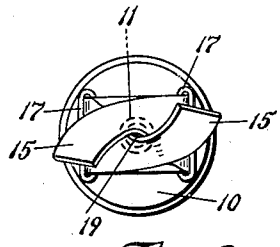


Fig. 3

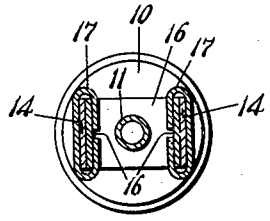


Fig. 4

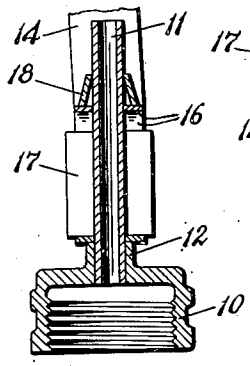


Fig. 5

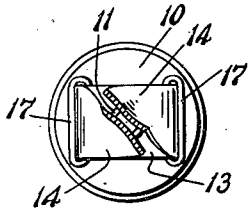


Fig. 6

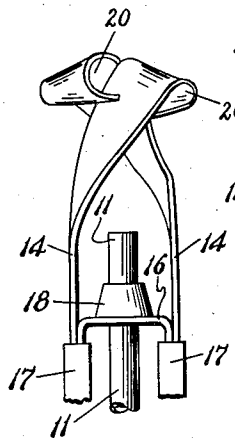


Fig. 7

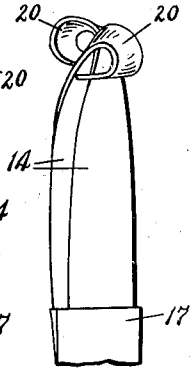


Fig. 8

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Patented Mar. 29, 1949 2,465,420

UNITED STATES PATENT OFFICE

2,465,420

SPRINKLER HEAD

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Application February 20, 1946, Serial No. 648,892

1 Claim. (Cl. 299—126)

1

My invention relates to sprinkler heads of the type used on the end of a vertical pipe or nozzle for throwing a shower of water over a large area of lawn or garden area to be sprayed, and which is rotated by the force of the water discharged into and through said sprinkler head.

I am aware that there are many types of revolving sprinkler heads, and my invention has to do with improved means of construction and arrangement of such a sprinkler head, whereby simplicity in manufacture, efficiency in operation, and economy of construction are made possible. The relative positions of the two cooperating vanes with relation to the discharge nozzle of the head, and the manner of shaping said vanes at the juncture of the stream of water from the nozzle has been worked out by careful experimentation in order to get as much efficiency as possible in whirling or rotating the sprinkler head and also in throwing the water as uniformly and as far as practicable.

In order to explain my invention in detail, I have illustrated the same on the accompanying sheet of drawings, which I will now describe.

Figure 1 is a side elevation of a sprinkler head embodying my invention;

Figure 2 is a similar view from the side of the showing in Fig. 1;

Figure 3 is a plan view, looking down on the sprinkler head;

Figure 4 is a sectional view taken on the line 4—4 of Fig. 1;

Figure 5 is a longitudinal sectional view taken on the line 5—5, of Fig. 1;

Figure 6 is a cross sectional view taken on the line 6—6 of Fig. 1;

Figures 7 and 8 are fragmentary side elevations showing a modified form for the upper ends of the vanes, whereby they are interlocked.

Referring now in detail to the drawings, my invention as here shown for explanatory purposes includes a screw cap 10 to be screwed on to the end of a pipe for supplying the water, said cap having a tube or nozzle 11 set therein, as shown in the sectional view, Fig. 5, with a neck-like extension 12 around said tube or nozzle as shown, and forming a bearing support for the rotating portion of the head.

My sprinkler head vanes, as here shown, are made of a strip or ribbon-like length of metal bent to U-shape, with angle turns, as at 13, and with the two legs or arms thereof extended upwardly in parallel, spaced relationship for a short distance, as at 14, 14, and then spiralled around each other, as at 15, 15, as seen in Figs.

2

1, 2 and 3. A cooperating U-shaped member 16, is placed in inverted relationship in the other U-shaped member, as clearly seen in Fig. 1, and the overlapping or interfitting U-shaped members are secured together with bands or sleeves, as 17, 17, therearound. The cross member of inserted U-shaped member 16 is provided with a collar, or holding member, as 18, to prevent the head from being lifted off of the tube or nozzle 11, as will be understood from the showing.

By reference to Figs. 1, 2 and 3, it will be seen how the two vanes, at their upper ends, are spiralled around each other in crossed relationship, to form the conical juncture, as at 19, Fig. 3, into which the nozzle 11 discharges the stream of water, with the result that the force of the water striking this restricted opening, as illustrated in Fig. 6, causes the vanes to be rotated, something after the principle of jet propulsion.

In Figs. 7 and 8, I have shown the upper ends of the vanes 15, 15, bent into coils, as at 20, 20, with their ends bearing on the body portion of the other vane, as clearly illustrated in Figs. 7 and 8. This serves to interlock the ends of said vanes in adjusted relationship, as shown, and permits a certain amount of water to enter these coils as it strikes in the apex formed by the crossed vanes. The bulk of the water however is deflected outwardly and upwardly by the under or inner surfaces of said vanes and as it passes the outer ends of the said coils it tends to entrain or to draw all the water from said coils and to deflect it outwardly over the area being sprinkled.

By considerable experimentation and building of different models, I have produced a sprinkler head which is practical, simple, and efficient, and while the form shown in Figs. 1 and 2 whirls faster, and does a good job of sprinkling, the form shown in Figs. 7 and 8 does not revolve quite so fast, but it does throw the water outwardly and downwardly in a very efficient manner.

I do not, therefore, limit my invention to the details of construction and arrangement here shown for illustrative and explanatory purposes, except as I may be limited by the hereto appended claim.

I claim:

A sprinkler head including a coupling member, a tubular nozzle secured to said member, a water deflecting member rotatably mounted on said nozzle, and consisting of two flat ribbon-like members extending in parallel relationship on opposite sides of said nozzle and having their

upper portions spiraled around each other above said nozzle, in crossed relationship, with their ends extended in curved form to overlie each other, on the outer side each of the other, whereby water from said nozzle first strikes the flat parts of said ribbon-like members above said nozzle and is deflected therealong to the curved ends of said members to give unrestricted rotation of said sprinkler head.

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