Aug. 23, 1938. E. N. BONNER 2,127,715

SPRAY HEAD

Filed Jan. 23, 1937

Fig. 4.

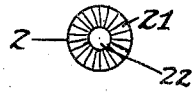


Fig. 5.

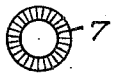


Fig. 1.

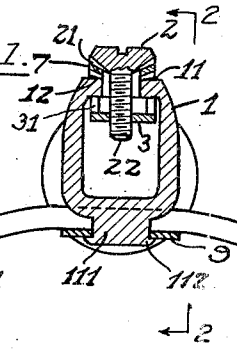


Fig. 2.

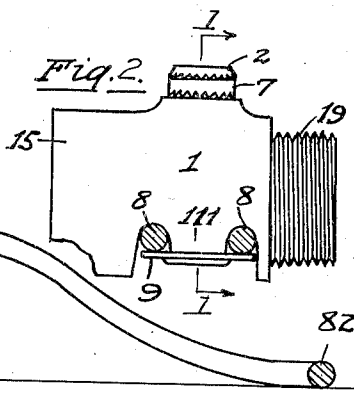


Fig. 6

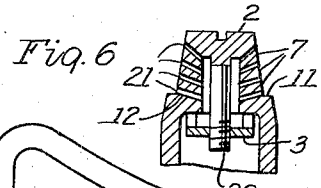
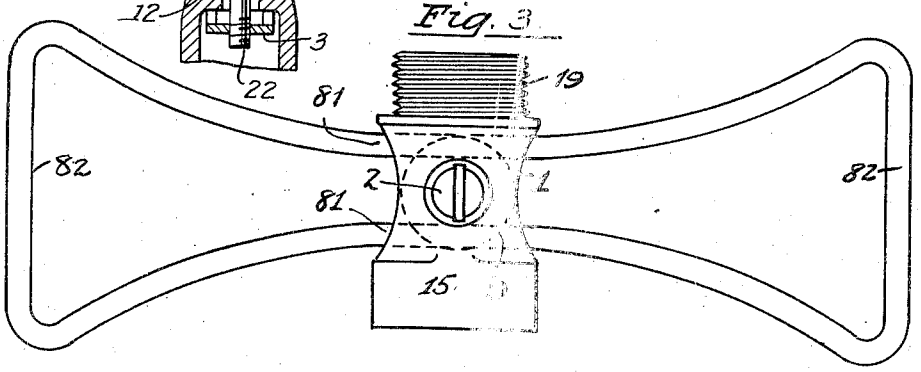


Fig. 3



Inventor:—

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Patented Aug. 23, 1938 2,127,715

UNITED STATES PATENT OFFICE

2,127,715

SPRAY HEAD

Ernest N. Bonner, Detroit, Mich.

Application January 23, 1937, Serial No. 122,086

3 Claims. (Cl. 299—141)

My invention relates to spray heads of the type adapted for connection to the end of a garden hose and also at points intermediate of its length, and its principal object is to provide a device of this character capable of producing a spray which is much better diffused than is the case with the existing type and in which the character and quantity of the spray may be varied to suit different requirements.

Another object of my invention is to provide a spray head equipped with improved means for supporting it in the operative position.

A further object of my said invention is to provide a device of the character referred to which is simple in construction and economical to manufacture by modern production methods.

With these and other objects in view, I will now describe a preferred embodiment of my invention with reference to the accompanying drawing, in which—

Figure 1 is a fragmentary sectional elevation showing a spray head of the intermediate type adapted to form a connection between individual lengths of hose and provided with a support of the bridge type, the section being taken on line 4—4 of Figure 2.

Figure 2 is a side elevation of the same taken in section on line 5—5 of Figure 1.

Figure 3 is a plan view of the same,

Figures 4 and 5 illustrate details of the spray nozzles to be hereinafter described.

Figure 6 is a fragmentary section corresponding to Figure 1 showing a modification to be hereinafter described.

Like characters designate corresponding parts throughout the several views.

1 is the body of hollow construction as shown, formed of metal or other suitable material by die-casting or like process. The body is provided with a flat top 11 in which is a countersunk opening 12 adapted to receive a washer 7, the underside of which is of frusto-conical shape corresponding to the countersink of the opening 12 and is knurled or otherwise provided with serrations 21 which form, in conjunction with the said countersink, a series of openings through which water under pressure may escape from the interior of the body so as to form a spray, the fineness of which is determined by the pitch of the knurling. The upper surface of the washer 7 is countersunk so as to receive the head of a screw 2, the underside of which is of frusto-conical shape corresponding to the countersink in the washer and is knurled or otherwise provided with serrations 21, which form a second series of openings so as to provide another spray similar to the one issuing from the underside of the washer. The stem 22 of the screw 2 is provided with a nut 3 which is spaced apart from the interior surface of the body by feet 31. The bevel of the screwhead is preferably about thirty degrees from the horizontal, while the bevel of the underside of the washer 7 may be from ten to fifteen degrees to produce good results. Figures 4 and 5 show underside views of the screwhead and the washer respectively, showing the knurling of the same. The body 1, as shown is adapted for use in a horizontal position, being provided at one end with an internally threaded socket 15 adapted to receive a hose coupling of the external type and at the other end with an externally threaded portion 19 adapted for connection to an internally threaded hose coupling.

In order to support the spray head I have provided a bridge 8 preferably formed from round wire and comprising a pair of central arcuate portions 81 connected at their ends by parallel transverse members 82 spaced apart as shown. In order to secure the bridge 8 to the head 1, I provide upon the underside of the bridge a washer 9 secured to the adjacent surfaces of the bridge wire by spot-welding or other means, and upon the underside of the body 1 I provide a boss 111 which extends through the hole in the washer 9 and is secured in position by riveting over as at 112. The bridge wires 8, as shown in Figure 5, pass through grooves on either side of the boss 111 so that a rigid connection is formed between the bridge and head. The bridge method of support has the advantage that the head may be moved around upon the ground surface by merely pulling upon the hose, which in some instances is a great convenience.

It will be understood from the foregoing description and by reference to the drawing that I have provided a cheap and simple construction for the purpose in view, and while I have herein described and shown a preferred embodiment of my invention, it will be understood by those skilled in the art to which the same relates that I may make various modifications to meet any particular requirements without departing from the spirit of my invention as defined in the appended claims. For example, I may employ a plurality of washers instead of the single washer 7 as shown in Figure 6 so as to provide a spray of wider scope, also, in some cases I may confine the knurling to a portion only of the periphery of the screw and the washers so that

the direction of the spray may be limited to one side of the body or one end thereof.

Having thus described my said invention, what I claim and desire to secure by Letters Patent of the United States is:

1. A spray head comprising a hollow body provided with means for connection to a supply pipe and having in its upper wall an externally countersunk opening, a washer having a similar opening and having its underside bevelled to fit the countersunk portion of the opening in the body, and a screw having a shank of less diameter than said openings, the said shank extending through said openings into said body and being secured in position by screw means, the head of said screw being bevelled upon its underside to fit the countersunk portion of said washer and the undersides of said washer and said screw having each a series of radial grooves therein.

2. A spray head comprising a hollow body provided with means for connection to a supply pipe and having in its upper wall an externally countersunk opening, a plurality of washers superposed one upon another and each having a similar opening and having its underside bevelled to fit the countersunk portion of the surface beneath it, and a screw having a shank of less diameter than said openings, the said shank extending through said openings into said body and being secured in position by screw means, the head of said screw being bevelled upon its underside to fit the countersunk portion of the upper of said washers and the lower of said washers fitting against the opening in the body, and the undersides of said washers and said screw having each a series of radial grooves therein.

3. A spray head comprising a hollow body provided with means for connection to a supply pipe and having in its upper wall an externally countersunk opening, a plurality of washers superposed one upon another and each having a similar opening and having its underside bevelled to fit the countersunk portion of the surface beneath it, and a screw having a shank of less diameter than said openings, the said shank extending through said openings into said body and being secured in position by screw means, the head of said screw being bevelled upon its underside to fit the countersunk portion of the upper of said washers and the lower of said washers fitting against the opening in the body, and at least one of each pair of abutting surfaces having a series of radial grooves therein.

ERNEST N. BONNER.

Patent No. 2,127,715 Granted August 23, 1938

ERNEST N. BONNER

The above entitled patent was extended October 30, 1951, under the provisions of the act of June 30, 1950, for 2 years and 263 days from the expiration of the original term thereof.

Commissioner of Patents.