Feb. 24, 1959 J. F. ATTWELL 2,874,995

SPRAY NOZZLE

Filed Feb. 20, 1956

Fig. 1

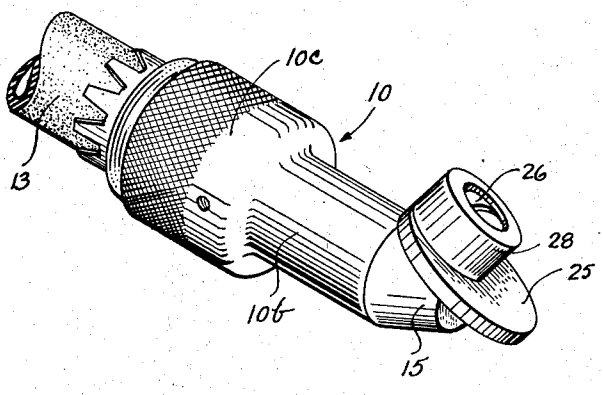


Fig. 2

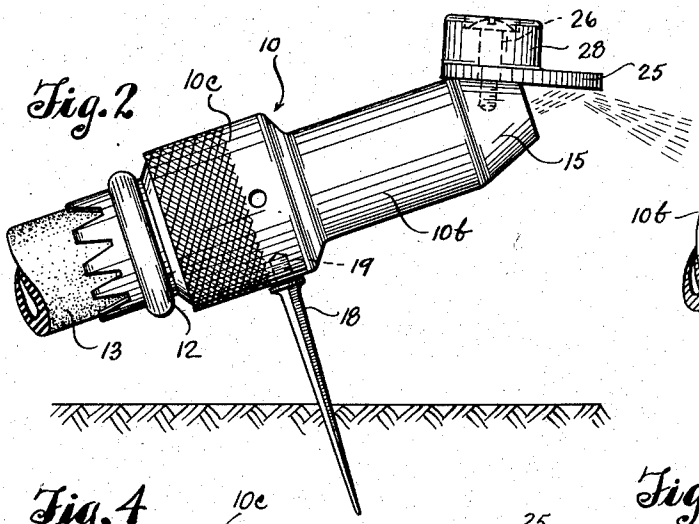


Fig. 3

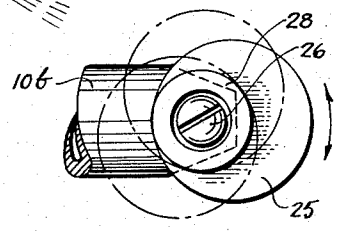


Fig. 4

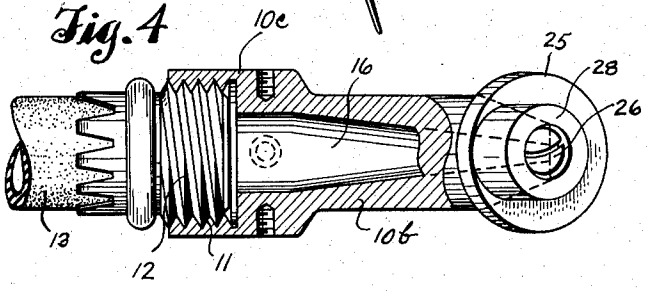


Fig. 5

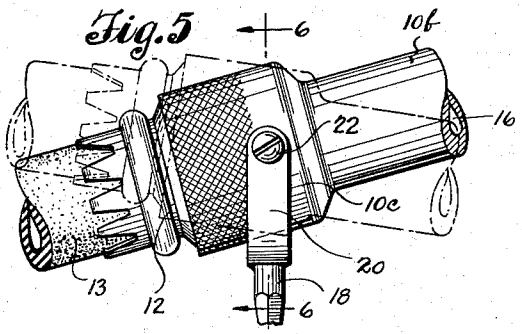
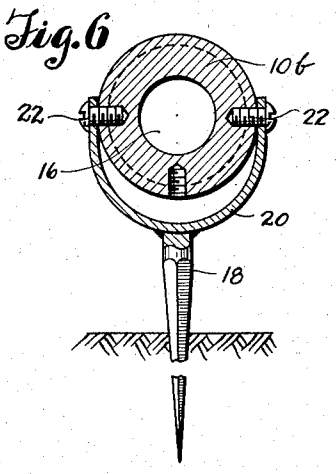


Fig. 6



INVENTOR.
JAMES F. ATTWELL
BY
Cook & Robinson
ATTORNEYS

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SPRAY NOZZLE

James F. Attwell, Bothell, Wash.

Application February 20, 1956, Serial No. 566,430

1 Claim. (Cl. 299—129)

This invention relates to nozzles and more particularly to a nozzle designed for use with an ordinary garden hose.

It is the principal object of this invention to provide a nozzle whereby water, as supplied thereto under pressure through a garden hose, can be thrown as a jet a considerable distance, and which, according to this invention, is equipped with novel means whereby the water jet can be formed into a fine spray suitable for the watering of a lawn, flower beds, garden, or the like.

More specifically stated, the present invention resides in the provision of a nozzle of the character above disclosed that is equipped at its discharge end with a rotatably mounted spray forming plate or disk, that is easily adjustable into or from the water stream as discharged from the nozzle to form it into a fine, uniform spray of water.

It is also an object of the invention to so mount the spray forming disk that it can be adjusted by the hand in which the nozzle is held and as it is used, or which may be fixed in any desired position of adjustment.

A further object of the present invention is to provide a nozzle that is equipped with a spray forming disk as above stated, and wherein the disk is adapted to be disposed in the path of the water jet in a plane that is at an angle thereto and is eccentrically mounted, and by rotative adjustment in opposite directions from a neutral position, can cause the spray to be directed to one side or the other and the character of the spray changed with the adjustment.

Further objects and advantages of the invention reside in the details of construction of parts, in their combination or assembled relationship, and in the mode of use of the device as will hereafter be fully described.

In accomplishing the above mentioned and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a nozzle embodying the improved features of the present invention therein.

Fig. 2 is a side view of the nozzle of the present invention as applied to a garden hose, and illustrating one mode of its use.

Fig. 3 is a top view of the discharge end portion of the nozzle as equipped with the spray forming disk according to the present invention.

Fig. 4 is a top view of the present nozzle as applied to a garden hose; the nozzle body being shown partly in axial section.

Fig. 5 is a view illustrating the nozzle as equipped with a ground support of an alternative form.

Fig. 6 is a vertical cross-section of the nozzle as seen on line 6—6 in Fig. 5.

Referring more in detail to the drawings:

The present nozzle is designated in its entirety by reference numeral **10**, and as understood best by reference to Figs. 4 and 5, it comprises a tubular body portion **10***b*, diametrically enlarged at its inner end, as at **10***c*, and

formed in that end enlargement with an exteriorly threaded, axial socket **11** for reception, as herein shown, of the exteriorly threaded fitting **12** at the end of a garden hose **13**. The other or outer end of the body portion terminates in a conically tapered portion **15**. Formed axially of the body, and leading from the socket **11** into which the hose connector **12** is threaded through the conical outer end portion, is a channel **16** through which water from the hose is discharged.

To adapt the present nozzle for watering lawns or gardens as a stationary sprinkler, the nozzle body **10***b* is equipped with a supporting pin or spike **18**. This is threaded at one end into a radial socket **19** in the enlarged end portion of the nozzle body to cause the spike to extend radially from the nozzle. The outer end portion of the spike is pointed for easy projection into the sod, as indicated in Fig. 2, so that the nozzle may be held by the spike in a most practical position relative to the lawn or area where the water is to be thrown.

As an alternative form of support, the pin **18** might be equipped with a yoke, as at **20** in Figs. 5 and 6, designed to embrace the base end portion of the nozzle and adapted to be fixed thereto by screws **22** passed through the opposite arm portion of the yoke as shown.

The means provided for changing a jet of water as discharged from the nozzle into a spray, and also for controlling the direction and character of the spray, comprises a flat, circular disk or plate **25**, disposed flatly against the conically tapered end surface of the nozzle as in Fig. 2 and fixed thereto for rotary adjustment by a mounting screw **26**. As shown best in Figs. 2 and 3, the screw is eccentric of the disk, and it mounts the disk in such position that an edge portion of the disk extends beyond the nozzle tip into the path of the water jet as discharged from the nozzle. With the disk symmetrically disposed with respect to the direction of discharge of the water jet, for example, as in Fig. 4, the spray as formed thereby will be directed downwardly and equally to opposite sides. By rotatably adjusting the disk to one side or the other, for example, as indicated by the dotted circles in Fig. 3, the character of the spray and its direction will be changed accordingly. When the disk is rotated through 180° from its position in Figs. 2 and 4, it will be in the clear of the water jet and the device will then function as an ordinary nozzle.

If the pivot screw is not drawn down tight, then the user of the nozzle may adjust the disk at will by the thumb of the hand in which the nozzle is held to vary the spray and change its direction as desired. If it is desired to hold the disk in a fixed position of adjustment, the screw is turned down tight to clamp the disk against turning. The nozzle may be held in the hand or set in a fixed position as indicated in Fig. 2

To provide a practical and long wearing bearing portion for the disk mounting screw **26**, the disk is formed on its top side with a boss **28** through which a hole is bored to receive the screw.

Nozzles of this kind may be made in various sizes and of various materials. Also, the size of the disk **25** and its angle of mounting relative to the nozzle axis can be varied to suit conditions.

The present combination of parts provides a practical, easy to use and convenient device for garden, lawn or flower bed watering. Dimensions and proportionate sizes of parts may be changed within reasonable limits without departing from the spirit of the invention.

Having thus disclosed the invention, I claim:

A spray nozzle of the character described comprising a nozzle body formed with an axial water delivery channel opening to one end thereof and equipped for connection at its other end with a source of supply of water under pressure; said body having a conically tapered dis-

charge end portion, a flat, spray forming disk of circular form disposed with its flat underside surface in line contact with the conically tapered surface of the end portion of the nozzle body, and a pivot screw extended through the disk, perpendicular thereto and eccentrically thereof and threaded into the tapered end portion of said body at the line of contact, said disk, as thus mounted, being extended sufficiently beyond the nozzle end, when in fully extended position of rotary adjustment, to deflect the water jet as discharged from the nozzle equally to opposite sides as a fan shaped spray, and being adapted by rotary adjustment about said pivot screw in opposite directions, to extend or shorten the effective spray forming surface; and to deflect the spray to more or less extend toward one side or the other depending on the direction of adjustment; said screw being adapted to be tightened against the disk to secure it at any position of rotary adjustment.

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