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T. L. KELLEY

2,123,425

VEGETABLE SPRAYER

Filed May 6, 1937

Fig. 1.

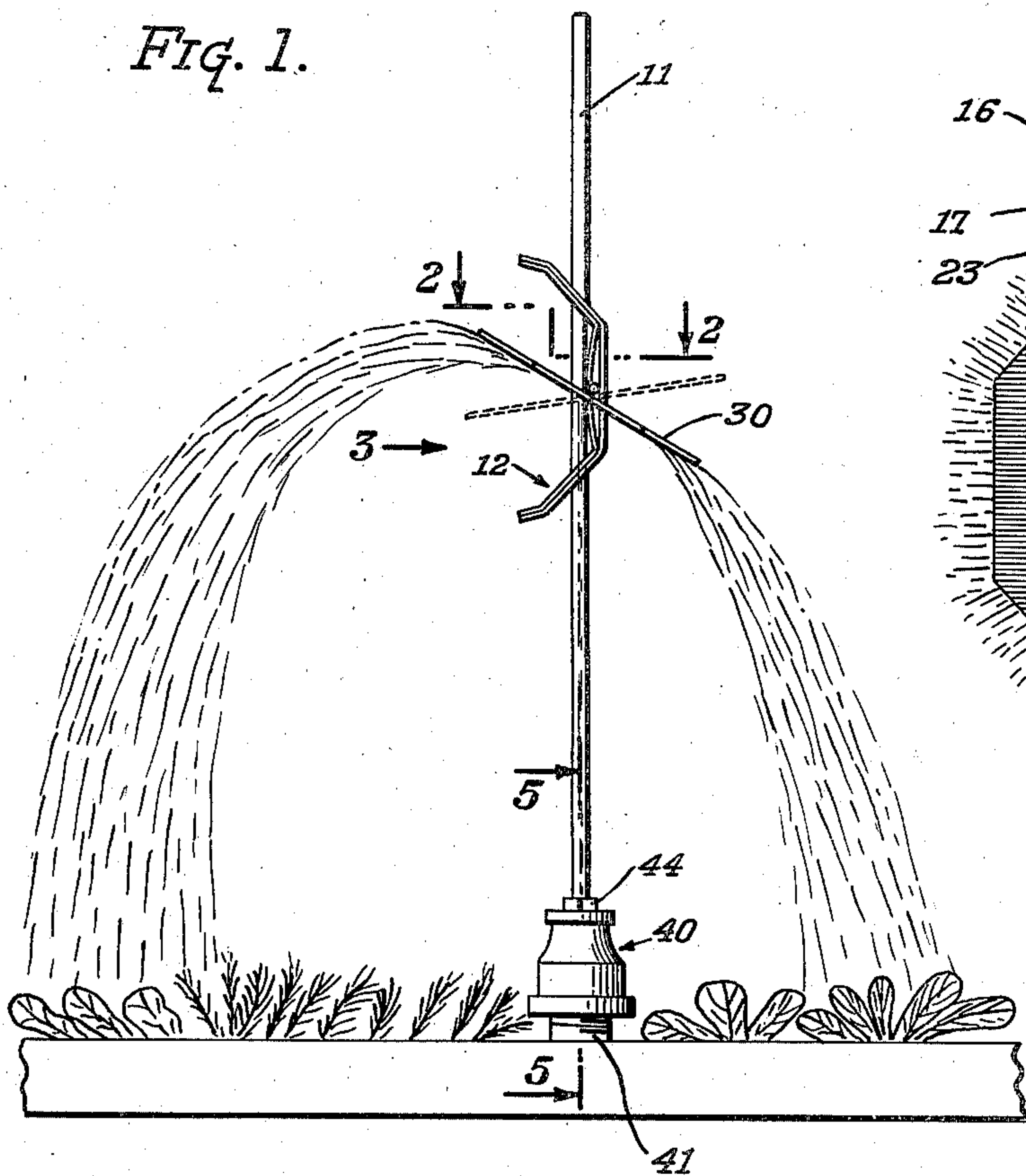


Fig. 2.

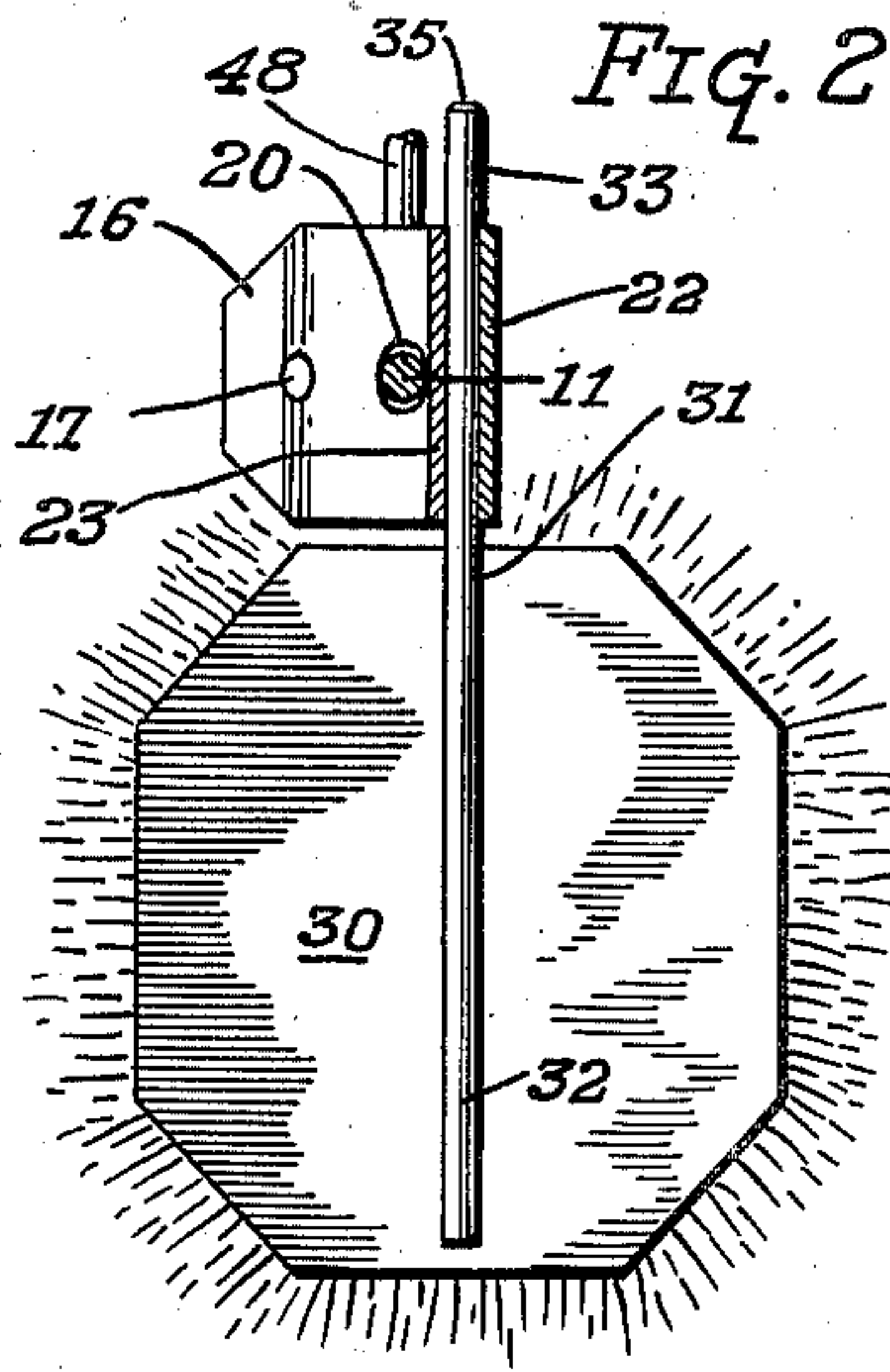


Fig. 3.

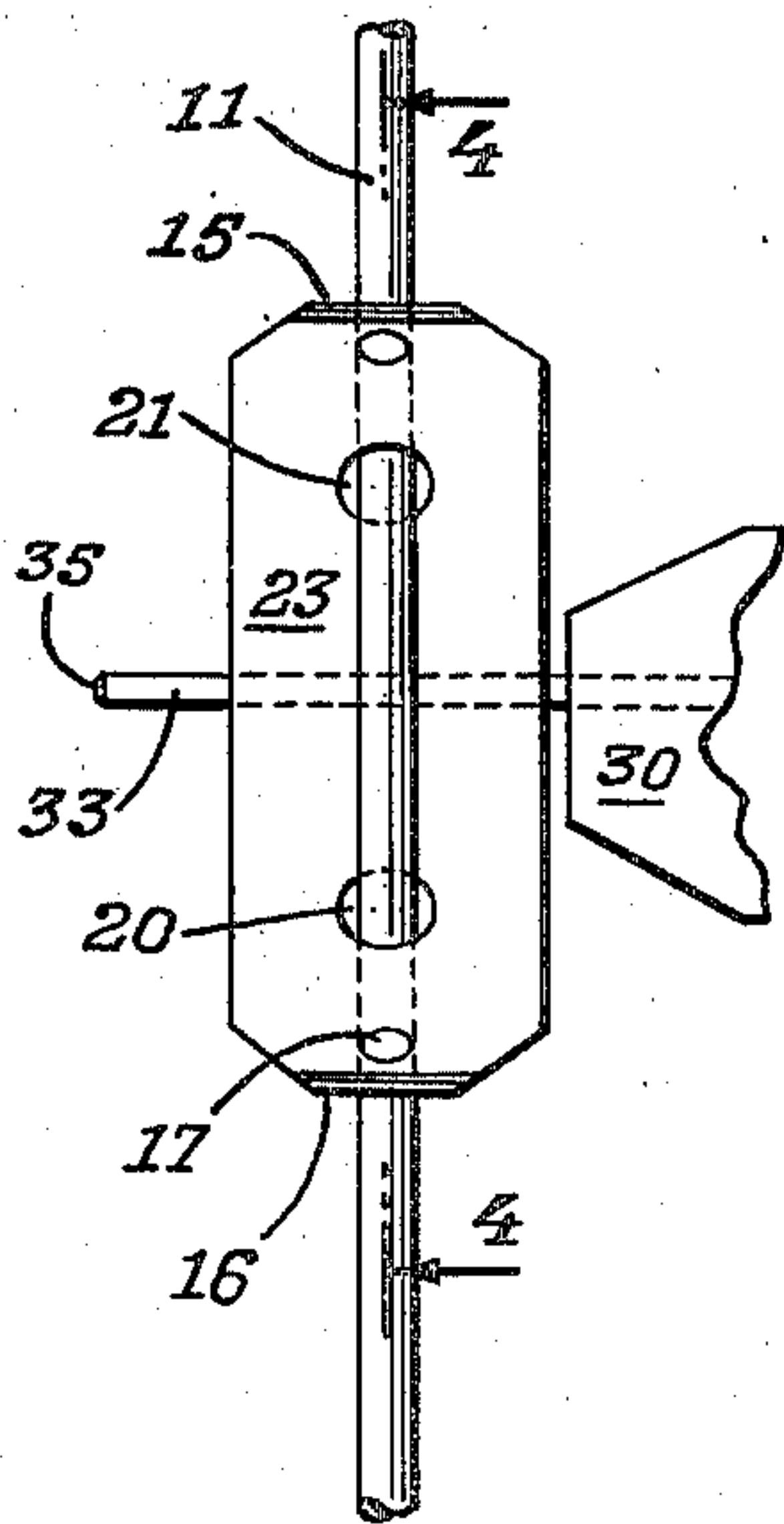


Fig. 4.

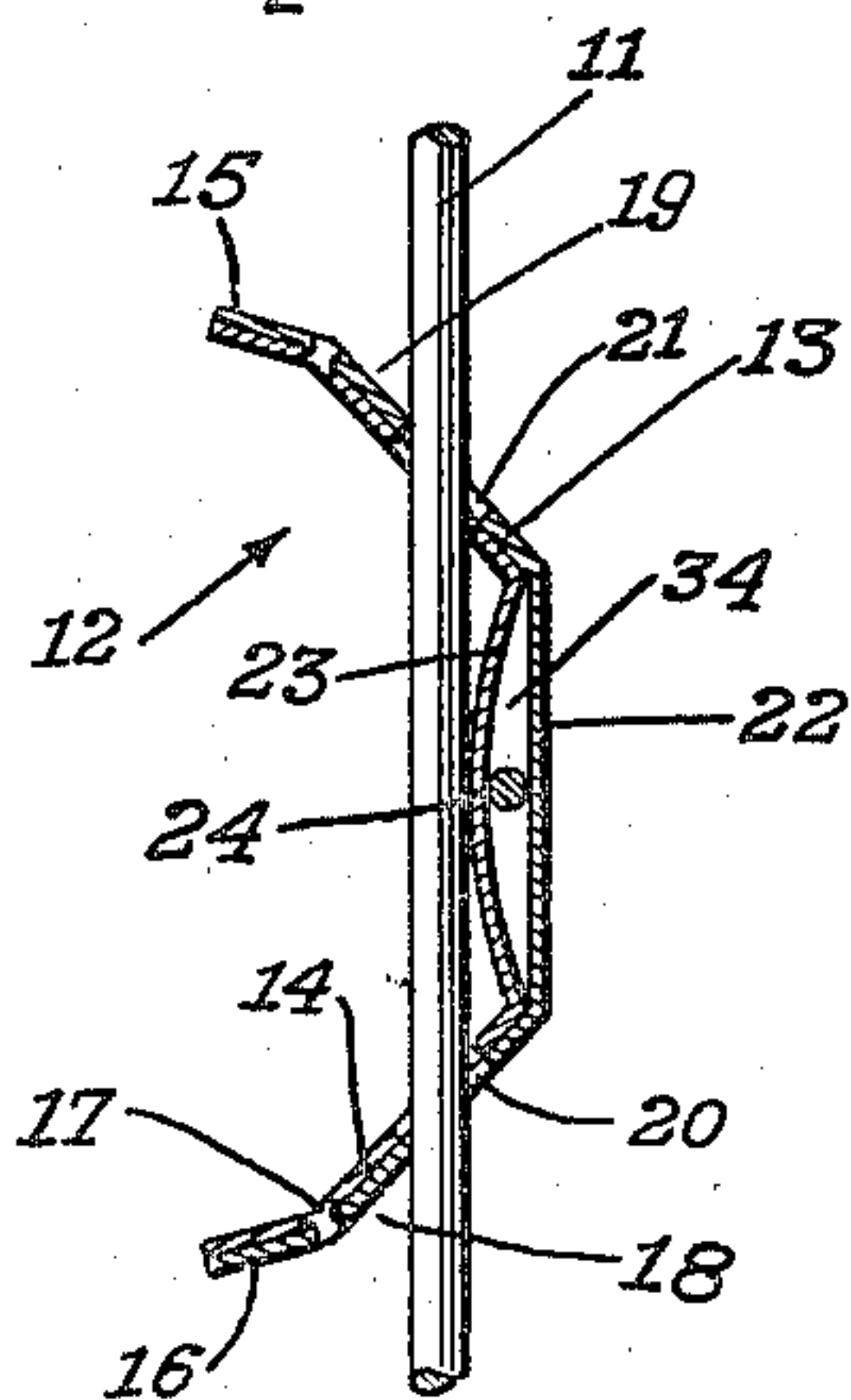
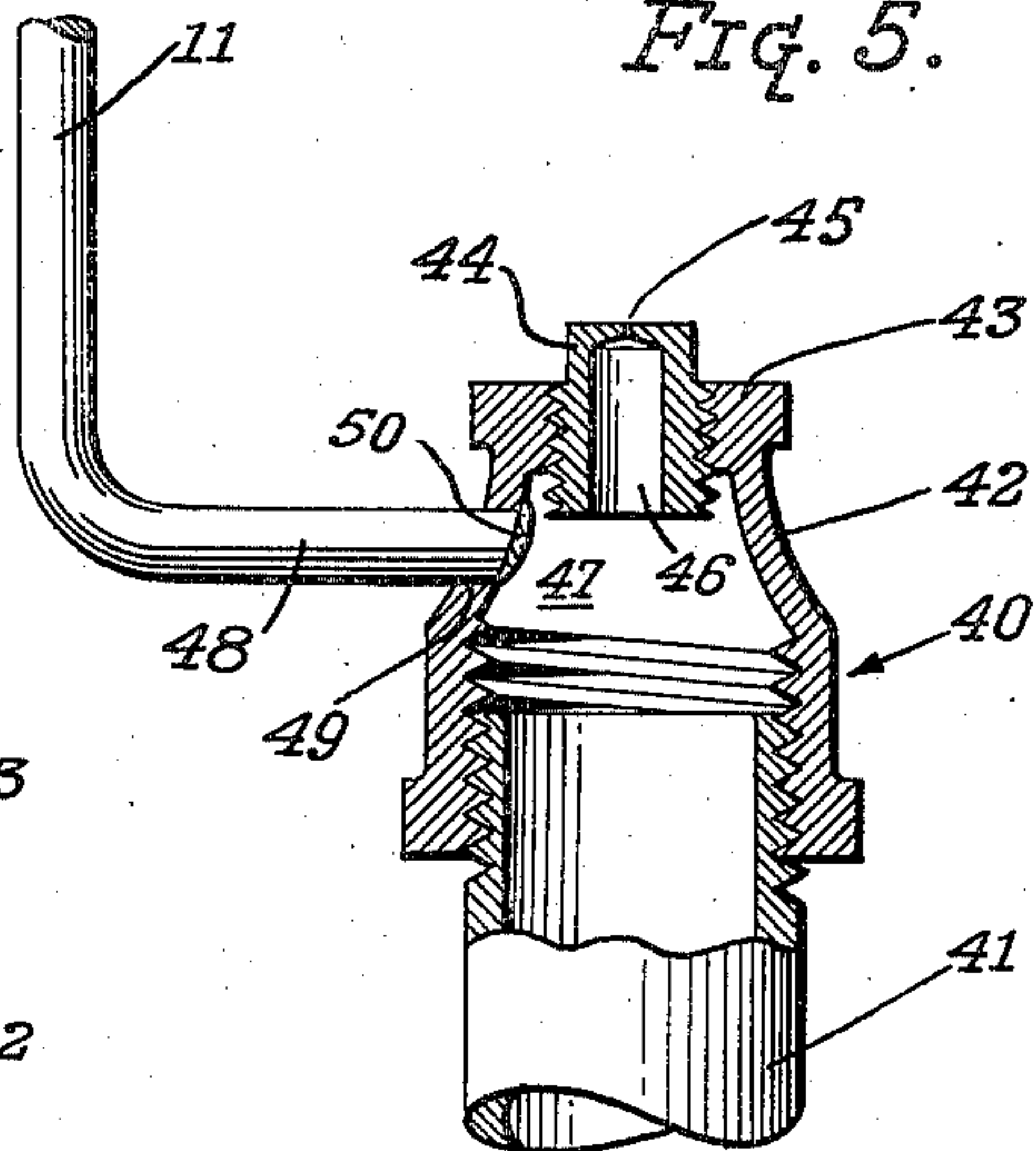


Fig. 5.



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UNITED STATES PATENT OFFICE

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VEGETABLE SPRAYER

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Application May 6, 1937, Serial No. 141,114

5 Claims. (Cl. 299—58)

My invention is a water sprayer for spraying vegetables on a vegetable stand in order to maintain these in a fresh and attractive condition. In certain types of vegetable stands it is desirable to spray such vegetables by means of a single or a central jet on account of the vegetables sometimes being arranged in a non-symmetrical manner. As regards the jet, it quite often happens that the vegetables are not evenly sprayed with water.

My invention comprehends therefore a type of vegetable sprayer in which a single and preferably central jet of water discharged vertically may, by a spreading and deflection plate, be diverted and directed downwardly and also laterally to spread the spray on the vegetables and to be adjustable for varying the relative spread and amount of water reaching the vegetables in different positions relative to the spray jet.

Considered more specifically, my invention has as an object and feature a vertically adjustable spreading and diverting plate which may be raised and lowered as regards the vertical water jet and may be inclined at various angles to project the water different distances on one side of the jet from the other and to also spray more water in one direction than the other. A feature of my invention as to the vertical adjustment of the spreader plate includes an upright rod with a combined rod clamp and plate holder which engages the rod by a friction grip due to a resilient spring action and thus may be located at different elevations. Also the same clamp operates as a journal for a shaft connected to a flat spreader plate, such shaft being held in place by friction between two spring parts of the clamp.

Considered in more detail my invention includes the clamp formed of two spring plates arranged somewhat in a concave manner nested together and with two aligned perforations through which the upright rod extends. However one of these plates between these perforations is bent towards the rod in a convex curve and forms a center friction element engaging the rod between the portions of the rod clamped at the perforations. This construction forms a space between the two plates between the perforations and this due to the resilient nature of the plates, forms a type of friction journal for the shaft to which the spreader plate is attached for rotating this plate on the axis of the shaft, such shaft extending horizontally when the supporting rod is vertical. My invention also includes a disconnectable jet orifice device which may be readily changed to vary the size of the orifice of the jet and for purposes of cleaning.

My invention is illustrated in connection with the accompanying drawing, in which:

Fig. 1 is an elevation of my invention illustrating different positions of the spreading plate

and indicating the spread and distribution of the water.

Fig. 2 is a vertical section on the line 2—2 of Fig. 1 in the direction of the arrows.

Fig. 3 is a front elevation of the clamp and part of the spreader plate taken in the direction of the arrow 3 of Fig. 1.

Fig. 4 is a vertical section on the line 4—4 of Fig. 3 in the direction of the arrows.

Fig. 5 is a vertical section through the sprayer head and removable orifice device.

In my invention I employ an upright or vertical rod 11 which may be supported in any suitable manner. This is preferably cylindrical. Mounted on the rod there is a clamp 12. Such clamp has an outer plate 13 and an inner plate 14. These plates have upper and lower ends 15 and 16 forming finger grip ends and secured adjacent such ends by rivets or spot welding as indicated at 17. There are two converging sections of the plates of the clamp indicated as a lower section 18 and an upper section 19. Each of these presents a plane surface having lower and upper perforations 20 and 21 through both of the plates. The plates are closely contiguous at these flat sections 18 and 19. The center portion 22 of the outer plate is preferably a plane and vertical surface. The center section 23 of the inner plate however is convex and has a rubbing contact 24 with the rod 11.

It will be seen with this construction that the rod 12 extends through the upper and lower perforations and as the plates are formed of steel which has more or less tension tending to flatten the springs, the rod is snugly gripped at the perforations. These perforations are of sufficient size so that the clamp slides readily up and down the rod and at any place tightly grips the rod. When it is desired to move the clamp up and down the upper and lower finger grip ends 15 and 16 are squeezed together, that is, towards each other. This tends to bend the clamp assembly slightly so that there is a looser working action of the perforations on the rod and so that the pressure of the portion 24 on the rod is lessened. In fact, with considerable pressure the flat part 22 may be slightly flexed outwardly and the portion 23 slightly spaced from the rod 11, thus allowing the clamp to be raised and lowered on the rod quite easily.

With this rod I utilize a spreader plate 30 which may be of any desired configuration. The plate however is flat or plane and has a shaft 31 connected thereto. This shaft is indicated as substantially centrally located as regards the opposite sides of the plate, the rod being secured to the plate substantially along the central line 32 by soldering or the like. Thus there is an end portion 33 of the shaft extending beyond one end of the plate. This end is fitted between the two

spring plates of the clamp in the space indicated at 34 (note Fig. 4). The shaft end thus due to the concave curve of the underface of the section 23 occupies substantially a midposition between the upper and lower ends of the space 34. The friction of the plate section 22 and the plate section 23 on the shaft 33 retains this from rotation. The shaft part is preferably of such diameter that when removed from the space 34 the natural flexing of the metal of the clamp spaces the portion 23 from the rod 11. The end of the shaft is somewhat pointed as indicated at 35 so that this end may be readily inserted in the opening 34 and when the rod is thrust in place it causes a contact of the portion 23 of the inner plate of the clamp to engage the rod and presses outwardly on the flat side 22. This thus aids tightly securing the clamp to the vertical rod and developing a sufficient friction to hold the deflection plate 30 at any desired angle in reference to the rod 11.

A convenient manner of mounting the rod is to employ a sprayer head 40 shown as having a screw threaded connection with a standpipe 41 of a water supply. The head has a somewhat tapered section 42 above the threaded portion and a top 43 having a threaded opening in which is inserted the orifice plug 44 having a small bore orifice 45. This plug has a relatively large recess 46 below the orifice and there is a relatively large space 47 in the head below the plug. It will be noted that the plug is threaded downwardly extending below the top portion 43. The rod 11 has a horizontally extending lower end 48 which is fitted through a side opening 49 in the tapered portion 42 and secured on the inner end by a weld 50. It will be understood that if desired the rod may be welded on the outer end of the spray head.

The manner of using my invention and the function of the various parts may be considered substantially as follows: The standpipe 41 with the head 40 is located on a vegetable stand in a convenient place for piling vegetables around the standpipe or one side of the pipe possibly may have more vegetables than the opposite side. The lower end 48 of the rod 11 offsets the vertical part of the rod from the line of the vertical jet from the orifice 45, this being such that the jet of water impinges on substantially the center of the plate 30 on the underside. Manifestly as the clamp may be rotated on the rod 11 and the plate rotated on its horizontal shaft 31, various adjustments may be made as to the part of the plate against which the water jet impinges and the angularity of such plate. Therefore an unequal spread of the water may be obtained from this plate. If the plate is at an angle to the jet while some water will spray outwardly along the axis of the shaft 31, most of it will be discharged at substantially right angles to this shaft and a variable spread may be given to the water as indicated by the spray lines shown dotted in Fig. 1.

Various changes may be made in the details of the construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. In a sprayer, the combination of a vertical rod having a support, a clamp having an outer and an inner plate, means securing said plates together adjacent their free ends, such ends being

adapted to form a finger grip, the two plates having two converging sections in close contact, aligned perforations through said sections with the rod extending therethrough, the center portion of the outer plate being substantially flat and parallel to the rod, the center portion of the inner plate having a convex curve forming a space between the two center portions, a spreader plate having a shaft, the shaft extending through said space at substantially right angles to the rod and frictionally engaging the two center portions of the plate and forming a frictional engagement whereby on rotation of the spreader plate on the axis of the shaft, the shaft is held by friction.

2. In a sprayer as claimed in claim 1, the center portion of the inner and outer plates extending from the ends of the converging sections through the perforations of which the rod extends, thereby forming an elongated space whereby the said shaft may be moved upwardly or downwardly in the said space or tilted at an inclination to the said rod.

3. A sprayer comprising in combination a sprayer head having means for attachment to a vertical standpipe, the head having an end with a threaded opening, an orifice plug fitted therein having a large recess on the inside and a small bore orifice in axial alignment with the standpipe, a rod having a vertical upper portion and a horizontal lower portion, the horizontal lower portion being connected to the head thereby offsetting the rod parallel to the axis of the orifice, a clamp on the rod engaging the rod frictionally, the clamp being so constructed and arranged relative to the rod that it is vertically and rotatably adjustable on the rod and held in adjusted position by said frictional engagement, a spreader plate mounted in the path of discharge from said orifice, said spreader plate having a shaft, the said shaft and clamp having a frictional connection means to provide for adjustment of the plate relative to the axis of the shaft.

4. In a device as described, a clamp having an inner and an outer plate in the form of elongated straps, means securing said plates together adjacent their free ends, such ends being adapted to form a finger grip, the outer and inner plates having two converging sections extending from the ends, such converging sections having aligned openings, a rod extending through said openings, the part of the plates on the side of the rod opposite the finger grip ends forming a central portion, such central portion of the outer strap being substantially flat and parallel to the rod and the center portion of the inner strap having a convex curve and of such convexity that it frictionally engages the said rod whereby the clamp is frictionally mounted on the rod by the engagement with the rod at the perforations and of the inner convex strap section engaging the rod on one side.

5. In a device as described and claimed in claim 4, the straight portion and the convex portion of the outer and inner straps forming a space, a shaft fitted in said space at substantially right angles to the said rod, the said outer and inner strap portions being so constructed and arranged and so engaging the shaft that it may be rotated about or moved longitudinally of its axis or tilted slightly from said right angular relation.

THOMAS L. KELLEY.