May 23, 1961 A. CADELLA 2,985,381

LAWN SPRINKLER

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Fig. 1.

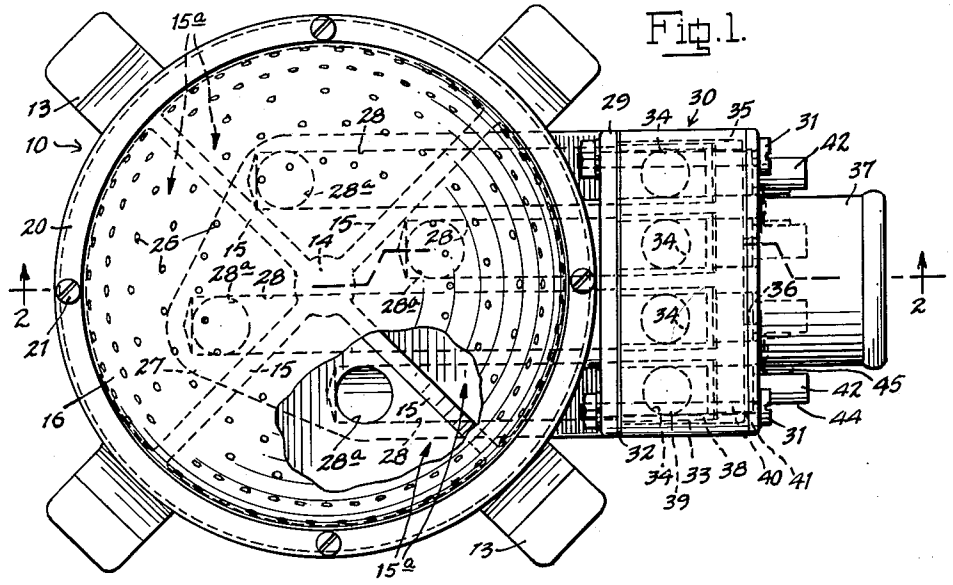


Fig. 2.

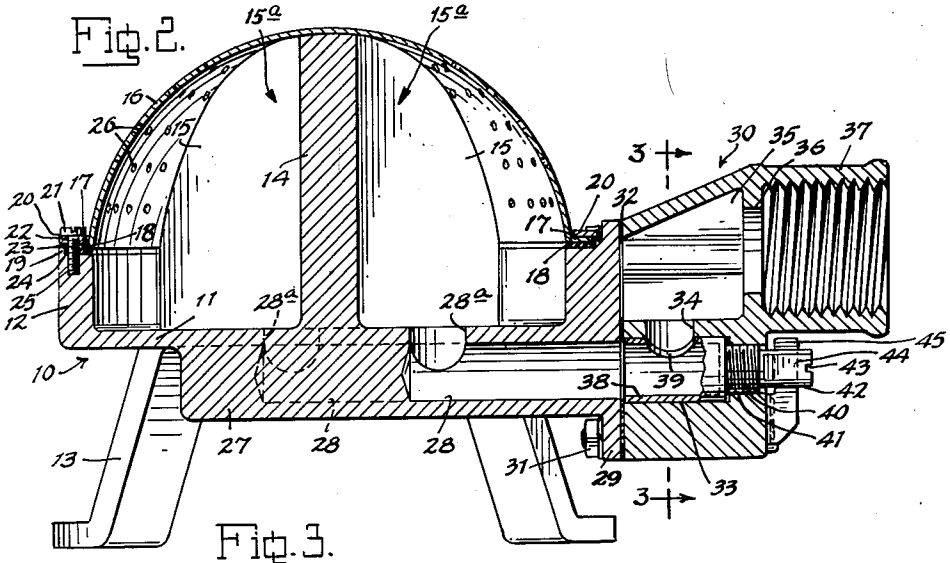
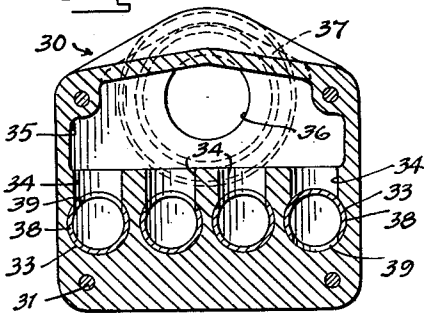


Fig. 3.



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Fig. 4.

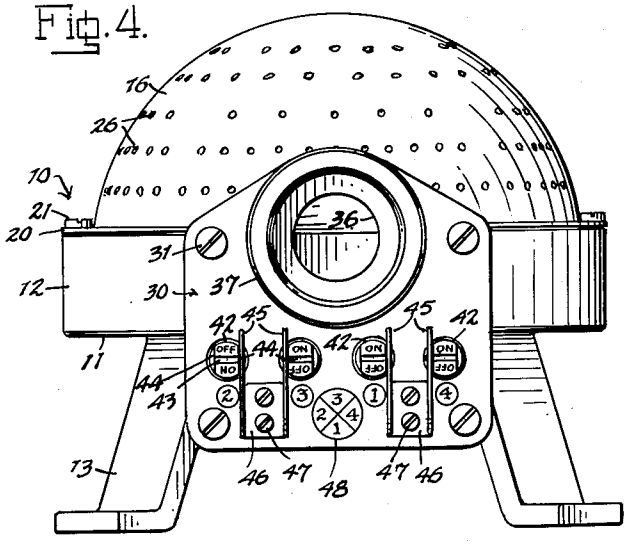


Fig. 5.

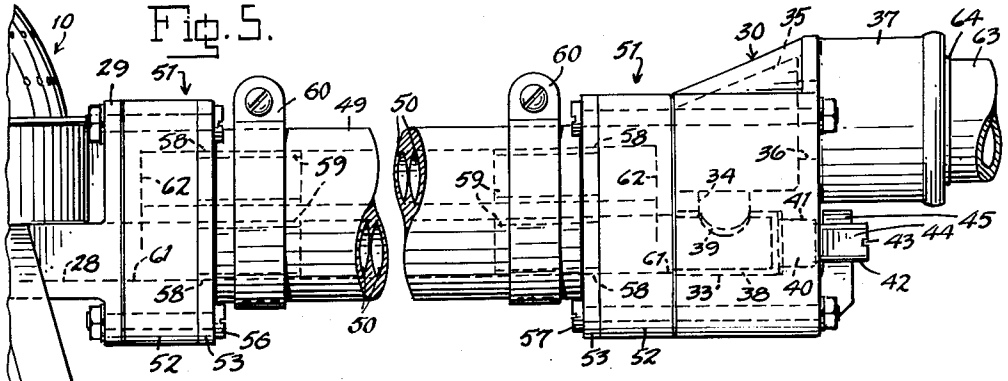


Fig. 6.

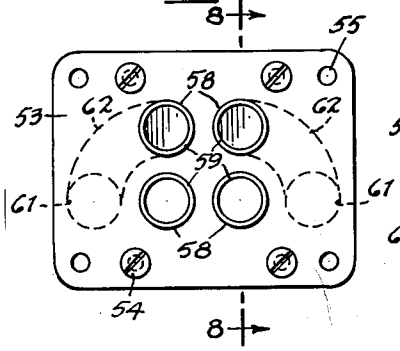


Fig. 7.

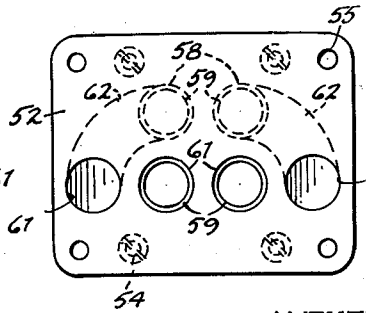
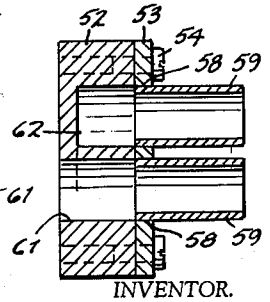


Fig. 8.



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2,985,381

LAWN SPRINKLER

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4 Claims. (Cl. 239—280)

The present invention relates to a lawn sprinkler, and has for an object to provide a sprinkler adapted to direct a spray over a relatively large circular area, and which may be selectively controlled to spray one or more quadrants of such circular area. A further object is to provide an improved valve means for selectively controlling the sprinkler, which may either be provided directly upon a sprinkler head, or may be connected to the sprinkler head at a remote point, so that the selective control of the sprinkler head may be carried out while the sprinkler is in operation without subjecting the person operating the sprinkler to a wetting from the spray of the sprinkler.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein a satisfactory embodiment of the invention is shown. However, it will be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawings:

Fig. 1 is a plan view of the sprinkler according to the invention, with selective control means directly mounted upon the sprinkler head;

Fig. 2 is a vertical sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is a vertical sectional view taken along the line 3—3 of Fig. 2;

Fig. 4 is a rear elevation of the sprinkler;

Fig. 5 is a side elevation showing an alternative arrangement wherein a remote control connection is provided between the sprinkler head and the selective control means;

Fig. 6 is an elevational view of the outer side of one of the two connector members for remote control connection;

Fig. 7 is an elevational view of the inner side thereof;

Fig. 8 is a vertical sectional view taken along the line 8—8 of Fig. 6.

Referring to the drawings, and more particularly to Figs. 1–4 thereof, the lawn sprinkler head, according to the exemplary embodiment of the invention illustrated therein, comprises a body member **10**, preferably in the form of a casting of bronze or other suitable metal, including a horizontal base portion **11** provided with an upstanding peripheral circular wall **12**, and having at its underside a plurality of radially extending divergent supporting legs **13**. Centrally of the base **11** there is provided an upstanding post **14** from which a plurality of radial partition walls **15** extend to the peripheral wall **12**, four such walls being provided to divide the body into four compartments **15***a* in the form of quadrants. The upper edges of the partition walls are convexly curved downwardly and outwardly to engage the inner surface of a dome-like cover member **16**, of substantially semi-spherical form, provided at its lower edge with an outwardly extending flange **17** which seats upon a packing ring **18** disposed upon the upper side of the circular wall **12** inwardly of a positioning rim **19**.

The cover member is retained in place by a retaining ring **20** secured by screws **21** engaged through registering holes **22**, **23** and **24** of the retaining ring **20**, the flange **17**, and the packing ring **24**, and screwed into threaded holes **25** in the wall **12**. Suitably arranged holes **26** are provided in the cover member **16**, preferably having their axes radial to its center point, and are adapted to direct the spray from the four compartments **15***a* provided by the partition walls **15**, as will presently more fully appear.

Upon the underside of the base **11** there is provided an enlargement **27** provided with four parallel inlet passages **28** extending from ports **28***a* opening to the respective compartments to the vertical face of a flange **29** provided at one side of the head.

A selective control member **30** is secured to the flange **29** by bolts **31**, a sealing gasket **32** being interposed between the flange and the member **30**. In the lower portion of the member **30** there are provided four cylindrical pockets **33** respectively in axial line with the passages **28**, and which are connected by ports or outlet passages **34** to a distributing chamber **35**, which in turn is connected by a port **36** to an interiorly threaded hub **37** into which the exteriorly threaded fitting upon the end of a hose may be screwed. Within each of the pockets **33** there is provided a tubular cylindrical valve member **38**, the bore of which constitutes an outlet passage of the control member which opens to the aligned inlet passage **28** of the sprinkler head and is provided at one side with a port **39**, which in one position registers with the respective port **34** extending to the distributing chamber **35**, and through a half-turn of the valve member is removed from the port **34** so that the latter is closed by the solid wall of the valve member diametrically opposite the port **39**. The inner end of the valve member is closed and is provided with a threaded stud **40** engaged in a threaded hole **41** coaxial with the pocket **33**, a reduced diameter stem **42** extending outwardly from the stud and being provided at its outer end with a slot **43** for convenient engagement by a screwdriver for turning the valve through 180° to move it into on and off positions.

In order to effectually retain the operative positions of the valves, the respective stems **42** are each provided with flats **44**—**44** upon their opposite sides, one flat of each of the stems being engaged by one of four leaf springs **45** to yieldably retain the position of the valve. For convenience the four leaf springs **45** are provided upon two spring members **46**, each consisting of a rectangular base secured by screws **47** to the outer wall of the control member **30** and having a pair of upwardly extending leaf springs bent from its two vertical edges.

As clearly shown in Fig. 4, the ends of the stems preferably bear the legends "On" and "Off"—the legend "On" in its upper position indicating that the respective valve is in operative position, and the legend "Off" in its upper position indicating that the respective valve is in in-operative position. In order to conveniently indicate to the operator which of the valves controls the respective quadrants of the head, the wall of the member **30** preferably is provided with a diagram **48** representing the four quadrants of the head respectively numbered "1," "2," "3" and "4," in corresponding position to the quadrants of the head, and the valves for controlling these respective quadrants are provided with the legends "1," "2," "3" and "4."

In Figs. 5–8 there is shown the alternative arrangement wherein the selective control member **30** is connected at a remote point to the sprinkler head. The remote connection means comprises a flexible hose **49** of any suitable length provided with four conduit passages **50**, and having secured upon its respective ends a pair of identical connector members **51**—**51** adapted to be respectively connected to the flange **29** of the sprinkler head, to connect the four hose passages **50** to the four passages **28** of

the sprinkler head, and to the selective control member 30 to connect the four control valves 38 to the four hose passages.

The connector members 51 each comprise a rectangular block 52 and a cover plate 53 secured to the block by screws 54, bolt holes 55 being provided in the four corners of the assembled block and cover plate, whereby the respective connector members are adapted to be connected to the flange 29 by bolts 56 and to the selective control member 30 by bolts 57. The cover plate 53 is provided with four openings 58 arranged in a square pattern corresponding to the cross-sectional arrangement of the conduit passages 50 of the hose 49. Projecting tubes 59 are secured as by brazing within the openings 58, and are adapted to be inserted in the conduit passages 50 in the respective end of the hose 49, the hose being secured by a clamping ring 60. The block member 52 is provided with four aligned openings 61, the two intermediate openings being axially aligned and in direct communication with the lower two openings 58 of the cover plate 53, while the two end openings are connected by passages 62 to the two upper openings 58 of the cover plate. The aligned openings 61 of the connector member connected to the flange 29 register with the respective passages 28 of the sprinkler head, while the aligned openings 61 of the connector member connected to the selective control member 30 register with the respective openings of the valves 38.

The remote connecting means thus provides at a remote point the same operative relationship between the selective control member 30 and the sprinkler head as obtains in the arrangement illustrated in Figs. 1–4 where the control member is directly connected to the sprinkler head. As shown in Fig. 5, a conventional hose 63 has its exteriorly threaded end fitting 64 screwed into the hub 37 of the selective control member 30.

What is claimed is:

1. In a lawn sprinkler, a sprinkler head comprising a body member having a horizontal base wall, ground-engaging support legs extended downwardly from the under side of said base wall for supporting said base wall in parallel spaced relation to the ground, vertically extending partition wall means fixed at the upper side of said base wall dividing said body member into a plurality of compartments open at their upper sides, cover means enclosing the upper sides of said compartments and having spray openings in communication with said respective compartments, said base wall having a plurality of parallel side by side horizontal inlet passages in spaced parallel relation to its upper side and vertical ports respectively at the inner ends of said passages opening to said respective compartments, and said passages extending to one side of the periphery of said base wall with their outer ends in grouped relation at said one side, control means having a distribution chamber for receiving water from a supply source and a plurality of outlet passages corresponding in number to and in communication with the outer ends of said inlet passages, and valve means for controlling the passage of water from said chamber to at least one of said compartments.

2. In a lawn sprinkler, a sprinkler head comprising a body member having a base wall, ground-engaging means fixed to said body member, partition walls at the upper side of said base wall dividing said body member into a plurality of compartments, cover means enclosing the upper sides of said compartments and having spray openings in communication with said respective compartments, said base wall having a plurality of parallel side by side horizontal inlet passages corresponding in number to the number of compartments and respectively in communication at their inner ends with said compartments and extending to one side of the periphery of said base wall, said body member having a vertical side wall at said one side normal to the axes of said inlet passages to which their outer ends open in grouped relation, control means

having a distribution chamber for receiving water from a supply source and a plurality of outlet passages corresponding in number to and in communication with the outer ends of said inlet passages, and a plurality of valve means for selectively controlling the passage of water from said chamber to said compartments.

3. In a lawn sprinkler, a sprinkler head comprising a body member having a base wall, ground-engaging support means fixed to said body member, partition walls at the upper side of said base wall dividing said body member into a plurality of compartments, cover means enclosing the upper sides of said compartments and having spray openings in communication with said respective compartments, said base wall having a plurality of inlet passages corresponding in number to the number of compartments and respectively in communication at their inner ends with said compartments and extending to one side of the periphery of said base wall with their outer ends in grouped relation at said one side, control means having a distribution chamber for receiving water from a supply source and a plurality of outlet passages corresponding in number to and in communication with the outer ends of said inlet passages, a plurality of valve means carried by said control means for selectively controlling the passage of water from said chamber through said outlet passages, and a flexible hose interposed between said sprinkler head and said control means and having a plurality of conduit passages in respective communication at their respective ends with said plurality of inlet passages of said sprinkler head and said plurality of outlet passages of said control means.

4. In a lawn sprinkler, a sprinkler head comprising a body member having a base wall, ground-engaging support means fixed to said body member, partition walls at the upper side of said base wall dividing said body member into a plurality of compartments, cover means enclosing the upper sides of said compartments and having spray openings in communication with said respective compartments, said base wall having a plurality of inlet passages corresponding in number to the number of compartments and respectively in communication at their inner ends with said compartments and extending to one side of the periphery of said base wall with their outer ends in grouped relation at said one side, control means having a distribution chamber for receiving water from a supply source and a plurality of outlet passages corresponding in number to and in communication with the outer ends of said inlet passages, a plurality of valve means carried by said control means for selectively controlling the passage of water from said chamber through said outlet passages, a flexible hose interposed between said sprinkler head and said control means and having a plurality of conduit passages in respective communication at their respective ends with said plurality of inlet passages of said sprinkler head and said plurality of outlet passages of said control means, and connector means carried by the respective ends of said hose for respective connection to said sprinkler head and said control means and having passages in continuation of said conduit passages of said hose for register and communication with said inlet passages of said sprinkler head and said outlet passages of said control means.

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