June 25, 1963 C. M. MacCHESNEY 3,095,150

SPRINKLER ATTACHMENTS

Filed June 27, 1962 2 Sheets-Sheet 1

FIG. 1

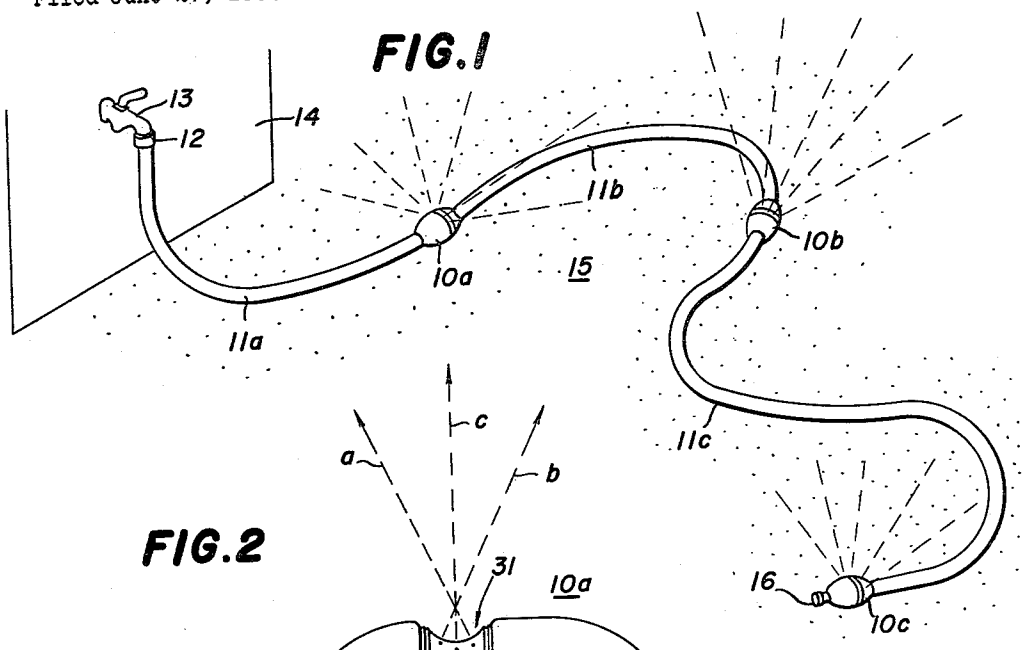


FIG. 2

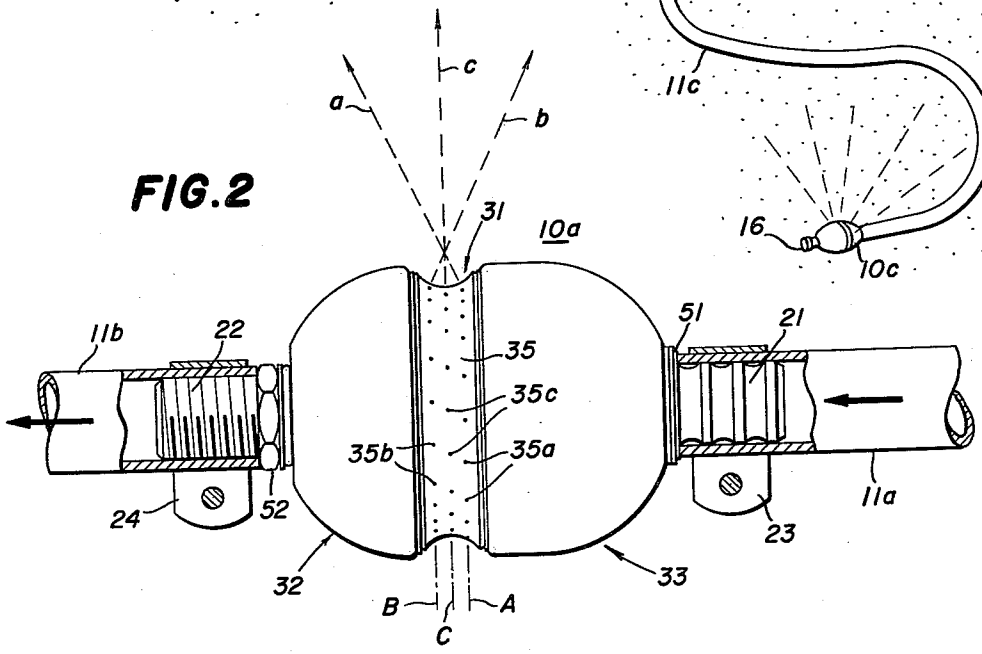
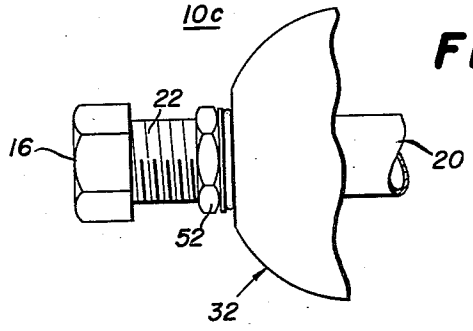


FIG. 3



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FIG. 4

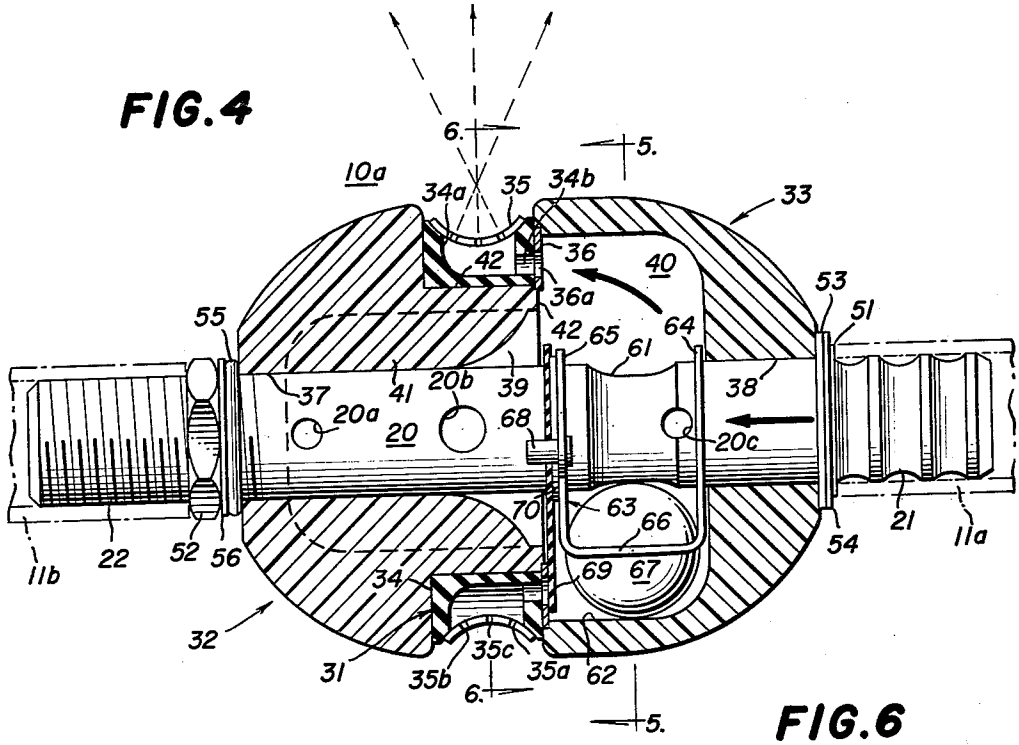


FIG. 6

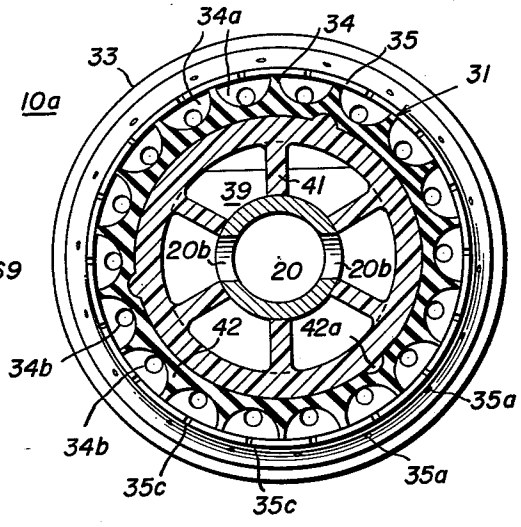
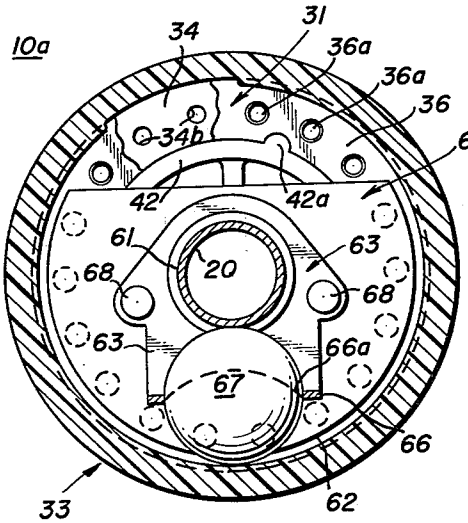


FIG. 5



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United States Patent Office 3,095,150 Patented June 25, 1963

3,095,150
SPRINKLER ATTACHMENTS

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7 Claims. (Cl. 239—267)

The present invention relates to sprinkler attachments for a garden hose, or the like, and more particularly, to such attachments that are adapted to be incorporated at spaced intervals in a garden hose for the purpose of effecting sprinkling of a large area of lawn, or the like.

The sprinkler attachment of the present invention comprises an improvement over the sprinkler attachment disclosed in U.S. Patent No. 2,737,418, granted on March 6, 1956 to Chester R. MacChesney; which sprinkler attachment is arranged in a garden hose and comprises a substantially ball-like casing having a longitudinal axis and provided with an annular array of sprinkler ports therein communicating with the interior thereof, and automatic mechanism arranged in the casing and operative when the casing is disposed with the longitudinal axis thereof in a generally horizontal position and independently of the portion of the casing that is positioned downwardly for cutting-off the supply of water from the interior of the casing to all of the ones of the sprinkler ports that are generally directed downwardly, whereby the sprinkler attachment always produces a water fan that is directed generally upwardly and radially outwardly from the casing and substantially normal to the longitudinal axis thereof.

Accordingly, it is a general object of the invention to provide a sprinkler attachment of the character described that is of improved and simplified construction and arrangement.

Another object of the invention is to provide a sprinkler attachment of the character described that comprises a tube that is adapted to be connected at the opposite ends thereof to two corresponding sections of the associated garden hose, and a substantially ball-like hollow casing removably secured in watertight relation to the intermediate portion of the tube, wherein the intermediate portion of the tube communicates with the interior of the casing to supply water thereto, and wherein the mechanism for selectively cutting-off the supply of water from the interior of the casing to certain of the sprinkler ports is arranged within the casing and supported by the intermediate portion of the tube.

A further object of the invention is to provide in a sprinkler attachment of the character described, an improved and simplified mechanism arranged with the casing thereof for selectively cutting-off the supply of water from the interior of the casing to certain of the sprinkler ports arranged in the casing and communicating with the interior thereof.

A still further object of the invention is to provide in a sprinkler attachment of the character described, an improved and simplified arrangement of the several annular arrays of sprinkler ports that are provided in the casing and that communicate with the interior thereof, wherein the several arrays of sprinkler ports are so directed that the corresponding several water fans from the casing are disposed in generally mutually crossing relation with respect to each other.

Further features of the invention pertain to the particular arrangement of the elements of the sprinkler attachment, whereby the above-outlined and additional operating features thereof are attained.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the following specification, taken in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a garden hose incorporating a plurality of sprinkler attachments embodying the present invention;

FIG. 2 is a side elevational view, partly broken away of the first sprinkler attachment incorporated in the garden hose, as shown in FIG. 1;

FIG. 3 is a fragmentary side elevational view of the last sprinkler attachment incorporated in the garden hose, as shown in FIG. 1, and illustrating an associated end cap carried by this sprinkler attachment;

FIG. 4 is an enlarged longitudinal sectional view of the first sprinkler attachment, as shown in FIG. 2;

FIG. 5 is an enlarged lateral sectional view of the first sprinkler attachment, this view being taken in the direction of the arrows along the line 5—5 in FIG. 4; and

FIG. 6 is another enlarged lateral sectional view of the first sprinkler attachment, this view being taken in the direction of the arrows along the line 6—6 in FIG. 4.

Referring now to FIG. 1 of the drawings, there are illustrated three sprinkler attachments or devices 10*a*, 10*b* and 10*c* of identical construction and each embodying the features of the present invention. The three devices 10*a*, 10*b* and 10*c* are arranged in series relation in a garden hose including the corresponding sections 11*a*, 11*b* and 11*c*; whereby the first hose section is connected to the first device 10*a*, the second hose section 11*b* is connected between the first and second devices 10*a* and 10*b*, and the third hose section 11*c* is connected between the second and third devices 10*b* and 10*c*. The first hose section 11*a* is also provided with a connector 12 that may be readily connected and disconnected with respect to a sill cock 13 carried by a building 14 and connected therein to a pressurized water supply system, not shown. The garden hose is arranged in a predetermined pattern upon a lawn, or the like, 15 that is to be watered or sprinkled, so that the devices 10*a*, 10*b* and 10*c* are disposed in spaced-apart relation in order to cover effectively a substantially large area of the lawn 15. The third or last device 10*c* in the series in the garden hose carries a cap 16 closing the normal outlet therefrom.

In view of the foregoing it will be understood, a portion of the water supplied by the first hose section 11*a* to the first device 10*a* is used thereby and the remainder of this water is supplied from the first device 10*a* to the second hose section 10*b*. Similarly, portion of the water supplied by the second hose section 11*b* to the second device 10*b* is used thereby and the remainder of this water is supplied from the second device 10*b* to the third hose section 10*c*. Finally, all of the water supplied by the third hose section 11*c* to the third device 10*c* is used thereby due to the fact that the normal outlet from the third device 10*c* is closed by the cap 16.

Referring now to FIGS. 2 and 4, the first device 10*a* there illustrated essentially comprises a longitudinally extending substantially cylindrical tube 20 carrying at one end thereof a plurality of longitudinally spaced-apart external corrugations 21 and carrying at the other end thereof a longitudinally extending external thread 22. The outer end of the first hose section 11*a* is fitted over the one end of the tube 20 to enclose the corrugations 21 and is secured in place thereon by a conventional hose clamp 23; similarly, the inner end of the second hose section 11*b* is fitted over the other end of the tube 20 to enclose the thread 22 and is secured in place thereon by a conventional hose clamp 24. Thus, the tube 20 communicates directly between the outer end of the first hose section 11*a* and the inner end of the second hose section 11*b*.

Referring now to FIG. 3, it will be observed that in the third device 10*c* the cap 16 is directly threaded upon the

outer end of the thread 22 carried by the other end of the tube 20, thereby to close the same, since the third device 10c comprises the last of the devices included in the series in the garden hose, as previously explained.

Again referring to FIGS. 2 and 4, the first device 10a further comprises a substantially ball-like hollow casing assembly removably carried by the intermediate portion of the tube 20 in surrounding relation therewith; which casing assembly includes an intermediate casing section 31 having a generally ring-shaped configuration and a pair of end casing sections 32 and 33 each having a generally cup-shaped configuration. The intermediate casing section 31 comprises a body 34 molded of resilient material, a metal band 35 surrounding a substantially cylindrical outer surface of the body 34, and a metal ring 36 surrounding a substantially annular inner surface of the body 34. In the first device 10, preferably: the tube 20 is formed of a suitable aluminum alloy; the two end casing sections are each integrally molded of a suitable rigid plastic material, such, for example, as phenol-formaldehyde condensation products; the resilient body 34 is integrally molded of an elastomeric material, such, for example, as a synthetic rubber composition; and both the band 35 and the ring 36 are formed of brass.

The end casing section 32 includes an end wall in which there is provided a cylindrical hole 37 that is arranged concentric with the longitudinal axis of the end casing section 32 and which hole 37 closely fits over the adjacent section of the tube 20 when the end casing section 32 occupies its assembled position upon the tube 20; and, similarly, the end casing section 33 includes an end wall in which there is provided a cylindrical hole 38 that is arranged concentric with the longitudinal axis of the end casing section 33 and which hole 38 closely fits over the adjacent section of the tube 20 when the end casing section 33 occupies its assembled position upon the tube 20. In the casing assembly, the end casing sections 32 and 33 are disposed on opposite sides of the intermediate casing section 31 and in facing relation therewith. The end casing section 32 has a substantially centrally disposed cylindrical cavity 39 therein; and, similarly, the end casing section 33 has a substantially centrally disposed cylindrical cavity 40 therein; which cavities 39 and 40 are arranged in facing and communicating relation with each other in the casing assembly to provide a composite cavity therein. Also, the end casing section 32 carries a plurality of inwardly directed and longitudinally extending ribs 41 disposed within the cavity 39 and arranged in circumferentially spaced-apart relation; which ribs 41 engage the adjacent section of the tube 20 when the casing 32 occupied its assembled position thereupon in order concentrically to locate the casing section 32 with respect to the longitudinal axis of the tube 20. Further, the intermediate portion of the tube 20 has three pairs of longitudinally spaced-apart cross holes 20a, 20b and 20c formed therein and commonly communicating with the composite cavity formed in the casing assembly, whereby water under pressure is supplied from the interior of the tube 20 via the holes 20a, 20b nd 20c into the interior of the composite cavity defined in the casing assembly. Finally, the end casing section 32 comprises a substantially cylindrical boss 42 disposed in surrounding relation with the outer end of the cavity 39 therein; which boss 42 removably supports the intermediate casing section 31 in surrounding relation therewith.

In the casing assembly, the end casing sections 32 and 33 are clamped in facing relation with the opposite side of the resilient body 34 of the intermediate casing section 31 so as to provide water-tight joints between the three casing sections 31, 32 and 33 by an arrangement including a pair of abutments 51 and 52 carried by the tube 20 in longitudinally spaced-apart relation and exerting clamping pressure upon the adjacent end walls of the respective end casing sections 33 and 32. More particularly, the abutment 51 comprises a ring clip that is

removably carried by the tube 20 adjacent the one end thereof, and the abutment 52 comprises a nut removably carried by the thread 22 provided on the other end of the tube 20. Specifically, a flexible sealing gasket 53 is arranged in surrounding relation with the one end of the tube 20 and in engagement with the adjacent end wall of the end casing section 33 for the purpose of sealing the hole 38 therein about the tube 20, and a metal washer 54 is arranged between the elements 51 and 53 and in surrounding relation with the one end of the tube 20. Similarly, a flexible O ring 55 is arranged in surrounding relation with the other end of the tube 20 and in engagement with the adjacent end wall of the end casing section 32 for the purpose of sealing the hole 37 therein about the tube 20, and a metal washer 56 is arranged between the elements 52 and 55 and in surrounding relation with the other end of the tube 20.

Accordingly, the elements 31, 32 and 33 of the casing assembly, as well as the auxiliary securing and sealing elements 56, 55, 53 and 54 are securely clamped together between the abutments 51 and 52, when the nut 52 is tightened upon the thread 22 carried by the other end of the tube 20. Of course, it will be appreciated, that after removal of the inner end of the second hose section 11b from the thread 22 provided on the other end of the tube 20, following the removal of the hose clamp 24, the nut 52 may be loosened upon the thread 22 and completely removed from the other end of the tube 20. At this time the elements 56, 55, 32 and 31, 33, 53 and 54 may be readily slipped off of the other end of the tube 20, in the order named, so as to accommodate repair or replacement of any one of the elements mentioned.

Referring now to FIGS. 4 to 6, inclusive, the resilient body 34 of the intermediate casing section 31 is integrally molded, as previously noted, whereby the same comprises the previously mentioned substantially cylindrical outer surface in which there are provided a plurality of pockets 34a arranged in circumferentially spaced-apart relation; and also the resilient body 34 comprises the previously mentioned substantially annular inner surface in which there are provided a corresponding plurality of passages 34b arranged in circumferentially spaced-apart relation; and in the arrangement, the passages 34b respectively communicate with inner portions of the pockets 34a. Th ring 36 overlies the annular surface mentioned of the resilient body 34 and has a corresponding plurality of valve ports 36a formed therein and arranged in circumferentially spaced-apart relation; which valve ports 36a respectively communicate with the passages 34b formed in the resilient body 34; and which valve ports 36a commonly communicate with the composite cavity defined in the casing assembly. The band 35 overlies the cylindrical surface mentioned of the resilient body 34 and has a corresponding plurality of sets of sprinkler ports formed therein and arranged in circumferentially spaced-apart relation; which sets of sprinkler ports respectively communicate with the pockets 34a formed in the resilient body 34.

More particularly, each of the sets of sprinkler ports formed in the band 35 comprises three individual sprinkler ports 35a, 35b and 35c; and in the arrangement, the sprinkler ports 35a are arranged in a first annular array positioned around the band 35, the sprinkler ports 35b are arranged in a second annular array positioned around the band 35, and the sprinkler ports 35c are arranged in a third annular array positioned around the band 35. As best shown in FIG. 2, the first annular array of sprinkler ports 35a formed in the band 35 are arranged in a first forwardly disposed lateral plane indicated at "A," the second annular array of sprinkler ports 35b formed in the band 35 are arranged in a second rearwardly disposed lateral plane indicated at "B," and the third annular array of sprinkler ports 35c formed in the band 35 are arranged in a third lateral plane indicated at "C" and disposed intermediate the planes "A" and "B." The first sprinkler ports 35a are

directed generally radially outwardly from the band 35 with a rearward inclination, as indicated by the correspondingly directed broken line "*a*" in FIG. 2; the second sprinkler ports 35*b* are directed generally radially outwardly from the band 35 with a forward inclination, as indicated by the correspondingly directed broken line "*b*" in FIG. 2; and the third sprinkler ports 35*c* are directed generally radially outwardly from the band 35 and substantially in the plane "C," as indicated by the correspondingly directed broken line "*c*" in FIG. 2. Also, the individual sprinkler ports 35*c* are angularly off-set with respect to the corresponding individual sprinkler ports 35*a*, and the individual sprinkler ports 35*b* are angularly off-set with respect to the corresponding individual sprinkler ports 35*c*, as clearly shown in FIG. 2.

In order to insure proper registry of the passages 34*b* formed in the resilient body 34 and the valve ports 36*a* formed in the ring 36, the boss 42 carried by the end casing section 32 is provided with three angularly spaced-apart outwardly directed projections 42*a* that fit into three corresponding grooves formed in the inner surface of the resilient body 34 and that fit into three corresponding aligned grooves formed in the inner edge of the ring 36, as shown in FIGS. 5 and 6.

Finally, the first device 10*a* comprises mechanism for selectively controlling valving of the valve ports 36*a* formed in the ring 36. More particularly, a first annular trackway 61 is formed in the intermediate portion of the tube 20 that is positioned forwardly of the outer end of the boss 42 carried by the end casing section 32 and rearwardly of the end wall of the end casing section 33 and within the cavity 40 defined in the end casing section 33; and a second annular trackway 62 is formed by the interior surface of the side wall of the end casing section 33; wherein the second annular trackway 62 surrounds the first annular trackway 61 in radially spaced-apart relation therewith, as shown in FIGS. 4 and 5. A substantially U-shaped member 63 is arranged in the cavity and including a pair of legs 64 and 65 and a connecting head 66. The ends of the legs 64 and 65 have longitudinally spaced-apart and aligned circular holes formed therein through which the intermediate portion of the tube projects, the legs 63 and 64 being disposed on opposite sides of the first trackway 61 formed in the tube 20. Accordingly, the member 63 is loosely mounted upon the tube 20 for relative rotation with respect thereto and constitutes a pendulum, as explained more fully below. A substantially circular hole 66*a* is formed in the central portion of the head 66, and an enlarged sphere or ball 67 is arranged mutually between the trackways 61 and 62 and within the hole 66*a* in the head 66. The hole 66*a* has a diameter that is slightly smaller than that of the sphere 67, so that the sphere 67 is thus trapped in the hole 66*a* in the head 66 of the member 63 and between the trackways 61 and 62. In the mechanism described, the member 63 is preferably formed of a suitable aluminum alloy, and the sphere 67 is preferably formed of a suitable brass or bronze.

In view of the foregoing, it will be understood that when the tube 20 is disposed in a generally horizontal position, the sphere 67 is gravity biased into a bottom position in the trackway 62, regardless of the portion of the casing assembly that is positioned downwardly, whereby the sphere 67 rolling in the trackways 61 and 62 into its bottom position pivots or rotates the member 63 as a pendulum into a downwardly directed position. The leg 65 of the member 63 carries a pair of rearwardly projecting pins 68 disposed on opposite sides of the tube 20; and a substantially disk-like valve element 69 is removably secured to the rear side of the leg 65 with a metal washer 70 disposed therebetween, the valve element 69 and the washer 70 both surrounding the adjacent section of the tube 20. The valve element 69 is properly located with respect to the rear leg 65 by the projection of the pins 68 through a corresponding pair of holes formed through the valve element 69. The valve element 69 is positioned immediately adjacent to the front surface of the ring 36 and thus in cooperating relation with certain of the valve ports 36*a* formed therein.

More particularly, an upper segment is cut out of the disk-like configuration of the valve element 69, as shown in FIG. 5, whereby the valve element 69 overlies only the lower front surface of the ring 36 closing only the corresponding covered valve ports 36*a* therein, with the result that the upper valve ports 36*a* in the ring 36 remain in direct communication with the composite cavity formed in the casing assembly. Since the ring 36 is fixed to the front end of the boss 42 carried by the end casing section 32 it is rotatable therewith, as the casing assembly is rolled into various positions along the lawn 15, as shown in FIG. 1; however, the pendulum 63 is always downwardly directed, as previously explained; whereby the valve element 69 always covers and closes the lower valve ports 36*a* formed therein.

As previously explained, water under pressure is supplied from the tube 20 into the composite cavity formed in the casing assembly of the first device 10*a*, when the sill cock 13 occupies its open position, as shown in FIG. 1; whereby the water proceeds from the composite cavity mentioned through the upper valve ports 36*a* in the ring 36 and thence through the aligned upper passages 34*b* formed in the resilient body 34 and thence into the upper pockets 34*a* also formed in the resilient body 34 and consequently below the corresponding upper segments of the band 35. From the upper pockets 34*a* formed in the resilient body 34 the water proceeds through the communicating upper sprinkler ports 35*a*, 35*b* and 35*c* formed in the band 35 and is thus projected therethrough to the exterior and onto the lawn 15 for the watering or sprinkling purpose.

Due to the peculiar disposition, direction and arrangement of the three annular arrays of the upper sprinkler ports 35*a*, 35*b* and 35*c*, the three corresponding water fans respectively projected by the upper valve ports 35*a*, 35*b* and 35*c* are disposed in generally mutually crossing relation with each other, as also indicated by the upward and radially outward direction of the three broken lines "*a*," "*b*" and "*c*" in FIG. 2. This arrangement of the composite water pattern that is projected from the first device 10*a* to the exterior and upon the lawn 15 is very advantageous, since it insures a maximum area of coverage of the lawn 15 in each position of the first device 10*a* and positively prevents uprooting of seedling grass in the lawn 15 by any downwardly directed water components.

As a constructional example of the first device 10*a*: the tube 20 may have an overall length of 5 1/16" and an inside diameter of about 0.580±0.005"; the end casing sections 32 and 33 may have an outside diameter of about 2.340"±0.010"; and the remainder of the dimensions of the other elements thereof may be selected from the scale of the drawings employing as a base the above noted dimensions.

Of course the construction and arrangement and mode of operation of the other devices 10*b* and 10*c* are the same as those described with reference to the first device 10*a*; and in passing it is mentioned that there is no particular number of the devices that should be included in the garden hose, since such number is appropriately selected in view of the water pressure that is encountered in the water supply system to which the garden hose is connected. However, with the normal range of water pressure that is ordinarily encountered in city water supply systems, the inclusion of about three of the devices in the garden hose is generally recommended.

In view of the foregoing, it is apparent that there has been provided a sprinkler attachment or device of improved and simplified construction and arrangement which is automatically operative to discharge water therefrom

only in a generally upward direction, regardless of its supported position upon a lawn, or the like, thereby always to effect gentle watering or sprinkling of the lawn, without damage thereto, and in a pattern covering a maximum area thereof.

While there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications may be made therein, and it is intended to cover in the appended claims all such modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A sprinkler attachment comprising a single longitudinally extending tube, a substantially ball-like hollow casing assembly removably carried by the intermediate portion of said tube in surrounding relation therewith and with opposite end portions of said tube disposed exteriorly of said casing assembly, said casing assembly including a pair of end casing sections each having a generally cup-shaped configuration, said end casing sections being disposed in facing relation in said casing assembly, a pair of annular abutment elements respectively carried by the opposite end portions of said tube and respectively engaging the adjacent ends of said end casing sections for securing said end casing sections together in water-tight relation with each other and with the intermediate portion of said tube in said casing assembly, at least one of said annular abutment elements being selectively removable from the associated end portion of said tube to accommodate ready placement and removal of said casing assembly with respect to the intermediate portion of said tube, the opposite ends of said tube accommodating the connection thereto of two corresponding water hose sections and the intermediate portion of said tube having an opening therein communicating with the interior of said casing assembly, said casing assembly having an annular array of sprinkler ports therein that communicate with the interior thereof and that are directed generally radially outwardly therefrom, and automatic mechanism arranged in said casing assembly and operative when said tube is disposed in a generally horizontal position and independently of the portion of said casing assembly that is positioned downwardly for closing the ones of said sprinkler ports that are directed generally downwardly.

2. The sprinkler attachment set forth in claim 1, wherein said tube is formed of metal, and each of said casing sections is molded of plastic material.

3. A sprinkler attachment comprising a longitudinally extending tube, a substantially ball-like hollow casing assembly removably carried by the intermediate portion of said tube in surrounding relation therewith, said casing assembly including an intermediate casing section having a generally ring-shaped configuration and a pair of end casing sections each having a generally cup-shaped configuration, said end casing sections being disposed on opposite sides of said intermediate casing section and in facing relation therewith in said casing assembly, a pair of abutment elements respectively carried by the opposite end portions of said tube and respectively engaging the adjacent end portions of said end casing sections for securing said casing sections together in water-tight relation in said casing assembly, at least one of said abutment elements being selectively removable from the associated end portion of said tube to accommodate the removal of said casing assembly from the intermediate portion of said tube, the two individual cavities respectively formed in said two end casing sections being in communication with each other to provide a composite cavity in said casing assembly, the opposite ends of said tube accommodating the connection thereto of two corresponding water hose sections and the intermediate portion of said tube having an opening therein communicating with said composite cavity, said intermediate casing section including a body provided with a substantially cylindrical outer surface presented to the exterior and a substantially annular inner surface presented to said composite cavity, said body also having an annular series of passages therein respectively interconnecting said outer and inner surfaces, wherein the outer end of each of said passages constitutes a sprinkler port and the inner end of each of said passages constitutes a valve port, said sprinkler ports being arranged in an annular array and directed generally radially outwardly from said casing assembly, and automatic valve mechanism arranged in said casing assembly and operative when said tube is disposed in a generally horizontal position and independently of the portion of said casing assembly that is positioned downwardly for closing the ones of said valve ports which are interconnected to the ones of said sprinkler ports that are directed generally downwardly.

4. A sprinkler attachment comprising a longitudinally extending tube, a substantially ball-like hollow casing assembly removably carried by the intermediate portion of said tube in surrounding relation therewith, said casing assembly including an intermediate casing section having a generally ring-shaped configuration and a pair of end casing sections each having a generally cup-shaped configuration, said end casing sections being disposed on opposite sides of said intermediate casing section and in facing relation therewith in said casing assembly, a pair of abutment elements respectively carried by the opposite end portions of said tube and respectively engaging the adjacent end portions of said end casing sections for securing said casing sections together in water-tight relation in said casing assembly, at least one of said abutment elements being selectively removable from the associated end portion of said tube to accommodate the removal of said casing assembly from the intermediate portion of said tube, the two individual cavities respectively formed in said two end casing sections being in communication with each other to provide a composite cavity in said casing assembly, the opposite ends of said tube accommodating the connection thereto of two corresponding water hose sections and the intermediate portion of said tube having an opening therein communicating with said composite cavity, said intermediate casing section including a molded body of resilient material and a metal band surrounding a substantially cylindrical outer surface of said body and a metal ring surrounding a substantially annular inner surface of said body, said band having an annular array of sprinkler ports therein that are presented to the exterior and that are directed generally radially outwardly therefrom, said ring having an annular array of valve ports therein that are presented to said composite cavity, said body having an annular series of passages therein and respectively interconnecting said sprinkler ports and said valve ports, and automatic valve mechanism arranged in said casing assembly and operative when said tube is disposed in a generally horizontal position and independently of the portion of said casing assembly that is positioned downwardly for closing the ones of said valve ports which are interconnected to the ones of said sprirnkler ports that are directed generally downwardly.

5. A sprinkler attachment comprising a longitudinally extending tube, a substantially ball-like hollow casing assembly removably carried by the intermediate portion of said tube in surrounding relation therewith, said casing assembly including an intermediate casing section having a generally ring-shaped configuration and a pair of end casing sections each having a generally cup-shaped configuration, said end casing sections being disposed on opposite sides of said intermediate casing section and in facing relation therewith in said casing assembly, a pair of abutment elements respectively carried by the opposite end portions of said tube and respectively engaging the adjacent end portions of said end casing sections for securing said casing sections together in water-tight relation in said casing assembly, at least one of said abut-

ment elements being selectively removable from the associated end portion of said tube to accommodate the removal of said casing assembly from the intermediate portion of said tube, the two individual cavities respectively formed in said two end casing sections being in communication with each other to provide a composite cavity in said casing assembly, the opposite ends of said tube accommodating the connection thereto of two corresponding water hose sections and the intermediate portion of said tube having an opening therein communicating with said composite cavity, said intermediate casing section including a molded body of resilient material and a metal band surrounding a substantially cylindrical outer surface of said body and a metal ring surrounding a substantially annular inner surface of said body, said band having an annular array of sprinkler ports therein that are presented to the exterior and that are directed generally radially outwardly therefrom, said ring having an annular array of valve ports therein that are presented to said composite cavity, said body having an annular series of passages therein and respectively interconnecting said sprinkler ports and said valve ports, a valve element arranged in said casing assembly and rotatably mounted upon the intermediate position of said tube and selectively cooperating with certain of said valve ports, and automatic mechanism arranged in said casing assembly and operative when said tube is disposed in a generally horizontal position and independently of the portion of said casing assembly that is positioned downwardly for operating said valve element to close the one of said valve ports which are interconnected to the ones of said sprinkler ports that are directed generally downwardly.

6. The sprinkler attachment set forth in claim 5, wherein water supplied into one end of said tube proceeds therethrough both from the other end thereof and via said opening therein into the interior of said composite cavity, and wherein said valve element is formed essentially of a sheet of flexible material so that it is readily flexed into engagement with said ring and into covering and closing relation with the adjacent valve ports in said ring by the pressure of the water in said composite cavity.

7. A sprinkler attachment comprising a substantially ball-like hollow casing, a longitudinally extending tube carried by said casing and projecting through an end portion thereof and arranged in water-tight relation therewith, the outer end of said tube accommodating the connection thereto of a water hose section and an inner portion of said tube arranged within said casing having an opening therein communicating with the interior of said casing, an inner section of said tube arranged in said casing having an annular inner trackway formed therein, the interior of said casing having an annular outer trackway formed therein and positioned in surrounding relation with said inner trackway and in radial alignment therewith, a single ball arranged within said casing and positioned between said trackways, a cage arranged within said casing and mounted for free rotation upon the inner section of said tube and positioned in trapping relation with said ball, whereby said ball is biased by gravity to roll between said trackways into a bottom position with respect thereto so as to pivot said cage into a position directed downwardly when said tube is disposed in a generally horizontal position and independently of the portion of said casing that is positioned downwardly, said casing having an annular array of sprinkler ports therein that communicate with the interior thereof and that are directed generally radially outwardly therefrom, and means arranged in said casing and operated by said cage in its position directed downwardly for closing the ones of said sprinkler ports that are directed generally downwardly.

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