

Jan. 17, 1961

I. C. CONE  
SPRINKLER DEVICE

2,968,440

Filed Jan. 16, 1958

2 Sheets-Sheet 1

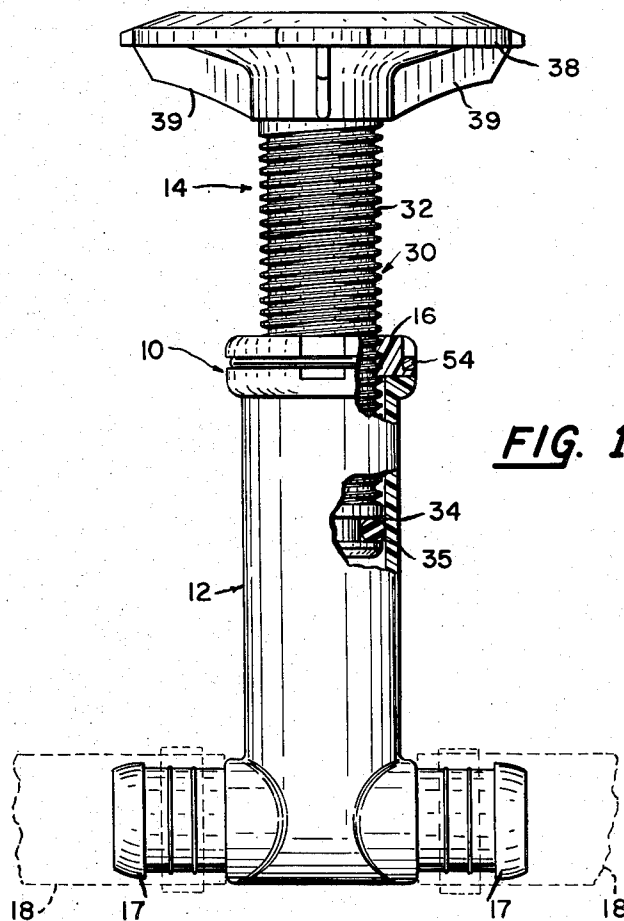


**FIG. 1.**

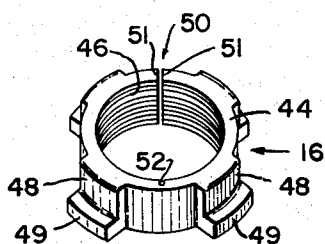


**FIG. 4.**

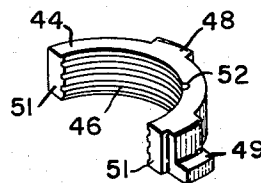


**FIG. 5.**

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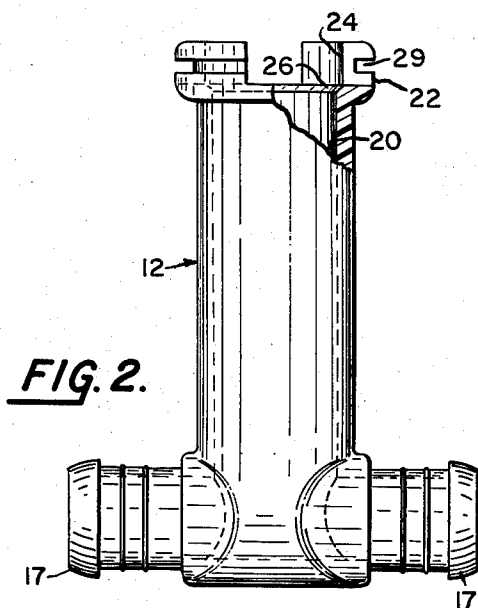
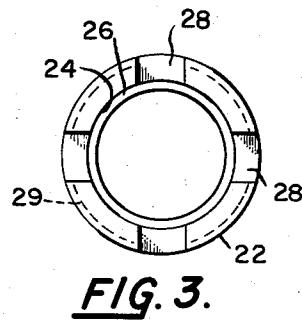
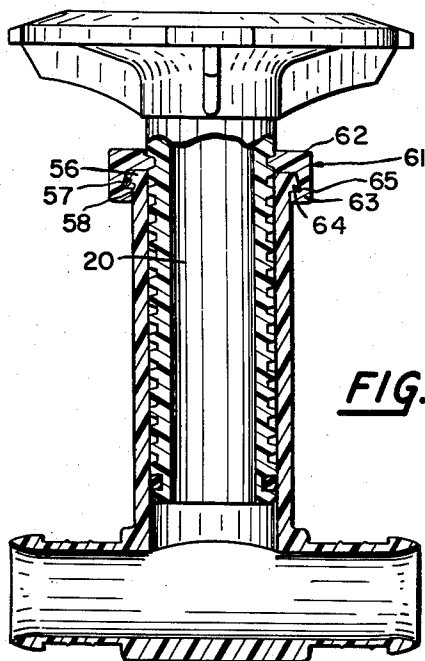
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2 Sheets-Sheet 2



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2,968,440

## SPRINKLER DEVICE

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10 Claims. (Cl. 239—203)

The present invention has more particular relation to a sprinkler head arrangement, with especial reference to a sprinkler head of the vertically adjustable type, which is adaptable for extension from a sprinkler system such as those commonly termed embedded sprinkler systems which consist of an underground piping system made up of a plurality of feed lines, and which require the use of a sprinkler head which will extend upwardly therefrom with the top of the sprinkler head resting at the desired elevation approximately level with the ground surface. In a situation where a plurality of sprinkler heads are to be extended from a common underground system, it should be made possible for the installer to be able to select various depths for the supply pipe, and to raise the top of each head as the turf builds up around the head, and to do this without the necessity of digging or excavating the entire head in order to adjust it.

Conventional sprinkler head attachments may generally include a fitting for connection to the supply pipe, and a riser extending upwardly from the fitting to the ground surface with a cap member at the top thereof for attachment of a nozzle or other suitable means for directing the liquid spray. It is proposed in accordance with the present invention to secure the riser in an adjustable but substantially permanent position to the lower fitting in such a way as to permit the permanent disposition of a seal arrangement of any size between the riser and the fitting, while at the same time to provide for easy, rapid adjustment of the sprinkler head from the ground surface.

It is further proposed to make possible the construction of an adjustable type sprinkler head with various types of materials capable of being utilized therein; for instance, it would be desirable to use a lightweight, cheaper material in place of the metals, such as a plastic material. Although many plastic materials exhibit a tendency to expand in association with water, and are difficult to thread without disengagement or crossing of the threaded portions, the present invention obviates this difficulty in a unique manner, yet requires a minimum number of parts to insure permanent but adjustable engagement between the riser and fitting and with minimum wear characteristics.

It is therefore a consequent and primary object of the present invention to provide for a sprinkler head arrangement which is conformable for connection into piping systems or hose arrangements in such a way as to permit easy adjustment of the top of the head with respect to the ground surface, and in general so as to materially aid in the efficient sprinkling or irrigation of a particular surface area.

It is another object to provide for a sprinkler device adaptable for interconnection of a liquid directing spray nozzle and an underground piping system requiring a minimum number of parts of lightweight inexpensive material, and arranged in such a way as to permit selection of various depths for the supply pipe, and for the top of the head itself as the turf tends to build up around

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the cap portion, and to accomplish the above in such a way that it is not necessary to excavate about the head portion, or necessitate removal or adjustment of the underground piping system itself.

It is a further object to provide for a sprinkler device which can be made substantially entirely of plastic material without danger of expansion of the plastic material, particularly between the mating threaded portions, and conformable for connection to a sprinkler system of the underground or embedded type, so as to permit variation in the height of the head without excavation around or removal of the sprinkler head itself, nor corresponding adjustment of the sprinkler system as a whole.

It is a still further object to provide for a sprinkler device forming a spray head of the vertically adjustable type having a unique coupling arrangement between the adjustable riser and fitting portion leading into the underground piping system, wherein the coupling arrangement enables provision for an enlarged portion including a seal permanently disposed on the adjusting member so as to establish a complete seal against leakage of water and dirt between the members, and further makes possible a permanent connection between the nozzle or similar spray directing means and the underground sprinkler system and permits vertical adjustment of the sprinkler head from the nozzle end only without necessity of manual adjustment or engagement with the embedded portion of the head or sprinkler system.

The above and other objects and advantages of my sprinkler device will become more apparent from the following description of the preferred forms thereof taken together with the drawings illustrating the above in which:

Figure 1 is an elevational view with parts broken away of a sprinkler head of the present invention in attached relation to an underground piping system in accordance with the present invention;

Figure 2 is a combination vertical midsection and elevational view of a base fitting member typically employed in the present invention;

Figure 3 is a plan view of the upper extremity of the base fitting shown in Figure 2 in accordance with the present invention;

Figure 4 is a perspective view of a retaining nut or adaptor utilized to interconnect the riser and base fitting;

Figure 5 is a similar perspective view of a half-nut formation in accordance with the present invention; and

Figure 6 is a combination vertical midsection and elevational view of a modified form of the present invention illustrating the varied construction and arrangement of parts.

With more particular reference to the drawings wherein there is illustrated a preferred embodiment of the sprinkler head construction of the present invention, as in Figures 1 to 5, together with a modified or alternative arrangement, as in Figure 6, there is shown in Figure 1 a sprinkler head 10 comprised broadly of a base fitting 12, a top riser or standard portion 14 extending upwardly from the base so as to form liquid conduits with a retaining nut or adapter member 16 to secure a seal tight connection between the riser 14 and base fitting 12.

The body of the base fitting 12, which may be of any standard construction presently in use and of any suitable material such as brass or plastic, is shown in the form of a T-fitting with inlet connectors 17 extending laterally from either side of the bottom of the base fitting 12 for suitable connection into an underground sprinkler or piping system or similar irrigation means, shown dotted as at 18. Of course, the base fitting 12 may also be an elbow type fitting, or form a direct continuation of a pipe or hose from the system 18.

As shown in Figures 2 and 3 the base fitting 12 further

comprises a hollow cylindrical body defining a bore 20 of tubular construction extending upwardly from the inlet connector members 17, and with the interior wall of the tubular bore 20 being perfectly smooth. To aid in the unique coupling arrangement of the present invention a shoulder 22 is provided at or adjacent to the upper end or extremity of the tubular bore 20, the shoulder 22 curving outwardly and upwardly from the wall of the bore so as to form an internal annular surface 24 and an annular seat portion 26. Extending axially and downwardly into the shoulder are four equally spaced, recessed portions or slots 28, with the bottom of each of the slots preferably on a horizontal plane with the top of the annular seat portion 26. Disposed intermediate the slot portion and the exterior surface of the shoulder is an annular groove 29 forming an additional recessed portion which preferably extends substantially half way through the thickness of the shoulder portion from the exterior surface thereof.

The top riser member or standard 14 may also be of a material similar to the base fitting material and is formed broadly so as to serve as a vertical adjustable extension of the fitting for carrying liquid from the underground liquid supply to the ground surface. For this purpose, and as shown in Figure 4, the riser 14 is made up of a tubular stem or bore portion 30 which defines a liquid channel for the continued flow of liquid from the base fitting, the stem being provided with an externally threaded portion 32 extending upwardly from an enlarged annular groove or seat 34 with the sides of the seat forming an enlarged lower end of the hollow stem 30.

As shown in Figure 1, the annular groove 34 forms a seat for an elastomeric seal 35 of standard construction, such as a rubber O-ring. As shown, the O-ring or seal 35 may be of circular cross section and is of a size to fit snugly in place within the annular groove or seat 34.

The hollow stem 30 may be given a diameter in relation to the bore 20 so as to be slideable into the tubular bore 20 preferably with little clearance between the outer crest diameter of the threaded portion of the stem and the interior wall of the bore, and with the enlarged seal 35 of sufficient thickness to engage snugly the smooth wall of the bore.

Disposed at the upper end of the riser member 14 is a suitable cap member 38 flaring outwardly and upwardly from the stem 30 and provided with a nozzle receiving bore (not shown) which forms an axial extension of the interior wall of the stem 30. The cap 38 is further provided with rib portions 39 extending outwardly on the under surface thereof, or may be of non-circular construction (not shown) to permit engagement of a suitable tool, if necessary, for manual rotation or screwing thereof. Moreover, in the preferred construction of the riser member, the cap is made integral with the stem 30, so as to prevent accidental loosening of the cap on the stem once the sprinkler head is installed.

In order to permanently, but adjustably, secure the top riser 14 in position on the base fitting 12, a retaining nut 16 is provided which defines an adapter, as in Figure 4, to connect the two members together. The construction and cooperative relationship of the retaining nut 16 with the riser and base fitting is considered unique since it is the purpose of the retaining nut not only to serve as a connecting means between the two members, but also to permit each of the members to be constructed in integral form and to permit attachment of the riser member to the base fitting without the necessity of disassembling any of the parts forming either the riser or base fitting member.

As previously mentioned, it is a further purpose of the nut 16 to permit interconnection between the members in such a way as to provide easy adjustment of the riser with respect to the base fitting from the cap 38 without requiring the corresponding adjustment of the sprinkler system or base fitting, or engagement with the

nut itself or the stem as the adjustment is being made from the cap; and it is made possible to form the annular seat 34 at the lower end thereof of any diameter with respect to the stem diameter for permanent disposition of the seal 35 thereon. For the above purposes, the retaining nut 16 is made preferably of a relatively resilient but tough material, and may be formed of a cylindrical thin-walled body 44 which is internally threaded as at 46, and includes four radially projecting ears or protuberances 48 extending at equally spaced intervals from the outer circumference of the body 44, each of the ears 48 being provided with a flattened lobe or tab 49 extending radially from the lower surface of each ear.

Since the riser 14 is formed of a single piece with an enlarged end portion, it is impossible to thread the nut onto the exterior threaded portion of the stem 30 from either end of the riser. To avoid this necessity, the retaining nut 16 can be made either expandable or of two separate pieces. However, it is preferred to make the retaining nut of a single part, and this is accomplished in a unique manner by separating or radially dividing the retaining nut along one side thereof, as shown at 50, so as to form free end portions 51. To further aid in easy expansion of the nut an axial interior groove 52 may be provided in substantially diametrically opposed relation to the divided portion 50 and may be extended radially about half way through the thickness of the nut. In utilizing the above manner of construction, it is thereby possible to radially enlarge the diameter of the nut in order to slip it over the lower end of the stem 30 past the enlarged seal 35 and annular groove 34, and onto the threaded portion 32. As a consequence the nut may be made of one integral piece which is easily formed and which prevents any accidental separation once the nut is secured to the threaded portion.

In dividing the nut as at 50, the spacing between the free end portions 51 may be varied from an arrangement whereby the side is merely split and the ends 51 are normally contacting when on the threaded stem 30, or increased to an extent whereby a half-nut is formed as shown in Figure 5. The split form is preferred since it insures complete engagement with the threaded portion 32 and prevents leakage of dirt between the riser and base fitting. Moreover, in merely splitting the nut with the ends 51 normally contacting, the side may be split at any suitable angle, although as shown the side is split along a radial extending, vertical plane.

In order to permanently secure the retaining nut in predetermined fixed position on the base fitting, the interlocking portions on the outer circumference of the nut and the shoulder 22 of the base fitting are provided. The ears 48 having the outwardly extending lobe portions 49 are dimensioned so as to slide axially into place into the corresponding slots 28 with the lobe portions 49 resting against the bottom of the slot preferably, and with the lower portion of the nut itself resting on the seat portion 26. Of course, the body 44 of the nut may be of any suitable length to provide for proper engagement of the threaded portion 46 with the externally threaded portion 32 of the stem. Also the ears 48 may either be terminated within the slot or extend upwardly therefrom; however, it is of advantage to make the nut and ear members of a length so that they will rest flush with the top surface of the shoulder and permit extension of the stem into the base fitting with the cap resting against the shoulder 22 as shown in Figure 1. In addition the top surface of each of the lobes 49 should be terminated at a level intersecting the annular groove 29 and with the ears 48 extending outwardly a sufficient distance also to intersect the annular groove 29.

Following the above preferred arrangement and relative proportions of the parts, which are given for purposes of illustration only, a snap ring 54, or any other suitable clamping means, may be positioned in the annu-

lar groove so as to engage the outer surface of the ears 48 and the top surface of the lobes 49 in such a way as to hold the entire nut securely in place within the shoulder 22. In this manner, the snap ring 54 operates to exert an inward pressure against the separable retaining nut 42 so as to insure tight engagement between the threaded portions or similar adjusting means provided between the nut and the stem.

The retaining nut 16 as mentioned should be of some resilient, tough material, such as nylon or brass and preferably nylon so as to enable a more lightweight, inexpensive construction. Accordingly, it is advisable to form the clamping means, or snap ring 54 of a metallic material, such as steel wire, so that the snap ring will provide constant inward pressure against the nut even under damp, or wet, conditions where the nut may tend to expand due to wet conditions and the outward pressure exerted by the stem 30 during the threading operation. To further insure proper engagement between the threaded portions the threads of the stem and nut are preferably given an additional thickness for added strength, and each thread is formed having a lesser included angle so as to reduce the radial forces applied by the threaded portion 32 against the nut which would tend to disengage the threads.

To properly assemble the riser in position within the base fitting, the retaining nut 16 is first sufficiently expanded to slip over the enlarged seal 35 for disposition on the threaded portion 32 of the stem 30. The riser is then inserted into place with the enlarged seal extending into the bore 20 of the base fitting so as to snugly engage the interior wall thereof, and with the retaining nut 16 seated at the upper end of the bore and the ears 48 in position in the slots 28. The snap ring 54 is then disposed in the annular groove 29 against the ears 48 and lobe portions 49 so as to hold the retaining nut in fixed position against axial or circular movement. When adjustment is desired, it is only necessary to turn the threaded stem 30 by rotation of the cap 38 until the proper height relation is obtained between the cap and the base fitting; the entire sprinkler head device is then ready for connection into the underground system.

In selecting different positions and levels of the cap with respect to the ground surface, only the cap member need be visible and accessible. As the turf tends to build up around the cap member, the sprinkler head may be easily adjusted simply by turning the cap without digging around the lower portion of the sprinkler head. Since the stem portion is disposed within the bore 20, rather than extended over the bore in which case the ground surface would interfere with movement thereof, the threads can be very easily turned. Also, the nut in combination with the seal, prevents any accidental leakage of dirt into the interior wall of the bore 20 and stem 30.

From the above description it is to be further noted that the nut and shoulder arrangement particularly the interlocking portions consisting of the ear and slot construction are susceptible of extensive variation in configuration to conform with different riser and fitting combinations. As for example, where the riser is adapted to extend over the fitting the fitting may be exteriorly threaded with an enlarged seal at the upper end thereof. Or, annular grooves (not shown) mating the annular groove 29 may be disposed on the ears 48 in place of the lobes 49 for receiving the snap ring 54.

In Figure 6, there is shown a modification wherein the principal variation in construction lies in the shoulder portion 22 of the base fitting and the retaining nut. This variation in construction shown is primarily to modify the way in which the retaining nut is secured to the shoulder so as to interlock the base fitting and retaining nut together. For this purpose, a shoulder 56 is substituted for the shoulder 22 wherein the shoulder defines a lat-

erally and outwardly extending flange at or near the upper end of the base fitting with the exterior surface preferably extending outwardly and downwardly as at 57, then sharply inwardly as at 58 into the outer wall of the base fitting. As will be noted, no internal seat portion is provided but the bore 20 extends uniformly upwardly to the top surface of the shoulder 56.

As in the preferred form, a retaining nut 61 is preferably made integral, with the axially split construction, as described; of course, the retaining nut may also be made of two separate pieces. As shown, the retaining nut 61 is of a thickness greater than the nut 16 and is provided with an upper body portion 62, which is internally threaded, and a lower extension or shoulder engaging portion 63 extending downwardly from the exterior surface of the body 62, the lower extension having an annular lip 64 forming the bottom thereof for disposition against the undersurface 58 of the shoulder 56. Moreover, the interior surface 65 of the entire shoulder engaging portion 63 is formed to mate with the exterior surfaces of the shoulder.

To assemble the riser member and base fitting together, the retaining nut 61 is assembled to the stem as before. A suitable cement compound is then applied to the exterior annular surfaces 57 and 58 of the shoulder, and the stem 30 of the riser is then inserted into the bore 20 of the base fitting. The nut 61 must again be spread slightly so as to permit the lip 64 to pass downwardly over the outer periphery of the shoulder 56. In assembled position, the body portion 62 of the nut is then resting on the top surface of the shoulder with the shoulder engaging portion 63 disposed against the exterior surfaces of the shoulder. Thus, by forming the shoulder 56 with the outwardly extending surface 57 and the sharply inwardly extending surface 58, the lip portion 64 will slide downwardly over the tapered surface and snap securely into place against the under surface of the shoulder. In this way the lip will operate to restrain the nut from release once positioned as shown.

From the foregoing, there has been described a novel, greatly simplified, construction for a sprinkler head device which will permit rapid and easy adjustment of the sprinkler head with respect to a liquid supply system, without the necessity of excavation of the head or system, or corresponding adjustment of the supply system itself.

It is to be understood that the above description is merely illustrative of the presently preferred embodiments of a construction and arrangement of the present invention, and it is not intended to limit such construction and arrangement to the exact details herein described, other than as defined in the appended claims.

What is claimed is:

1. A sprinkler head for extension from a liquid supply system, comprising a base conduit communicating with said liquid supply system, a top conduit having a stem including adjusting means on the exterior surface thereof and an enlarged seal at the lower end of said stem with said stem being proportioned for insertion into said base conduit with said seal in tight fitting engagement against the inner wall of said base conduit, an adapter so constructed and arranged as to be radially expandable and contractible for engaging with said adjusting means, and securing means interconnecting said adapter with the upper end of said base conduit in such a way as to hold said adapter against said stem as said stem is adjusted inwardly and outwardly on said adapter.

2. A sprinkler head for extension from a liquid flow system, comprising a base conduit communicating with said liquid flow system, a top conduit having an exteriorly threaded stem and an enlarged seal at the end thereof, said stem being proportioned for insertion into said base conduit with said seal in tight fitting engagement with the inner wall of said base conduit, an internally threaded adapter so constructed and arranged as to be radially

expansible and contractible for slipping over said seal and engaging with said threaded stem, said adapter and said base conduit having interlocking portions to restrain turning movement of said adapter, and means associated with said base conduit and adapter to hold said adapter against said stem as said stem is threaded inwardly and outwardly through said adapter.

3. A sprinkler head for extension from a liquid supply system, comprising a base conduit communicating with said liquid supply system, and having a laterally and outwardly extending shoulder defining the upper extremity of said base, a top conduit having an exteriorly threaded stem and an enlarged sealing portion at the lower end thereof, said stem being proportioned for insertion into said base conduit with said sealing portion in tight fitting engagement with the inner wall of said base conduit, a retaining nut so constructed and arranged as to be radially expansible and contractible for slipping over said seal and engaging with said threaded stem and said nut further having a lower extension for bonding to said shoulder in such a way as to hold said nut in predetermined fixed position against said stem as said stem is threaded inwardly and outwardly through said nut.

4. In a sprinkler head wherein there is provided a tubular fitting member and a tubular riser member each defining a conduit for the flow of liquid therethrough, one of said members being proportioned for insertion into one end of the other of said members, said one member having an enlarged seal adjacent the outer end thereof and an exterior threaded portion extending inwardly from said seal, the combination therewith of a radially expandable nut to engage said exterior threaded portion, said nut having a projecting portion thereon, and means at the one end of said other member for contacting said projecting portion and holding said nut in close fitting relation with said exterior threaded portion when said threaded portion is turned inwardly and outwardly with respect to said nut.

5. In a sprinkler head comprising a tubular fitting and a tubular riser each defining a conduit for the flow of liquid therethrough, said riser being proportioned for insertion into one end of said fitting and including an enlarged seal adjacent the outer end thereof and an exterior threaded portion extending upwardly from said seal, the combination therewith of a radially expandable nut to engage said exterior threaded portion, said nut having a divided side portion and an interlocking portion and said fitting having means at the one end thereof for receiving and holding said nut including said interlocking portion in fixed relation with said fitting and said exterior threaded portion when said threaded portion is turned inwardly and outwardly with respect to said nut.

6. In a sprinkler head comprising a base fitting member and a tubular riser member defining a conduit for the flow of liquid therethrough, said riser member being proportioned for insertion into one end of said base fitting and having an enlarged seal adjacent the outer end thereof and an exterior threaded portion extending inwardly from said seal, the combination therewith of a retaining nut to engage said exterior threaded portion, said nut being split through one side thereof with an interior axial groove in substantially diametrically opposed relation to said split portion and having a plurality of circumferentially spaced radial projecting members extending from the outer surface of said nut with each of said projecting members being stepped, said other member having a shoulder provided with a plurality of recess portions at the one end thereof for receiving said radial projecting members and means cooperating with said shoulder and said radial projecting members to hold said nut in fixed, close fitting relation with said exterior threaded portion when said threaded portion is turned inwardly and outwardly with respect to said nut.

7. An adjustable height sprinkler head adapted for extension to the ground surface from an imbedded sprinkler

system, comprising a tubular base fitting having an inlet end for attachment to said sprinkler system and an outlet at the upper end of said base, said upper end defining a shoulder having an undersurface and an upwardly tapered side; a tubular riser member having a cap adapted to receive a nozzle and an externally threaded stem including a seal mounted on an enlarged annular seat portion adjacent the lower end of said stem, said stem being of a diameter for insertion into said outlet at the upper end of said base with said seal bearing against the interior wall of said base; a retaining nut having a shoulder engaging portion including an annular lip forming a lower extension of said nut and a vertically divided wall to provide for radial expansion and contraction of said nut for passing over said seal and for disposition of said lower extension over said shoulder with said lip engaging the undersurface of said shoulder, said lower extension and said shoulder being bonded together to anchor said nut against said base with said nut in close fitting relation against said stem, said top riser member being thereby manually rotatable from the cap thereof for vertical adjustment of said sprinkler head with respect to the ground surface.

8. An adjustable height sprinkler head adapted for extension to the ground surface from an underground sprinkler system, comprising a substantially tubular base fitting having an inlet end for attachment to said sprinkler system and an outlet at the upper end of said base, said upper end defining a shoulder provided with a plurality of ear receiving slots and an exteriorly disposed annular groove intersecting the sides of said slots a predetermined distance from the bottom thereof, a top riser member having a cap adapted to receive liquid directing means and an externally threaded stem including an annular seal and an enlarged lower end defining a seat for permanent disposition of said seal thereon, said stem being of a diameter to extend axially through said outlet at the upper end of said base with said seal bearing against the interior wall of said base; a retaining nut having a divided side so as to form radially expansible free end portions and an axially extending interior groove in substantially diametrically opposed relation to said divided side portion, said nut being of a plastic material to provide for radial expansion and contraction of said nut for passing over said seal to engage with said externally threaded stem, said nut further having a plurality of ears extending radially from the outer circumference thereof for disposition in a respective ear receiving slot in said shoulder, each of said ears including a flattened lobe portion extending radially therefrom for disposition between the bottom of each slot and said annular groove, and a metallic snap ring for disposition in said annular groove in such a way as to axially restrain said lobes and radially press said nut into close fitting relation against said stem, said top riser member being thereby manually rotatable from the cap thereof for vertical adjustment of said sprinkler head with respect to the ground surface and said underground sprinkler system.

9. An adjustable height sprinkler head adapted for extension to the ground surface from an underground sprinkler system, comprising an integrally formed tubular base fitting having an inlet end for attachment to said sprinkler system and an outlet at the upper end of said base, said upper end including a shoulder provided with a plurality of ear receiving slots and an exterior annular groove intersecting the sides of said slots a predetermined distance from the bottom thereof; an integrally formed tubular riser member having a cap adapted to receive a nozzle and an externally threaded stem including a seal mounted on an outwardly extending annular seat portion adjacent the lower end of said stem, said stem being of a diameter to extend downwardly through said outlet at the upper end of said base with said seal bearing the interior wall of said base; a retaining nut being substan-

tionally vertically split through one side thereof with an axially extending interior groove in opposed relation to said vertically split portion, said nut being of a material to provide for radial expansion and contraction of said nut for passing over said seal to engage with said externally threaded stem and having a plurality of ears extending radially from the outer circumference thereof for disposition in a respective ear receiving slot in said shoulder, and a resilient member for disposition in said annular groove, said ears being contoured to engage said resilient member in such a way that said nut is axially restrained and radially pressed by said resilient member into close fitting relation against said stem, said riser member being thereby manually rotatable from the cap thereof for vertical adjustment of said sprinkler head with respect to the ground surface.

10. In a sprinkler head wherein there is provided a tubular fitting member and a tubular riser member each defining a conduit for the flow of liquid therethrough, one of said members being proportioned for extension into one end of the other of said members, said one member having an enlarged seal adjacent the outer end thereof

and an exterior threaded portion, the combination of a radially expandable and contractible adapter for disposition over said seal and being threaded internally for engagement with said threaded portion, and means at the one end of said other member for holding said adapter against said threaded portion so that said one member is adjustable inwardly and outwardly with respect to said adapter.

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**UNITED STATES PATENT OFFICE**  
**CERTIFICATION OF CORRECTION**

Patent No. 2,968,440

January 17, 1961

Irwin C. Cone

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, line 15, before "The present invention" insert the following as the first paragraph: -- The present invention has relation to a sprinkler device. --.

Signed and sealed this 6th day of June 1961.

(SEAL)

Attest:

**ERNEST W. SWIDER**

Attesting Officer

**DAVID L. LADD**

Commissioner of Patents