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2,631,889

SPRINKLER HEAD

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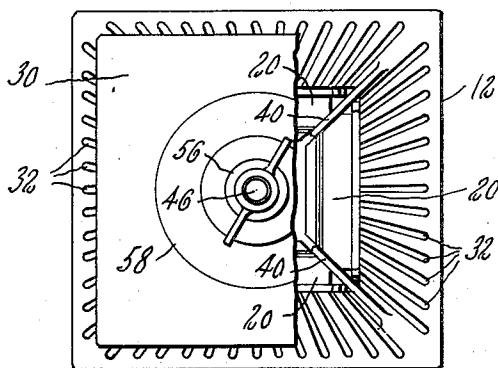
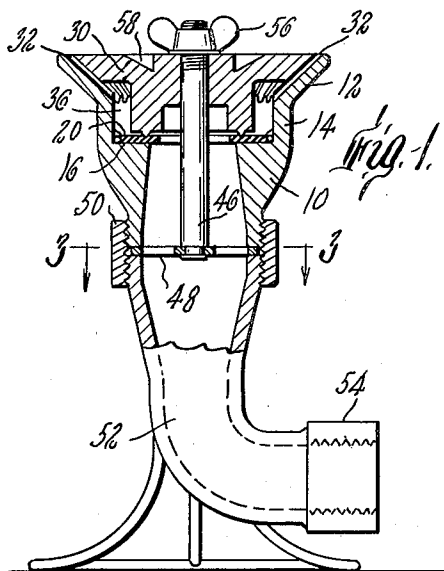


Fig. 2.

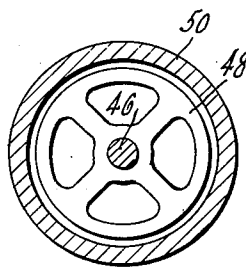


Fig. 3.

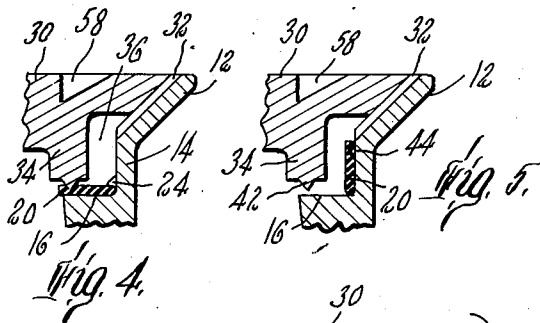


Fig. 4.

Fig. 5.

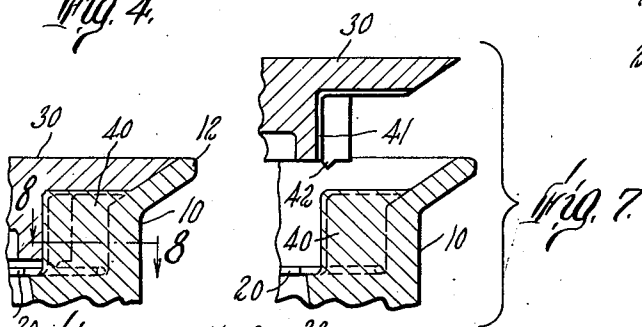


Fig. 6.

Fig. 7.

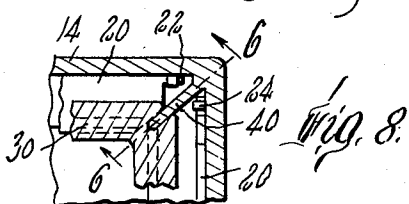


Fig. 8.

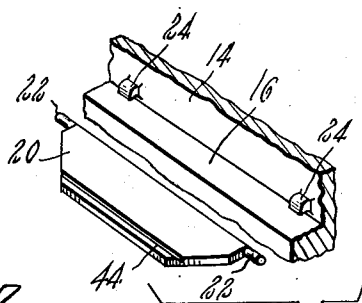


Fig. 9.

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UNITED STATES PATENT OFFICE

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SPRINKLER HEAD

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3 Claims. (Cl. 299—18)

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This invention relates to improvements in a sprinkler by which the spray of water delivered therefrom can be limited to any one or more quadrants of the ground area surrounding it. It is an object of the invention to provide a sprinkler which can be readily adjusted and which contains all the necessary parts for this purpose.

It is desirable at times in using a sprinkler to restrict the spray to certain directions so as to avoid wasting water or wetting adjacent objects which should not be wet. According to the present invention, a sprinkler is provided which is rectangular in shape. The spray delivered from the four sides thereof is directed to the respective quadrants of the ground area surrounding the head. Valve members or flaps are provided therein which individually control the flow from the four respective sides of the sprinkler.

For a more complete understanding of the invention, reference may be had to the following description thereof and to the drawing, of which—

Figure 1 is an elevational view of a sprinkler embodying the invention, a portion being broken away to show the parts in section;

Figure 2 is a plan view of the same on a larger scale, a portion of the head being broken away to show the parts underneath;

Figure 3 is a section on the line 3—3 of Figure 1;

Figure 4 is a fragmentary transverse section of the sprinkler on a vertical plane;

Figure 5 is similar to Figure 4 but shows the flap in its open position;

Figure 6 is a section on the line 6—6 of Figure 8;

Figure 7 is a sectional view similar to Figure 6 but showing the parts separated;

Figure 8 is a section on the line 8—8 of Figure 6; and

Figure 9 is an exploded perspective view of a fragment of the sprinkler and one of the flaps.

The sprinkler illustrated on the drawing comprises a shell 10 which, as indicated in Figure 2, is preferably four sided and rectangular. The upper portion of the shell wall 12 flares outward, preferably at an angle of about 45°. Below the flared portion 12 is a vertical wall portion 14 having an inner shelf 16 on which may rest a series of four flaps 20. Each flap is provided with a pair of hinge elements 22 at its ends adapted to engage under suitable lugs 24 on the adjacent portion of the wall 14 so that the flap may be turned from a horizontal position, as shown in Figure 4, to a vertical position, as shown in Figure 5. A head 30 is seated within the upper

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portion of the shell 10. This head is rectangular in shape and the upper portion is flared so as to fit within the flared portion 12 of the shell wall. The latter is provided with a number of grooves 32 which form passageways for the discharge and distribution of water when the head 30 is in place. The lower portion 34 of the head is smaller than the space between the wall portions 14 of the shell so that there is a substantial clearance 36 all around it except at its corners where it is engaged by vertical fins 40 which extend from the corners of the shell wall and divide the clearance 36 into four separate passages along corresponding sides of the shell wall. The head 30 overhangs the shelf 16 and extends down far enough to engage upon the top face of such of the flaps 20 as may be on the shelf in the horizontal position shown in Figures 1 and 4. Each flap in such position shuts off one of the four passages formed by the shell wall, the head 30 and the fins 40. The corner edges of the lower portion of the head 30 may be formed with grooves 41 to receive the edges of the fins 40 which are beveled. Likewise on the bottom face of the head, V ridges 42 may be formed to engage in corresponding grooves 44 in the upper faces of the flaps 20.

Any suitable means may be employed for securing the head 30 removably in place. As shown, a central vertical stem 46 is mounted on a perforated washer 48 which is secured at the bottom of the sprinkler 10 by a threaded collar 50 which may be employed to join the sprinkler to an elbow fitting 52, the latter having a coupling member 54 by which a hose may be connected to the head. The stem 46 projects up through a central hole in the head 30 and is threaded at the top to receive a wing nut 56 by which the head can be removably secured in place in the shell 10. A circular recess 58 may be provided in the top surface of the head to provide a finger hold for lifting the head from the shell when the wing nut 56 has been removed.

Ordinarily all of the flaps 20 will be in the open position shown in Figure 5. If, however, it is desired to shut off one or more quadrants, the nut 56 is removed, the head 30 is lifted out, the appropriate flaps 20 are swung down to the closed position shown in Figure 4, and the head and nut are replaced in position. The sprinkler is then ready for use.

I claim:

1. A sprinkler comprising an upstanding four-sided shell with a flaring orifice at its upper end and a horizontal shelf spaced below the orifice

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and extending inwardly from the four sides of the shell, a four-sided head removably mounted in said orifice with a clearance between the sides of the head and the walls of the shell, said head overhanging the entire length of said shelf, a fixed vertical fin in each corner of the shell spanning said clearance and dividing it into four passages, and a flap member on each shelf part rockable between a horizontal position in which it closes the gap between its shelf part and the overhanging portion of the head and an upright position against the adjacent wall of the shell.

2. A sprinkler comprising an upright shell of rectangular shape having flaring lips with grooves on the inner faces thereof, a partition fin in each corner of the shell, a head having an upper portion fitted in said shell to engage said grooved inner faces of the flaring lips and a lower portion spaced inward from the four walls of the shell and engaging the edges of said fins to define separate passages for water flow, and a flap

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hinged to said shell in each of said passages, each said flap being movable between open and closed positions when the head is removed, each said flap being engaged when in its closed position by a portion of the bottom of said head to block the passage in which it is mounted.

3. A sprinkler as in claim 2, including a fixed central stem mounted within said shell and projecting up through said head, and a nut on the upper end of said stem.

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REFERENCES CITED

The following references are of record in the file of this patent:

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