Jan. 11, 1927. 1,614,430

L. T. MART

SPRAY POND T

Filed March 1, 1923

Fig. 1.

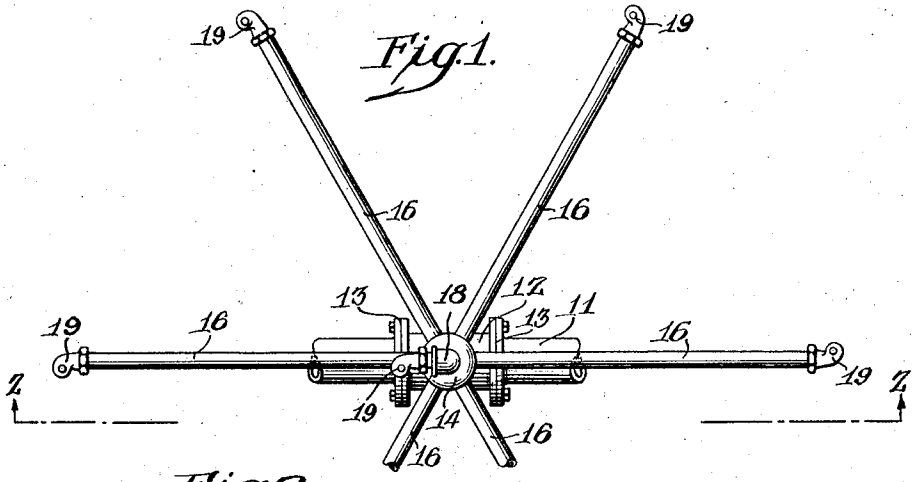


Fig. 2.

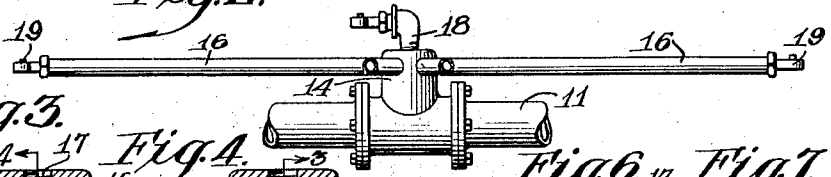


Fig. 3.

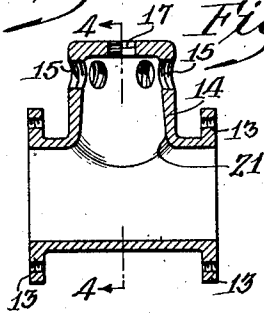


Fig. 4.

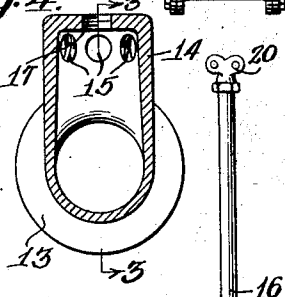


Fig. 6.

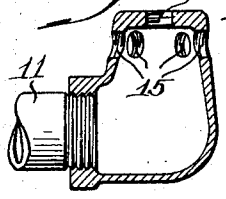


Fig. 7.

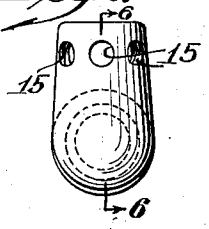


Fig. 5.

Fig. 8.

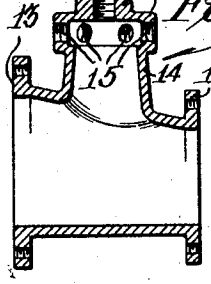
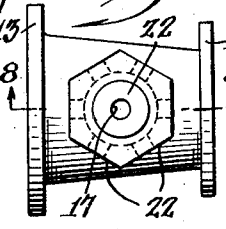


Fig. 9.



Inventor
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by
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Patented Jan. 11, 1927. 1,614,430

UNITED STATES PATENT OFFICE.

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SPRAY-POND T.

Application filed March 1, 1923. Serial No. 622,084.

The purpose of my invention is to reduce the friction of flow and hence the cost of pumping in spray distribution.

A further purpose is to simplify, cheapen and improve the construction of the T through which spray distribution takes place.

A further purpose is to avoid necessity for care in alignment of groups of spray heads.

Further purposes will appear in the specification and in the claims.

I have preferred to illustrate my invention by but one main form with minor variations to suit slightly differing situations, selecting a form which has proved to be highly practicable, efficient, inexpensive and reliable and which at the same time well illustrates the principles of my invention.

Figure 1 is a fragmentary top plan view of a group of spray heads, distributing from one of my T's.

Figure 2 is a section of Figure 1 upon line 2—2.

Figure 3 is a section taken upon line 3—3 of Figure 4.

Figure 4 is a section upon line 4—4 of Figure 3.

Figure 5 is a fragmentary top plan view showing a different type of spray head connections from that of Figure 1.

Figure 6 is a section upon line 6—6 of Figure 7.

Figure 7 is an end elevation of an elbow performing the function of my T.

Figure 8 is a section upon line 8—8 of Figure 9.

Figure 9 is a top plan view of a reducing T embodying my invention.

In the drawing similar numerals indicate like parts.

In the spraying of water as practiced in spray ponds, particularly when there are many groups of spray heads to the pond, the pumping necessary to give adequate spraying becomes quite a factor, enhancing the value of any change by which resistance to the flow of the water and hence the cost of pumping may be reduced.

I have made the T from which the water is branched to each individual group a direct distributor for the group, threading the distribution pipes directly into the T. I thus ensure a minimum of friction, give more direct and intimate connection of the distributing pipes with the water supply, standardize the height, and reduce the cost and time of manufacture and also of installation.

Though my invention is applicable as shown in Figures 6 and 7 to the elbow at the end of the supply pipe as well as to the T at intermediate points in its length, the greater number of T connections used makes this form of more importance than that of the elbow.

In Figure 1 the water supply pipe is shown at 11 extending through from the pump to supply the group of spray heads shown and extending beyond to supply additional groups not shown. In order to feed the group of spray heads a T 12 is shown connected to the pipe by flanges 13 upon the T and pipe respectively bolted together. The stem of the T intended to supply the group of spray heads has formerly been connected with a terminal fitting from which the spray head pipes branch by an intermediate length of pipe. This is objectionable, not only because of the increased cost of manufacture and time spent in connecting it with the threads of the T at the one end and of the terminal fitting at the other, but also because of the great increase in the friction of fluid flow. Because the pipe is ordinarily of different material from that of the T and fitting, contributing to the necessity for frequent and expensive replacements.

I avoid these objections and secure a lighter and cheaper stem and better flow by forming the stem 14 of the T itself as a support and holder for the distributing pipes leading to the individual spray heads. For that reason I provide tapped openings 15 about the circumference for a series of spray head supply pipes 16, shown in Figure 1 as six in number and in Figure 5 as four in number. I also tap the top of the fitting, as at 17, to provide for a nearly central spray head support 18. The spray heads 19 shown in Figure 1 are single, while those in Figure 5 at 20 are double and the illustrations differ in various other equally unimportant particulars. The connection between the stem and body of the T is full-throated in that it is unrestricted by intervening walls and preferably circular in sections perpendicular to the axis of the stem.

The construction of fitting described

makes it possible to lead the water within the main supply pipes along lines of easy flow such as 21 clear up to the entrances to the pipes 16.

Not only is my invention suitable to T's at intermediate points in supply pipes of the same size as shown in Figures 1–5 but to T connections where the T is made a reducing fitting between water supply pipes of different sizes, as in Figures 8 and 9, and to terminal fittings which are elbows merely as shown in Figures 6 and 7.

The terminal fittings shown as elbows in Figures 6 and 7 differ from the T's merely in having one end closed by a curved wall.

It will be noted that Figures 3, 4, 6 and 7 show a thickening of the upper walls of the stem of the T to provide for a sufficient depth of threaded engagement and sufficient strength of wall structure to prevent leakage of the pipes and to properly support the distributing pipe 16. In Figures 8 and 9, along with a slope of the walls of the T to present flanges 13 and 13′ of different sizes with correspondingly variant openings for the reduction of the cross section at this point, the upper part of the stem of the T is provided with thickening bands or bosses 22 for the purpose of affording additional stiffness, thickness and strength for the connections made.

It will be evident that variations in the form of structure shown by me may be made by those skilled in the art in view of my disclosure to secure a part of my invention and it is my purpose therefore to include herein all such variations and changes as fall within the reasonable spirit and scope of my claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In combination with spray pond supply piping, a T fitting engaging the piping, and having full-throated connection between the stem and body, distributing pipes directly secured to the stem of the fitting perpendicular to its axis and spray heads mounted upon the outer ends of the pipes.

2. In combination with spray pond supply piping, a fitting having an opening into which the supply pipe is connected and a branch at right angles thereto, in combination with distributing pipes directly connected at right angles to the branch at their inner ends and spray heads mounted upon the outer ends of the pipes.

3. In combination with spray pond supply piping, a T fitting having the through connection of the T connected between parts of the supply pipe and with unrestricted flaring communication between the stem and body, distributing pipes connected at their inner ends to the stem of the T and spray heads at the outer ends of the said pipe.

4. In combination with spray pond supply piping, a fitting having its through connection of different sizes at the two ends, substantially straight at one side and sloping with respect to the axis at the other and connected to parts of the supply pipe to provide for reduction of the size of the supply pipe at this point and a T stem leading off from the sloping side at right angles to the through portion, a plurality of pipes connected with the T stem at their inner ends and spray heads at the outer ends of the pipes.

5. A fitting for spray pond connections having an opening and attaching means about the opening for supply pipe connection and a branch perpendicular to the supply pipe, the branch being apertured and threaded with axes of the threads approximately perpendicular to the axis of the branch.

6. A spray pond fitting comprising a T having the through portion provided at both ends with means for connection to a pipe and the stem apertured at the sides and end and threaded to adapt for piping, having the axes of the openings at the sides perpendicular to the axis of the opening at the end.

7. A fitting for spray ponds having a through connection provided at both ends with means for connection to a pipe and adapted to fit between sections of supply pipe and having a stem at right angles thereto apertured and threaded at a plurality of points about its circumference, the axes of the threads being substantially at right angles to the axis of the stem and having the walls between the through connection and the stem curved to facilitate fluid flow.

LEON THOMAS MART.