No. 883,527. PATENTED MAR. 31, 1908.

E. L. DE LONG.

NOZZLE FOR IRRIGATING SYSTEMS.

APPLICATION FILED JULY 6, 1907.

FIG. 1.

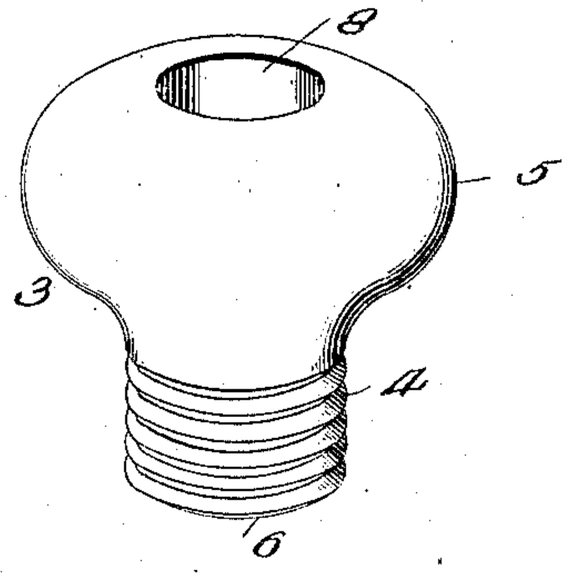
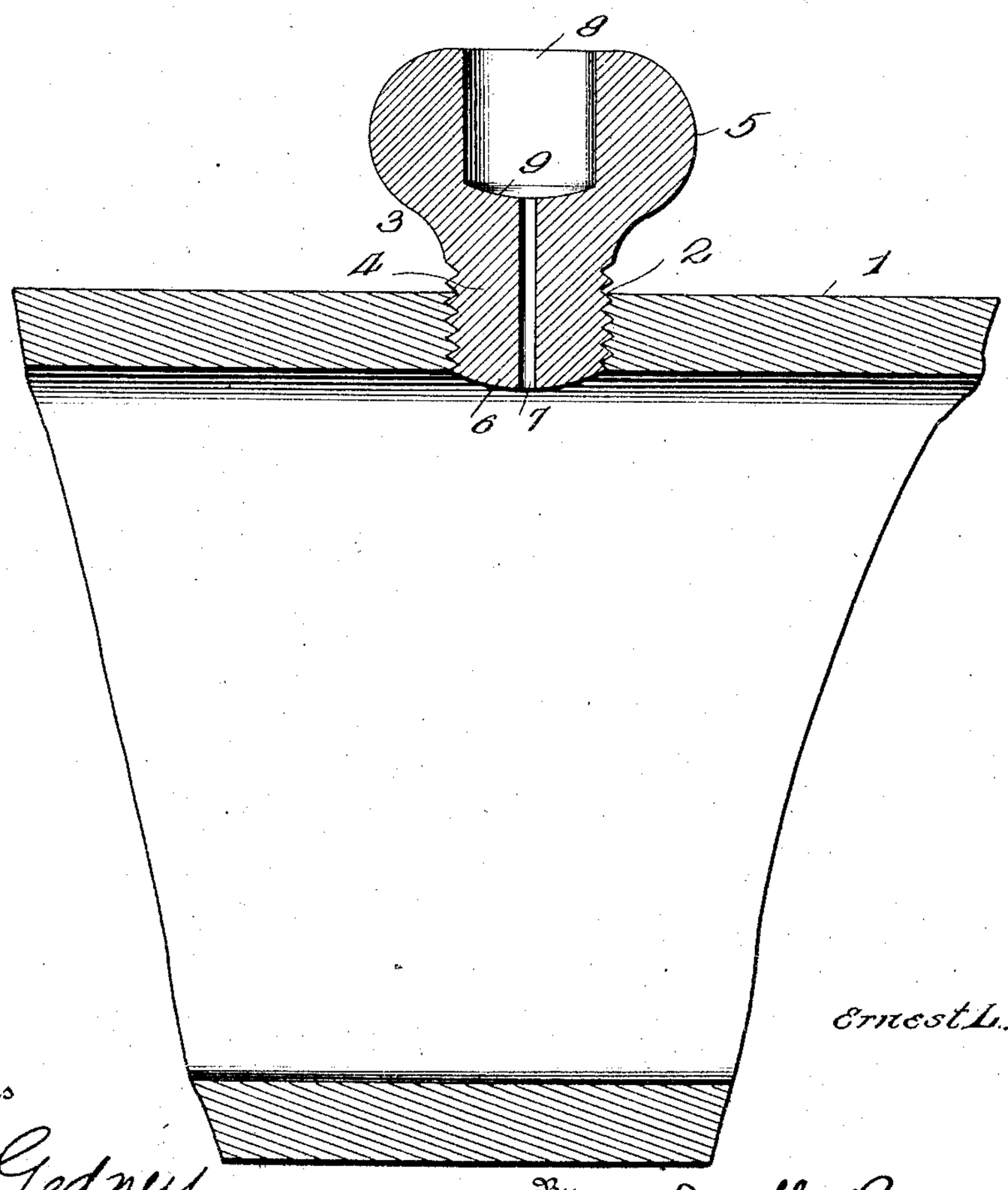


FIG. 2.



Witnesses

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NOZZLE FOR IRRIGATING SYSTEMS.

No. 883,527. Specification of Letters Patent. Patented March 31, 1908.

Application filed July 6, 1907. Serial No. 382,499.

To all whom it may concern:

Be it known that I, ERNEST L. DE LONG, citizen of the United States, residing at Clearwater, in the county of Hillsboro and State of Florida, have invented certain new and useful Improvements in Nozzles for Irrigating Systems, of which the following is a specification.

My invention relates to certain new and useful improvements in nozzles adapted for use in connection with irrigating systems, and the object of my invention is to improve the construction of such nozzles, and to produce a nozzle which will operate in a more efficient manner than those heretofore used.

In one form of irrigating systems a series of pipes are placed across the field to be irrigated, and at a distance of about seven feet from the ground, so that they will not interfere with the tilling and cultivation of the field, the pipes being located in lines usually about fifty feet apart. At intervals along these pipes are tapped openings into which nozzles are screwed. When water is forced through the pipes streams will spurt out through the nozzles along their length and spray the vegetation. In order to distribute the spray it has been the practice to turn the pipes so as to direct the nozzles in various directions. Heretofore these nozzles have been constructed with a small opening at the water exit end and a larger opening at the end of the nozzles into which the water enters. The result of this is that any sediment, dirt or trash which is in the water will lodge in the nozzle and stop the flow therefrom. Because of the fact that the nozzle is screwed into the pipe with the small end extending outwardly, it is difficult, if not impossible, to dislodge the sediment or trash from the inner end of the nozzle after it has become lodged therein, without removing the nozzle from the pipe.

By my invention I have produced a nozzle which is less liable to become clogged with trash, and one from which the trash can be readily removed by the insertion of a pin or other pointed implement therein, and without the necessity of removing the nozzle from the pipe.

My invention also affords means whereby the cleaning implement can be readily forced into the opening at night or under other conditions where a good light is unobtainable.

Referring to the drawings wherein I have shown the preferred form of my invention, and wherein the same part is designated by the same reference numeral wherever it occurs, Figure 1 is a perspective view of a nozzle constructed in accordance with my invention; Fig. 2 is a central longitudinal section of the same showing the nozzle in position in a section of pipe.

1 designates a section of pipe of any desired form of irrigating system, such for instance as is shown in the patent to Skinner, 614,507, Nov. 22, 1898, and 2 designates one of the tapped openings formed in the pipe. 3 designates a nozzle which is formed with a body portion 4 and a head 5 which, preferably and as shown, is larger than the body portion.

The body portion 4 is screw threaded and is adapted to be inserted into the opening 2 of the pipe 1. The lower end of the body portion 4 is preferably convex as shown at 6, in order that when the nozzle is screwed into the pipe with the edges of the end of the body portion flush with the inner side of the pipe, there will be no surface presented on which trash or other foreign material carried in the water can lodge, and further to deflect such trash or sediment away from the opening 7, which extends centrally through the body portion 4, and into the enlarged opening 8 formed in the head 5. The opening 8 at its bottom is preferably concave, as shown at 9, in order to guide a pin or other implement into the opening 7 for the purpose of clearing the same should any trash lodge in the opening 7.

From the above construction it will be seen that I have produced a nozzle which possesses a number of advantages over the construction of nozzle heretofore employed. The convex inner end of the nozzle from the center of which the water spraying opening extends will act to deflect trash which normally would flow over the opening and be drawn therein by the suction therethrough. Further than this the portion of the nozzle with the small opening 7 against the sides of which the water makes contact is much shorter than in the constructions heretofore used, consequently there is less resistance offered to the flow of water. Furthermore, the enlarged opening forms a guide whereby an implement can be readily forced into the opening, and as the opening is of the same size throughout its length the forcing of a pin or other implement of approximately the size of the opening will completely clear the

opening of any trash or obstruction. When the implement has been forced clear through the opening the flow of water past the nozzle will carry away the obstacle. The enlarged opening in the head permits of the ready insertion of the pin even at night, or under other conditions where the end of the nozzle cannot be readily seen. In the former construction where the nozzle had a small opening of the size of the stream, this operation was difficult, if not impossible. The concaved bottom in the large opening 8 materially aids in this operation. The head can be made as large as desired, in order to offer sufficient surface to readily take hold of, should it be desired, to remove the nozzle.

While I have described my invention in connection with an irrigating system, it is to be understood that my nozzles are equally well adapted for use in connection with any sprinkling system, as for instance street or road sprinkling or other similar constructions if desired.

While I have described what I believe to be the preferred form of my invention, I desire to have it understood that many changes may be made in the form, construction and arrangement of parts without departing from the spirit of my invention.

What I claim as new and desire to secure by Letters Patent is

1. A nozzle for irrigating systems, comprising a body portion screw threaded on its exterior whereby it is adapted to be secured in a pipe line, said body portion having a convex inner end and provided with an opening therethrough, of a head provided with an opening in line with the opening in the body portion, the opening in the head being of relatively larger size than the opening in the body portion.

2. A nozzle for irrigating systems, comprising a body portion screw threaded on its exterior whereby it is adapted to be secured in a pipe line, said body portion having a convex inner end and provided with an opening therethrough, of a head provided with an opening in line with the opening in the body portion, the opening in the head being of relatively larger size than the opening in the body portion, the bottom of the opening in the head being concave.

In testimony whereof I affix my signature in presence of two witnesses.

ERNEST L. DE LONG.

Witnesses:
K. E. KLEIN,
L. B. BAKER.