

C. A. BORGESON.

SPRINKLER.

APPLICATION FILED JULY 23, 1910.

975,321.

Patented Nov. 8, 1910.

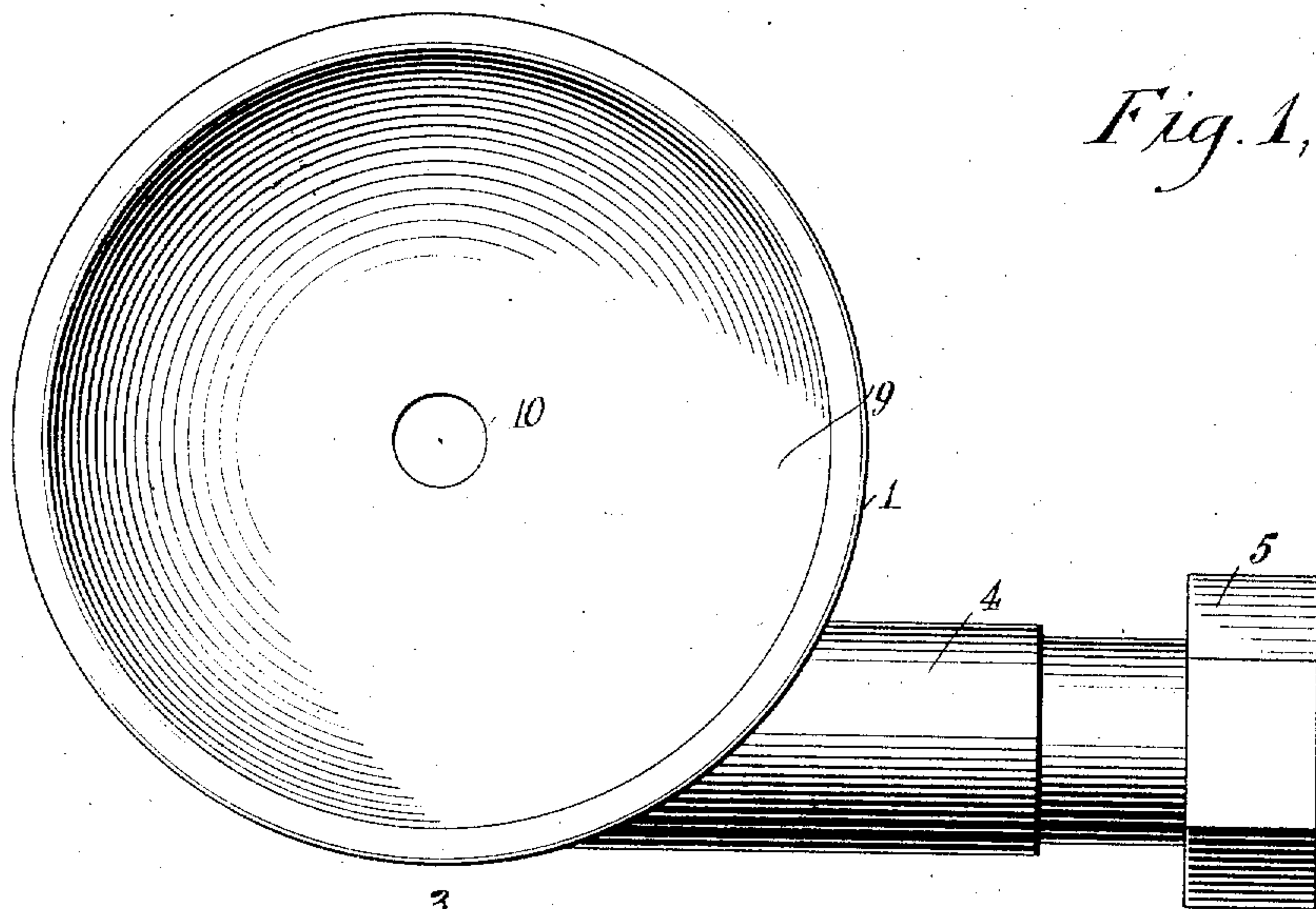


Fig. 1.

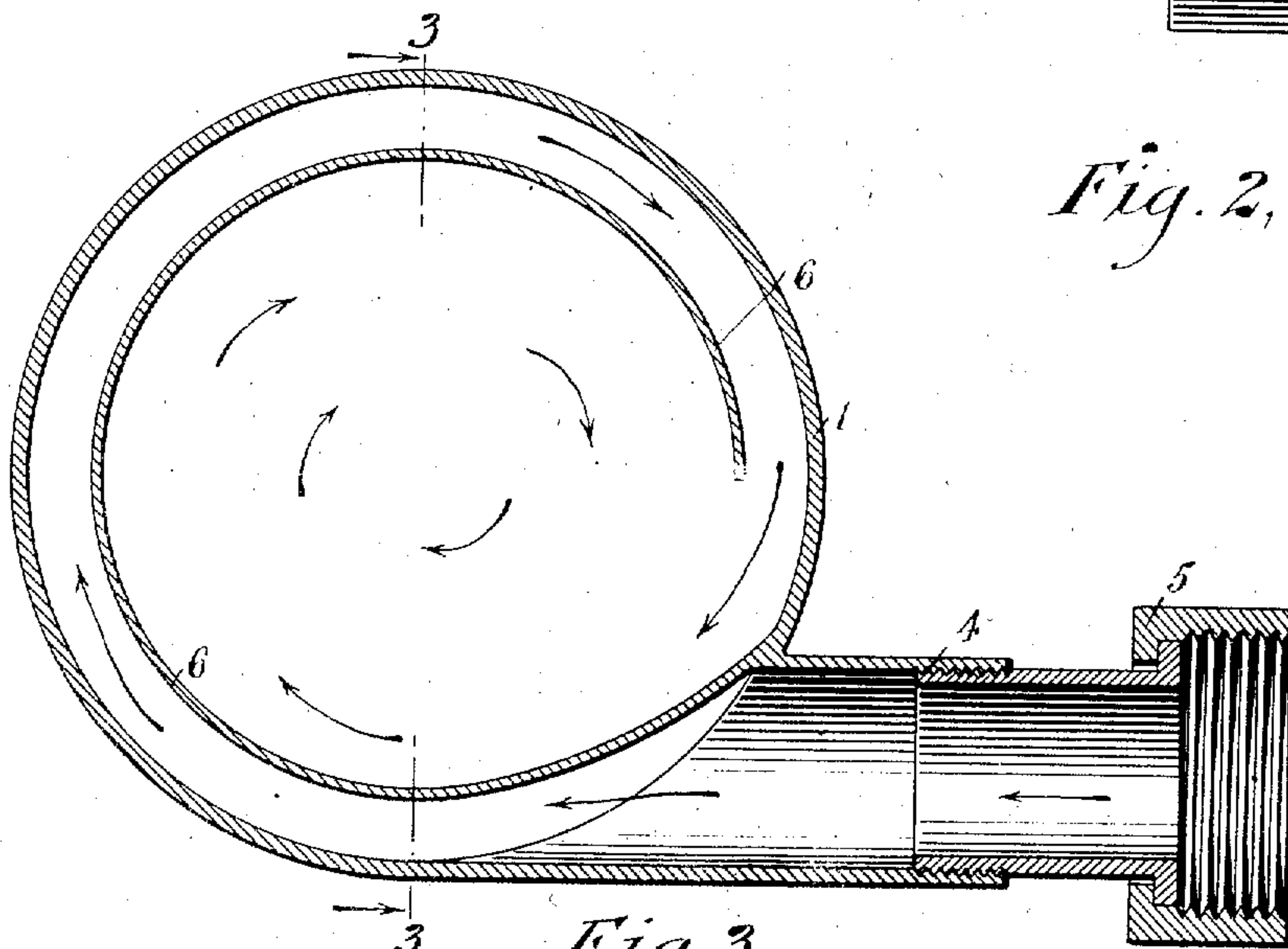


Fig. 2.

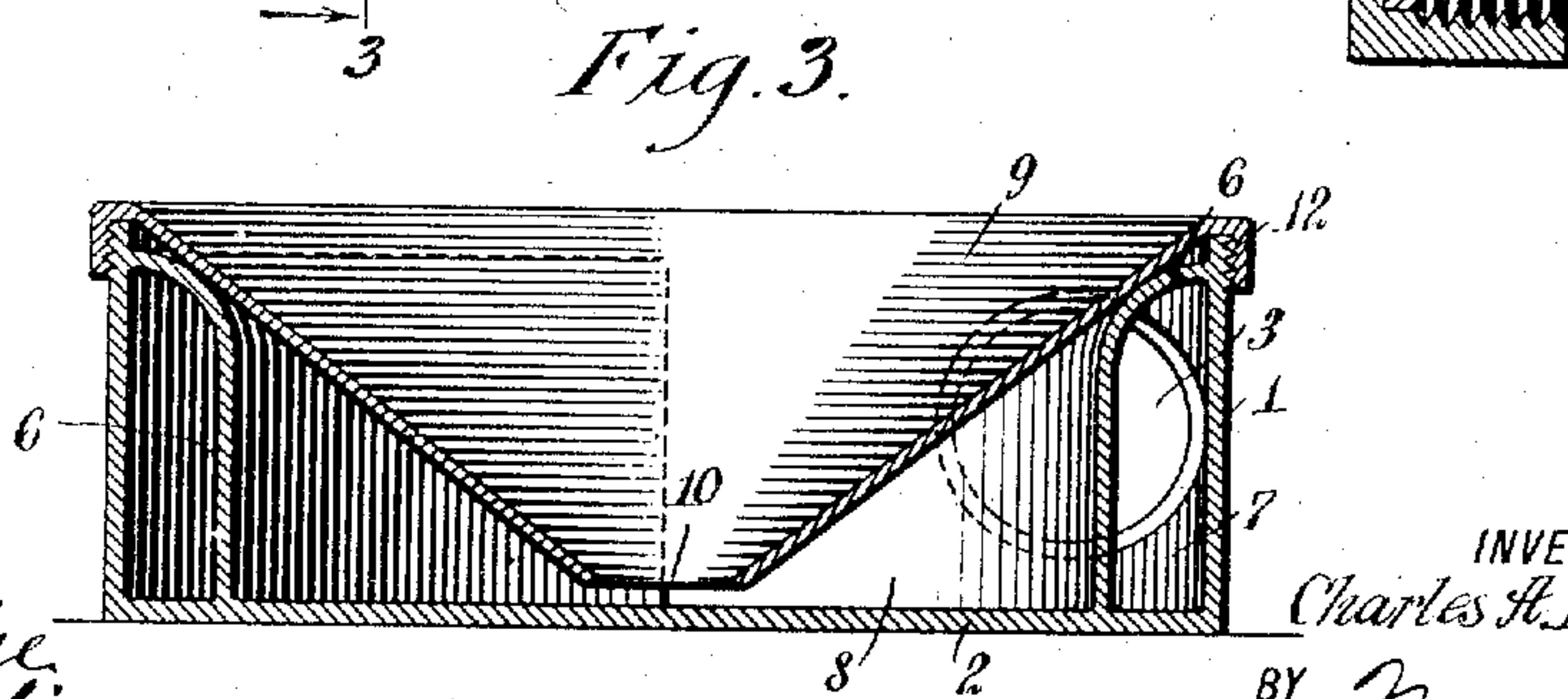


Fig. 3.

WITNESSES:

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CHARLES A. BORGESON, OF SAN FRANCISCO, CALIFORNIA.

SPRINKLER.

975,321.

Specification of Letters Patent.

Patented Nov. 8, 1910.

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To all whom it may concern:

Be it known that I, CHARLES A. BORGESON, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Sprinkler, of which the following is a full, clear, and exact description.

This invention relates to a new and improved device for sprinkling lawns, flower gardens, or the like, which is adapted to distribute an even shower of water as lightly as the rain, covering every patch of the ground surrounding the device within certain limits, varying according to the water pressure.

An object of this invention is to provide a device which will be simple in construction, inexpensive to manufacture, strong, durable, and reliable in its operation.

A further object of this invention is to provide a device in which the water is supplied tangentially thereto adjacent the periphery thereof, and has imparted thereto a circular motion by means of channels or passages within the device, from whence it passes from a central point, where it is directed along a diverging conical opening, which, by virtue of the circular motion which the stream of water has attained, separates the stream into minute particles, which scatter evenly over the adjacent ground.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a top plan view; Fig. 2 is a horizontal section; and Fig. 3 is a vertical section on the line 3—3 of Fig. 2.

Referring more particularly to the separate parts, 1 indicates a cup-shaped casing provided with a bottom 2, and open at the top. This casing 1 is provided at one side thereof with an inlet 3, extending in alignment with which there is provided a tubular pipe connection 4, whereby the water or other fluid to be sprinkled is supplied to the casing 1. The pipe connection 4 is preferably arranged so as to supply the water tangentially to the casing 1. This pipe connection 4 may be provided with any suitable

type of hose coupling 5, whereby it may be attached to a suitable supply of water, by means of an intermediate hose connection.

Connected to the casing 1 in any well known manner, as by being formed integral therewith, or by being soldered thereto, there is provided a partition 6, which forms with the vertical wall of the casing, a channel or passage 7, forming a continuation of the pipe 4. This partition 6 is circular in shape, and extends from one side of the pipe 4 in parallel spaced relation to the vertical circular side of the casing 1, to a point just short of its starting point. This structure affords a circular passage or channel, in which the water has imparted thereto a circular motion until it reaches the end of the channel, where it opens into the inner chamber of the casing 1, indicated at 8.

The casing 1 is provided with a suitable cap or cover 9, which is shown of a peculiar form, in that it consists of a funnel-shaped member, the funnel portion of which extends down within the chamber 8 and is provided with an outlet opening 10 at the apex of the funnel, and may be detachably secured to the casing 1 in any well known manner, as by means of a screw-threaded connection 12. This outlet at the apex opening 10 is spaced apart a slight distance from the bottom 2, and is adapted to permit the water engendered with its circular rotation to exit from the sprinkling device and rotate along the outwardly-diverging sides of the funnel mouth, so that the stream of water is broken up into very small particles, which will fall on all sides of the device, thus providing an atomizing reentrant nozzle.

The various parts of this device may be made of any suitable material, and may be connected together in any suitable manner. It is preferred, however, that the passage 7, formed between the partition 6 and the side of the casing 1, be constructed of somewhat greater size than the hose, so that there will be no back pressure on the hose.

Any suitable type of stand or base may be provided for this device, so that it can be set on the lawn or flower garden, and moved from place to place, according to the point which it is desired to sprinkle.

The operation of the device will be readily understood when taken in connection with the above description. The sprinkler is connected by means of a hose coupling 5, to any

suitable length of hose, which in turn is connected to a suitable supply of water under a head. The water entering under a head in the pipe 4 is directed tangentially in the passage 7, where it has imparted to it a circular motion, which motion it retains on entering the chamber 8. The stream of water circulated at a considerable speed comes to the outlet 10, where it is deflected along the diverging sides of the outlet mouth formed by the funnel 9, so that it is broken up into a fine spray, which is distributed evenly on all sides of the sprinkler, and over a radius depending on the pressure of the water.

It will thus be seen that there is provided a simple and efficient sprinkling device, which, unlike the ordinary screen sprinklers, will not clog up, as the outlet opening 10 is of sufficient size to permit almost any particles which may enter the device to pass out during the sprinkling operation.

While I have shown one embodiment of my invention, I do not wish to be limited to the specific details thereof, but desire to be protected in various changes, modifications and alterations which may come within the scope of the appended claims.

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

1. A sprinkler, comprising a casing having a flat bottom with sides perpendicular

thereto, a reëntrant nozzle connected to said casing, having an outlet located adjacent said flat bottom and having an upwardly and outwardly flaring outer surface, and means for admitting water adjacent the periphery of said casing, said nozzle forming with said bottom and said sides a chamber of right-angle triangular cross section, and a spiral projection dividing said chamber into inner and outer portions, whereby a circular motion is imparted to the water admitted thereto.

2. A sprinkler, comprising a cylindrical casing open at the top and having a flat bottom, a removable cover for said casing, having a screw-threaded connection therewith, said cover being in the form of an inverted conical horn having an outlet at the apex thereof, said apex being located adjacent said bottom, means for supplying water to said casing adjacent the periphery thereof, and a partition extending from said means in a circular manner within said casing, whereby a circular motion is imparted to the water admitted to said casing.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES A. BORGESON.

Witnesses:

JOHN JAY CRAWFORD,
CLARENCE KING LOOMIS.