(No Model.)

D. C. WILGUS.

LAWN SPRINKLER.

No. 484,074. Patented Oct. 11, 1892.

Fig. 1.

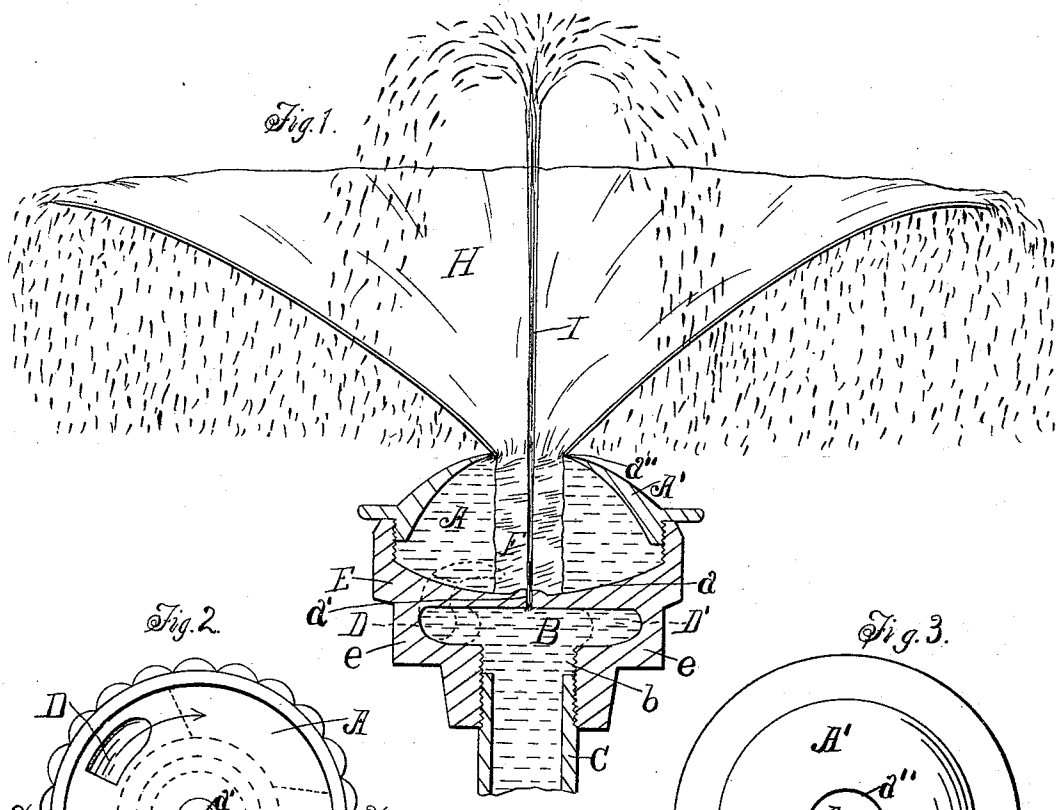


Fig. 2.

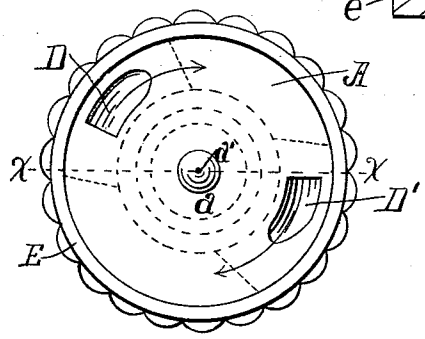


Fig. 3.

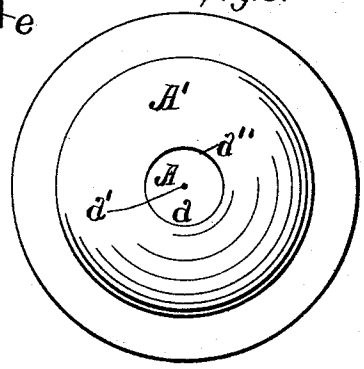
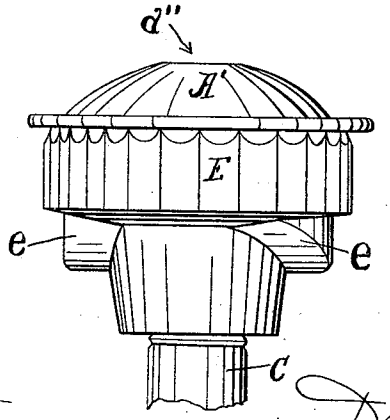


Fig. 4.



Witnesses.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DANIEL C. WILGUS, OF LOS ANGELES, CALIFORNIA.

LAWN-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 484,074, dated October 11, 1892.

Application filed April 28, 1892. Serial No. 430,971. (No model.)

To all whom it may concern:

Be it known that I, DANIEL COOK WILGUS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Lawn-Sprinklers, of which the following is a specification.

My invention relates to that class of sprinklers in which the water is introduced tangentially into a circular chamber and is discharged from an orifice in the top of such chamber.

The object of my invention is to produce a sprinkler of this class which may be attached directly to an upright pipe or stand and will discharge the water in an even circular sheet or spray.

A further object of my invention is to so arrange and construct the sprinkler that a central jet will be discharged upward from the central portion of the sprinkler, thus producing an ornamental effect in addition to wetting the ground in close proximity to the sprinkler and between the sprinkler and the water which reaches the earth from the main discharge of the sprinkler.

My invention comprises a sprinkler provided with a flat circular vortex-chamber and a centrally-arranged outlet or discharge orifice in its top, a water-supply chamber beneath such vortex-chamber and arranged for attachment to the supply-pipe, and one or more induct-passages leading from the supply-chamber to the vortex-chamber through the floor thereof, arranged to discharge into such vortex-chamber in reverse directions and upon opposite sides of such chamber tangential to its periphery.

My invention also comprises the combination of a sprinkler provided with the above features and with a jet-passage arranged in line with the axis of the vortex-chamber and leading from the supply-chamber to the vortex-chamber.

The accompanying drawings illustrate my invention.

Figure 1 is a vertical mid-section of my improved sprinkler in operation. Fig. 2 is a plan view of one of my improved sprinklers, the top being removed to show the arrangement of the inlets into the vortex-chamber. Fig. 3 is a plan view with the top in place. Fig. 4 is a plain elevation of the sprinkler mounted upon a fragment of a supply-pipe.

A is a flat vortex-chamber, which, as illustrated, is circular with concave top A′ and bottom *a*.

B is a supply-chamber, which is located beneath the vortex-chamber and is separated therefrom by the bottom *a* of the vortex-chamber, and is provided with the screw-threaded supply-passage *b*, which is arranged to screw upon the stand or supply pipe C, which is connected with the water-supply.

D D′ are two inlet passages or ducts leading from the supply-chamber into the vortex-chamber and which are arranged to discharge into the vortex-chamber tangential to its periphery and upon opposite sides of the center of such chamber.

a″ is the central discharge orifice or outlet opening from the vortex-chamber and arranged in line with the axis of such chamber.

In practice the head E is cast integral, the passages *b* D D′ and chamber B being formed by a core, and to economize metal and make the sprinklers as light as possible the lugs *e* are cast upon the head to allow the passages D D′ to be formed therein. The concave top A′ is screwed into the head E, as illustrated in Fig. 1.

In practice the water is turned on through the supply-pipe C and enters the chamber B, from which it is discharged through the passages D D′ tangentially into the vortex-chamber A, which fills with a body of rapidly gyrating or rotating water, and thus forms a vortex F in the center of the chamber, as illustrated in Fig. 1, and because of centrifugal force the water is discharged from the inner wall of the vortex as soon as it reaches the outlet-opening *a″*, and as it nears the center of the chamber the gyratory motion is more rapid and the centrifugal force greater, and the water is thrown outward in a circular sheet H to a considerable distance from the sprinkler. The stream discharged through the opening *a′* passes upward through the center of the vortex in a jet I, which rises above the sheet discharged from the outlet *a″*, and falling to the ground in passing through the sheet H is broken and scattered

and thoroughly wets the ground in the immediate vicinity of the sprinkler.

The two inlets or passages leading into the vortex-chamber through the floor thereof upon opposite sides of its center cause a uniform vortex to be formed in such chamber, and consequent uniformity in the sheet of water discharged from the orifice a''. These inlets may be arranged to open into the vortex-chamber through the side walls of the chamber without departing from the spirit of my invention; but the sprinklers are more easily manufactured when made as illustrated in the drawings.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A lawn-sprinkler provided with a flat circular vortex-chamber and a centrally-arranged discharge-orifice in its top, a water-supply chamber beneath such vortex-chamber and arranged for attachment to the supply-pipe, two induct-passages leading from the supply-chamber to the vortex-chamber and arranged to discharge into such vortex-chamber in reverse directions upon opposite sides of such chamber tangential to its periphery, and the jet-passage arranged in line with the axis of the vortex-chamber and leading from the supply-chamber to the vortex-chamber.

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