U. A. PETERS.

SPRINKLER.

APPLICATION FILED AUG. 7, 1909.

960,393.

Patented June 7, 1910.

2 SHEETS—SHEET 1.

FIG. 1.

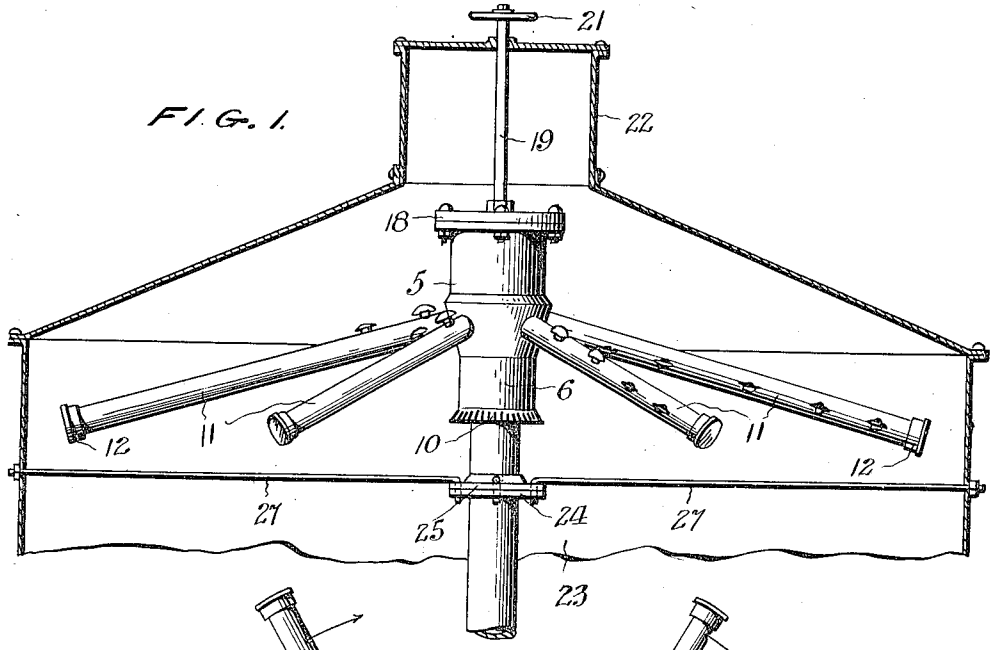
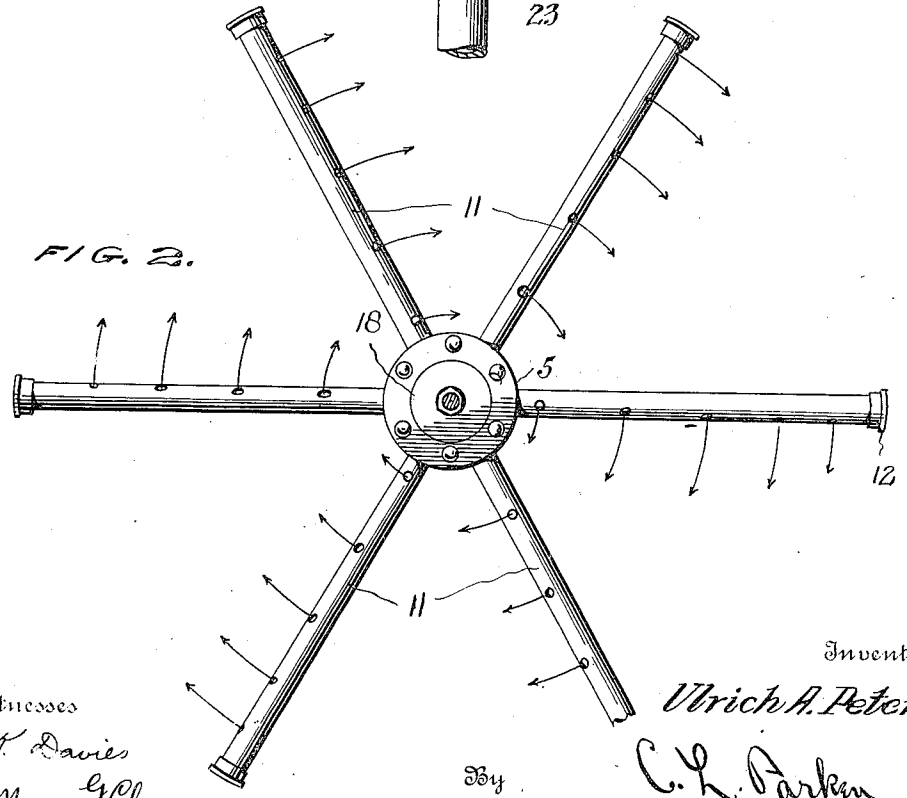


FIG. 2.



Witnesses

C. K. Davies

Myron G. Clear

Inventor

Ulrich A. Peters.

By C. L. Parker.

Attorney

U. A. PETERS.

SPRINKLER.

APPLICATION FILED AUG. 7, 1909.

960,393. Patented June 7, 1910.

2 SHEETS—SHEET 2.

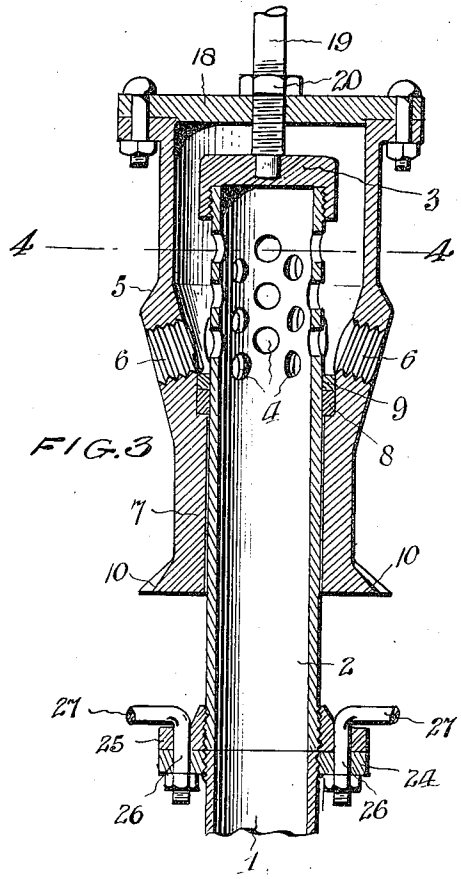


FIG. 3.

FIG. 5.

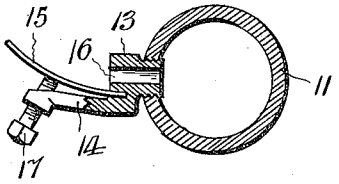


FIG. 6.

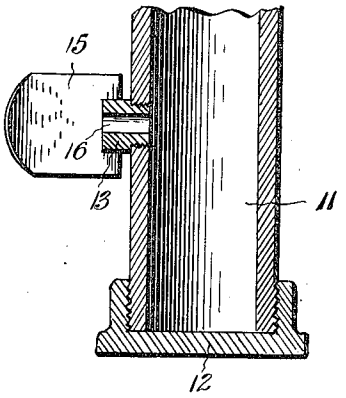
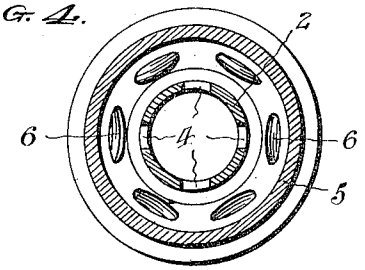


FIG. 4.



Witnesses

C. K. Davies

Myron G. Clean

Inventor

Ulrich A. Peters.

By C. L. Parker.

Attorney

UNITED STATES PATENT OFFICE.

ULRICH A. PETERS, OF PITTSBURG, PENNSYLVANIA.

SPRINKLER.

960,393. Specification of Letters Patent. Patented June 7, 1910.

Application filed August 7, 1909. Serial No. 511,726.

To all whom it may concern:

Be it known that I, ULRICH A. PETERS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Sprinklers, of which the following is a specification.

My invention relates to sprinklers, and more particularly to a rotating sprinkler of that character in which the discharging of water reacts to cause rotation of the water discharge means, and the object of my invention is to design a novel and simple structure of sprinkler especially adapted for use in connection with gas washing tanks.

Other objects, and the advantages of my invention, will appear in the course of the following description in which reference is made to the accompanying drawings, forming a part of this specification, and in which,

Figure 1 is a vertical sectional view through a portion of a gas washing scouring tank, illustrating my improved sprinkler in elevation therein. Fig. 2 is a plan view of my improved sprinkler removed. Fig. 3 is an enlarged vertical sectional view through the nozzle and nozzle head, with the sprinkling arms removed. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3. Fig. 5 is a transverse sectional view through one of the sprinkler arms, and illustrating the spray reflector and its manner of connection, and Fig. 6 is a longitudinal section through the parts shown in Fig. 5.

In the practical embodiment of my invention as herein shown, I provide an inlet pipe 1 arranged vertically, and externally threaded adjacent its upper end, upon which upper end is disposed the lower externally threaded end of the nozzle pipe 2, which is closed at its upper end by a threaded cap 3, and provided adjacent said upper end with a series of openings 4, which lead within the bore of a nozzle head 5, having a series of radially threaded openings 6, through its wall, and is provided with a contracted lower portion 7 fitting snugly about pipe 2 below its perforations 4. Within the bore of head 5, between its openings 6 and the lower end thereof, is arranged packing material 8, and a packing ring 9 holding said material, which prevents the escape of liquid between the pipe 2 and the contacted portions 7 of said head, the lower end of said head being flared and grooved at 10 whereby to collect the falling spray upon the exterior surface of the head and permit the same to drip from its lower end away from the nozzle pipe 2. A plurality of radial outstanding sprinkling arms 11 have their inner ends threaded to be screwed within the openings 6 of the head 5, said arms being provided in their length with a plurality of discharge openings arranged in longitudinally extending spiral series, and threaded for a purpose to be hereinafter described. As shown, the arms 11 are inclined outwardly and downwardly from the head 5, and are closed at their outer ends by end caps 12, beyond their outermost water discharge openings, thus forming pockets at their ends for sediment and other impurities in the water which in the ordinary construction of sprinklers tend to clog up said discharge openings.

As shown in Figs. 5 and 6, the water discharge openings of the arms 11 being, as before stated threaded, are adapted for the reception of threaded nipples 13 each of which has an outstanding bracket arm 14 and a deflector plate 15, the inner edge of which is inclosed within the material of the nipple 13 at one side of its opening 16, said deflector plate 15 being of suitable flexible material whereby it may be angularly adjusted within the jet of liquid flowing outwardly through nipple opening 16 by means of a set screw 17 tapped through the outer end of bracket arm 14. In this manner, the water discharge openings of the arms or more particularly the nipples 13 are not necessarily of minute proportions (thus endangering clogging) whereby to permit a fine spray of water, as the stream therefrom in my present invention will upon striking the deflector plate 15, be at once converted into a spray.

The head 5 may be adjusted longitudinally upon the nozzle pipe 2 by means of a rod 19 threaded through the end plate 18 of said head 5, and provided with a reduced inner end rotatably engaged within a depression within the end cap 3 of said nozzle pipe 2, the said rod 19 and said head 5 being ordinarily locked together for rotation by means of a nut 20. The rod may be provided upon its outer end with a hand wheel 21, and when the sprinkler is used in connection with a gas washing or scouring tank, said rod extends upwardly through the upper end or hood 22 of the scouring tank 23

and the said hand wheel 21 thus forms a means for indicating whether or not the sprinkler is in operation.

As shown particularly in Fig. 3, collars 24 and 25 are screwed upon the adjacent threaded ends of the inlet pipe 1 and nozzle pipe 2 respectively, said collars abutting one another and being provided with transverse registered openings through which suitable fastening means may be secured in the present instance the inner angular ends 26 of rods 27 having their outer ends secured through the wall of the tank 23 and thus serving to center the sprinkler within such tank.

With regard to the discharge openings of the sprinkling arms 11, and in order to obtain a more uniform spray, I gradually decrease the space between the openings, toward the outer end of the arm, and I further construct the openings of alternate arms in the same plane, and the openings of the other alternate arms in planes between the planes of the openings of the first mentioned arms.

Having thus described my invention, I claim:—

1. A rotary sprinkler embodying a plurality of outwardly and downwardly inclined sprinkler arms, each having a plurality of discharge openings and a removable end cap upon its outer end forming a sediment pocket beyond the outermost opening.

2. In a rotary sprinkler, a sprinkler arm having a discharge opening, an apertured nipple secured within said opening, a flexible baffle plate having one edge anchored within the material of said nipple adjacent its apertures, and an adjusting screw tapped through a portion of said nipple plate to adjust the same.

3. In a device of the character described, the combination with a casing, of a nozzle pipe centered within the upper portion of said casing, a nozzle head surrounding the end of said nozzle pipe, sprinkler arms extending from said head, a rod threaded through said head to rotate therewith, and bearing upon the nozzle pipe end, said rod extending upwardly through said casing, and provided with a hand wheel exteriorly thereof, substantially as described.

4. In a device of the character described, the combination with a casing of a water pipe, a nozzle pipe disposed thereon, said pipes being provided with abutting collars having registering transverse openings, a nozzle head disposed upon said nozzle pipe, sprinkler arms extending from said head, and rods extending radially from said pipe and having angular inner ends locked through the transverse openings of said collars, and having their outer ends secured to the casing, whereby to center the said pipes within the said casing, substantially as described.

5. A sprinkler of the character described, comprising a rotary nozzle head, a sprinkler arm arranged upon said nozzle head and provided with an aperture, a flexible baffle plate arranged upon said sprinkler arm adjacent said aperture whereby the water passing through said aperture may strike against said baffle plate and be sprayed, a screw arranged upon said sprinkler arm in engagement with said flexible baffle plate and adapted to angularly adjust said baffle plate, substantially as described.

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

ULRICH A. PETERS.

Witnesses:
P. A. McCULLOUGH,
E. H. METZA.