T. M. MURPHY.

FLUSHING HEAD.

APPLICATION FILED AUG. 21, 1905.

900,869.

Patented Oct. 13, 1908.

3 SHEETS—SHEET 1.

Fig. 1.

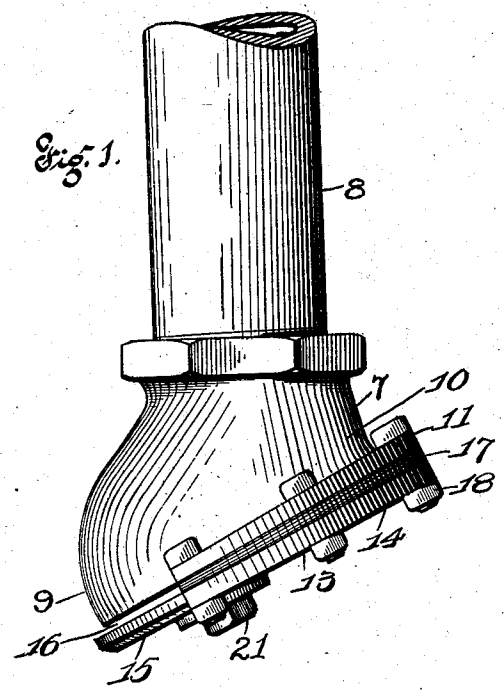


Fig. 2.

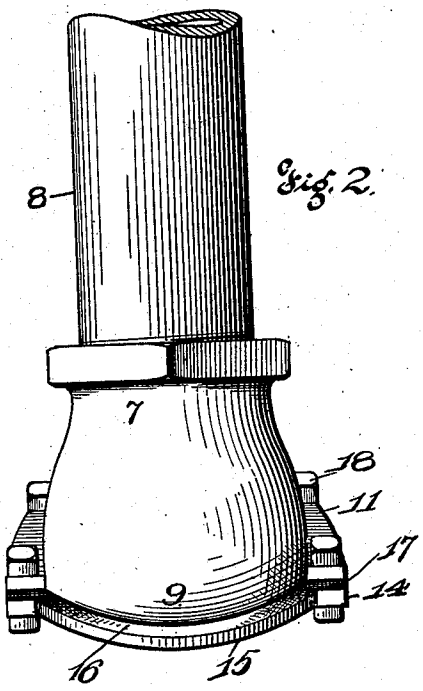


Fig 3.

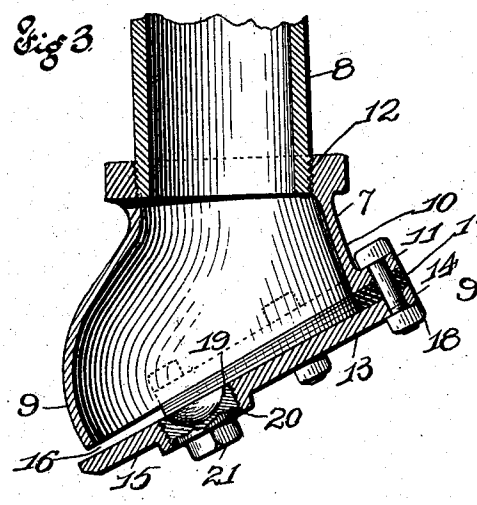
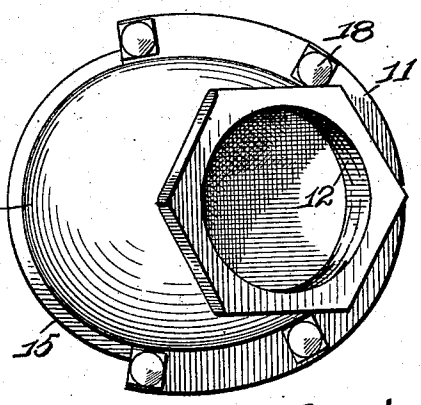


Fig. 4.



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3 SHEETS—SHEET 2.

Fig. 5

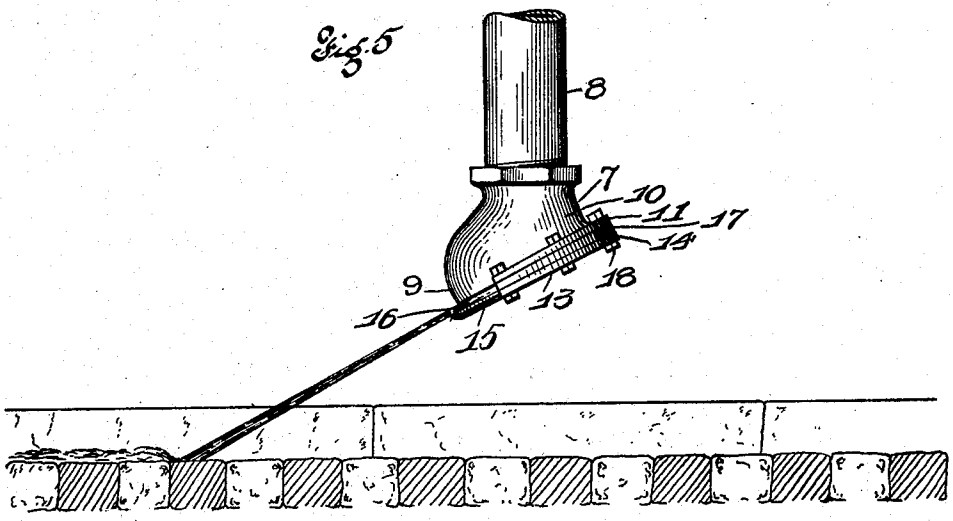
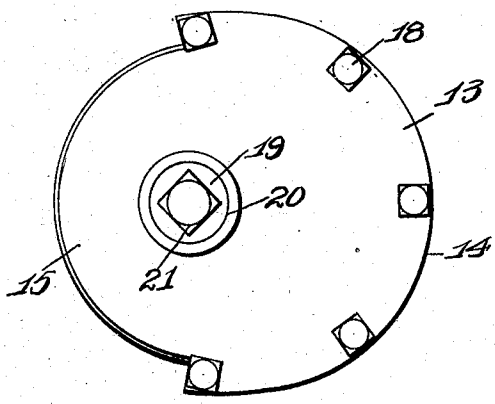


Fig. 6



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3 SHEETS—SHEET 3.

Fig. 8.

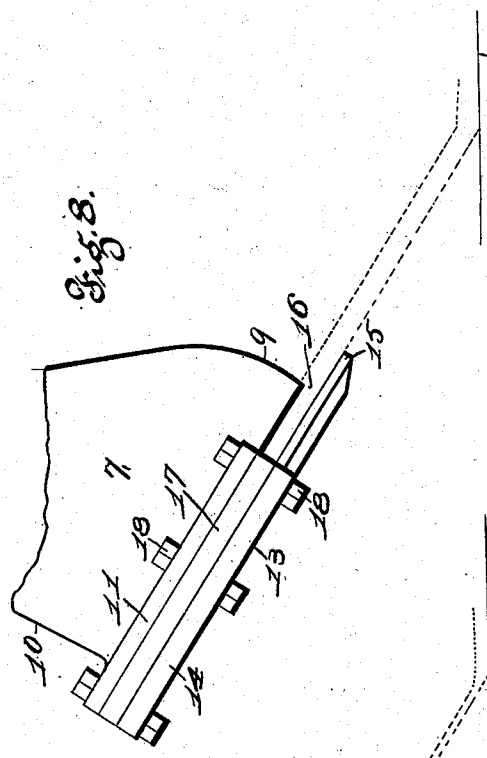


Fig. 10.

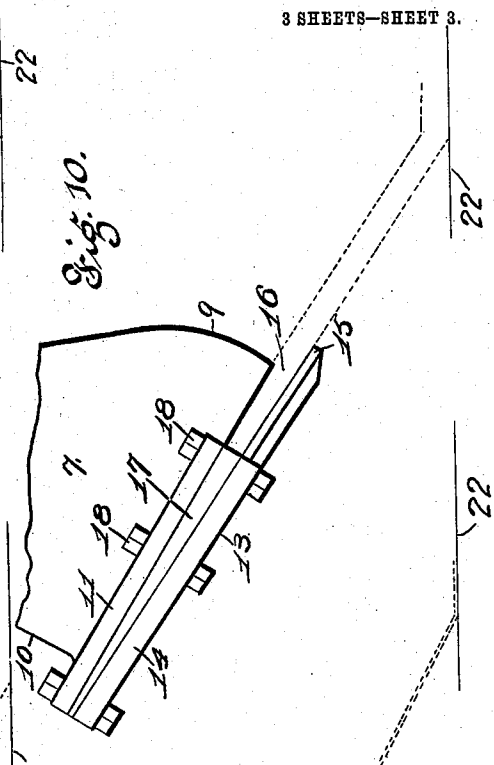


Fig. 7

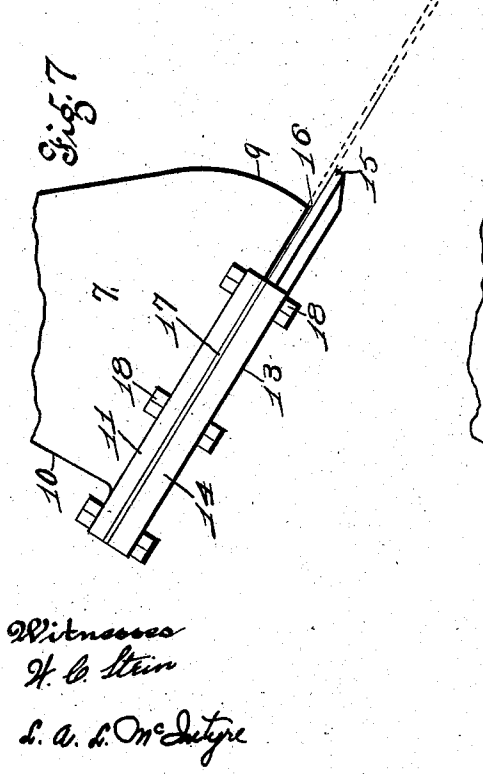
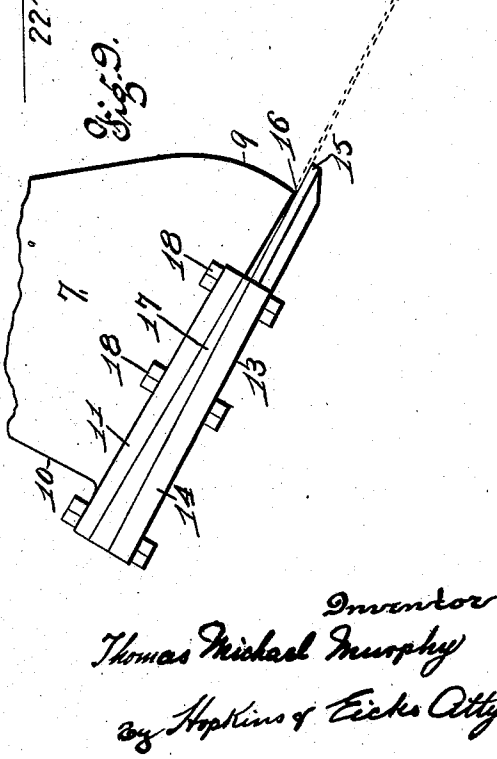


Fig. 9.



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UNITED STATES PATENT OFFICE.

THOMAS MICHAEL MURPHY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO SANITARY STREET CLEANSING & SPRINKLING MACHINE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

FLUSHING-HEAD.

No. 900,869. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed August 21, 1905. Serial No. 275,121.

To all whom it may concern:

Be it known that I, THOMAS MICHAEL MURPHY, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Flushing-Heads, of which the following is a specification.

My invention relates to an improvement in flushing-heads and has for its object to provide a suitable head or nozzle for use in connection with street washing apparatus.

The object of my invention is to provide a flushing head for street washing machines consisting of an upper hollow member, a lower flat plate member, and having means interposed between said members to regulate the angle of discharge of the fluid ejected from the flushing head.

In the drawings: Figure 1 is a side elevation of the flushing-head of my invention in place. Fig. 2 is a front elevation of the same. Fig. 3 is a tranverse vertical view in mid-section of the same, taken radially at the center of the discharge orifice. Fig. 4 is a top plan view of my flushing-head. Fig. 5 is a side elevation of the flushing-head of my invention in use, showing the relative position of the flushing head to the surface of the street, and indicating the angle of discharge, or pitch, at which the cleansing fluid is ejected and precipitated upon the street's surface. Fig. 6 is a bottom plan view of my flushing-head. Fig. 7 is a side elevation of a flushing head of my invention employing a thin packing sheet of uniform thickness throughout its length. Fig. 8 is a side elevation of the same fitted with a packing strip of considerable thickness, its thickness being uniform throughout its length. Fig. 9 is a side elevation of the flushing head of my invention, indicating the angle of discharge when a packing strip is employed which is thickest at its center and tapers towards its ends. Fig. 10 is a side elevation of the same when the packing strip employed is thickest at its ends and tapers towards its middle.

The device of my invention is peculiarly adapted for use in connection with traveling street washing machines in which the cleansing fluid is projected against the street's surface with a force in excess of its own gravity. In order to have a practical working efficiency, it is necessary that the cleansing fluid should strike the street's surface at a sharp angle. The expulsion of such cleansing fluid in a plane parallel to that of the surface of the street, or horizontally, I have found by practical test, to provide so low a degree of efficiency as to be worthless for the purpose of street washing. In the street sprinkling devices of the prior art, the angle of discharge was immaterial inasmuch as the impact of the fluid upon the street's surface was measured only by the gravity of the fluid itself. In the street washing machinery of the more recent prior art, the efficiency of the street washing apparatus, I have found to be largely determined by the regulation of the angle of discharge, and the accurate adjustment of the thickness of the sheet of fluid which is used for the work.

The device of my invention as illustrated in the drawings, consists of the funnel-shaped or semi-globular structure 7 which is shown in the form of a hollow casting intended to be attached to the lower end of a vertically depending supply pipe 8 leading from the water tank of a street washing machine. The member 7 is similar in its contour to the foot of a horse, and for that reason may be conveniently referred to in this description by calling that end of the member which is forwarded when in use the toe 9, and that end of the member 7 which is at the rear when in use, the heel 10. The lower edge of the member 7 is provided with an outwardly projecting flange 11 running from points at either side of the toe 9, rearwardly and around the heel 10. The member 7 may be screw-threaded, as indicated by the numeral 12, in order that it may be screwed upon threads at the lower end of the pipe 8. When the member has been thus adjusted, the plane of its periphery is at an angle to the street's surface, substantially that angle which is shown in Fig. 5 of the drawings.

I further provide a cap member 13, whose general outline is shown in plan view in Fig. 6; the cap member being provided with a flange 14, whose dimensions are identical with those of the flange 11, or substantially so. The cap member 13, at its front, is slightly larger than the toe portion 9 of the member 7, this projecting portion of the cap 13 forming the lip 15, whose upper surface when in use serves as a guide for the discharge from the flushing-head.

Desiring to control the angle of discharge without disturbing the member 7, as well as to control the vertical width of the orifice 16

through which the cleansing fluid is to be discharged, I provide a curved sheet or strip 17 of any suitable material, preferably waterproof. In practice, a section of any flat packing material, or of leather or rubber belting, or of rubber hose may be used. I accomplish the variation of the width of the orifice and control the angle of discharge or pitch by varying the relative front and back thickness of this sheet or strip 17, or by increasing or diminishing its thickness throughout its entire length. The width of the sheet or strip 17 corresponds approximately to the width of the flanges 11 and 14.

In the form shown in the drawings, I connect the flanges 11 and 14 by means of the bolts 18 extending through holes in the flange, and through the sheet or strip 17; but it is obvious that any other connecting means may be employed such as clamps, rivets, or thumb-screws.

Where the cleansing fluid contains insoluble substances, and the orifice 16 becomes fouled thereby, I provide the tap 19 which is screwed into the opening 20 of the cap member 13, and is provided with a bolt-head 21 whereby it can be readily removed or replaced. When the flushing-head cannot be sufficiently cleansed through the opening 20, the cap member 13 may be entirely removed, and replaced after the interior of the flushing-head has been cleansed.

In Figs. 7 to 10, inclusive, I have illustrated the various adjustments of which my flushing head is susceptible. For the purpose of illustrating the angle at which the stream ejected at the various adjustments strikes the street level or other surface to be cleaned, I have illustrated the plane of such street or other surface in each of said Figs. 7 to 10, inclusive, by the straight line 22. In Figs. 7 and 8 I have illustrated the method in which the adjustment is varied to secure the discharge at the same angle of streams of varying thickness, the stream being illustrated in dotted lines in each figure. In Fig. 9, the strip 17 is illustrated as being of the greatest width at its center, or at the heel 10, and of the least thickness at its ends and toward the front or toe 9 of the heel. The dotted lines in said Fig. 9 indicate approximately the thickness of the stream ejected by this adjustment of the flushing head and the angle at which said stream strikes the street's surface. In Fig. 10 I have illustrated that form of adjustment in which the strip 17 is thickest at its ends or toward the front or toe 9 of the nozzle, and thinnest at its middle or at the rear or heel 10 of the flushing head, while the dotted lines indicate approximately the thickness of the stream and the angle at which the stream strikes the surface to be cleaned.

Having fully described my invention, what I claim and desire to secure by Letters Patent, is:

In a flushing head, the combination of a hollow body having an open bottom and provided with a flange extending partly around its edge; a cap plate provided with a flange adapted to register with the first-named flange; a flat removable strip of resilient packing material, adapted to be interposed between said flanges and to register therewith, and to leave a discharge slit between its ends and the cap plate and the lower edge of the body, the angle of discharge of the fluid ejected from the flushing head being regulated by varying the relative front and back thickness of said strip of packing; and bolts for uniting said flanges and holding said strip in place therebetween, substantially as described.

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

THOMAS MICHAEL MURPHY.

Witnesses:

ALFRED A. EICKS,

L. A. L. MCINTYRE.