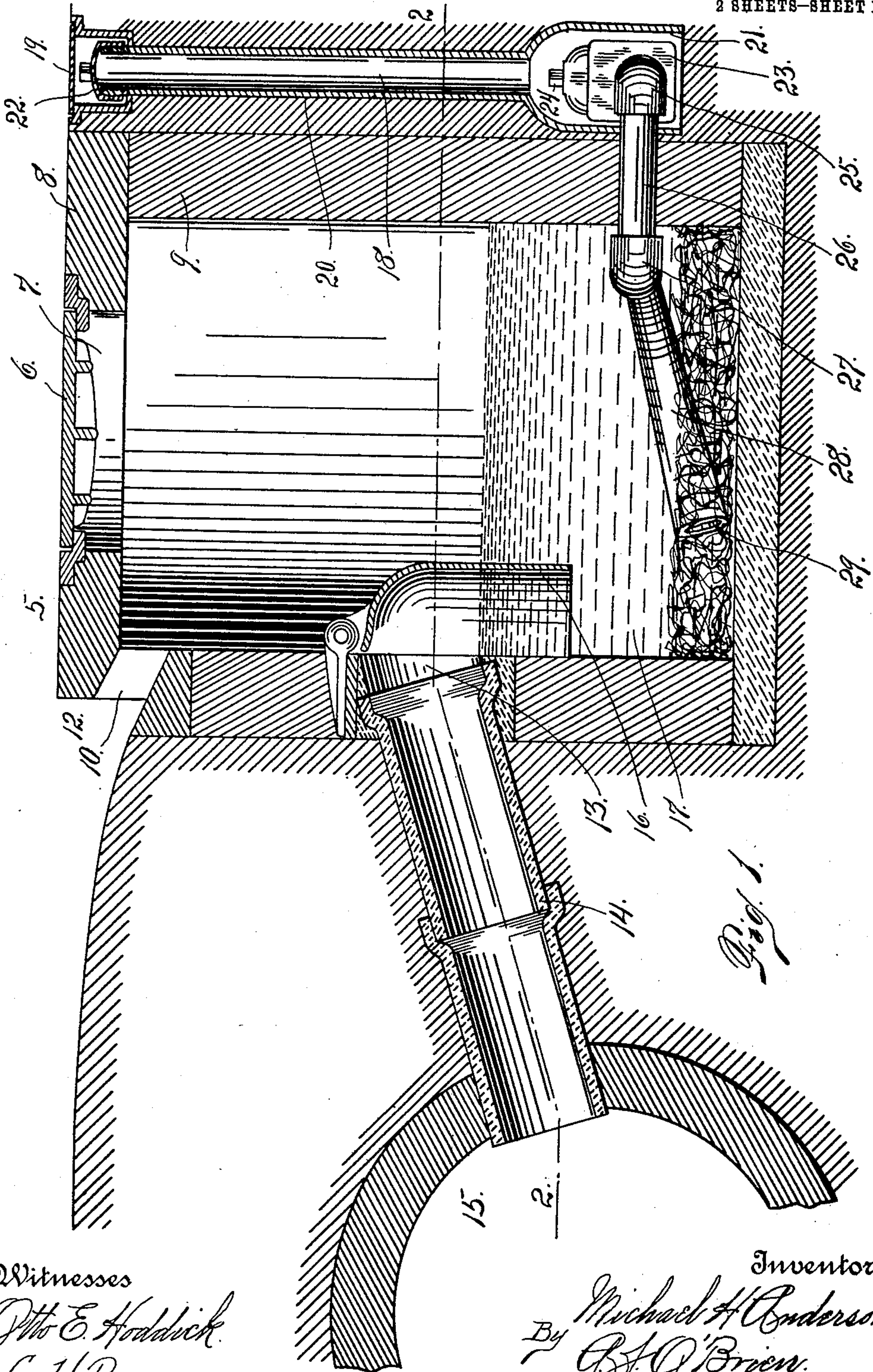


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 APPARATUS FOR FLUSHING CATCH BASINS.
 APPLICATION FILED FEB. 28, 1910.

999,140.

Patented July 25, 1911.

2 SHEETS—SHEET 1.



Witnesses
Otto E. Hoddick.
C. H. Roessner.

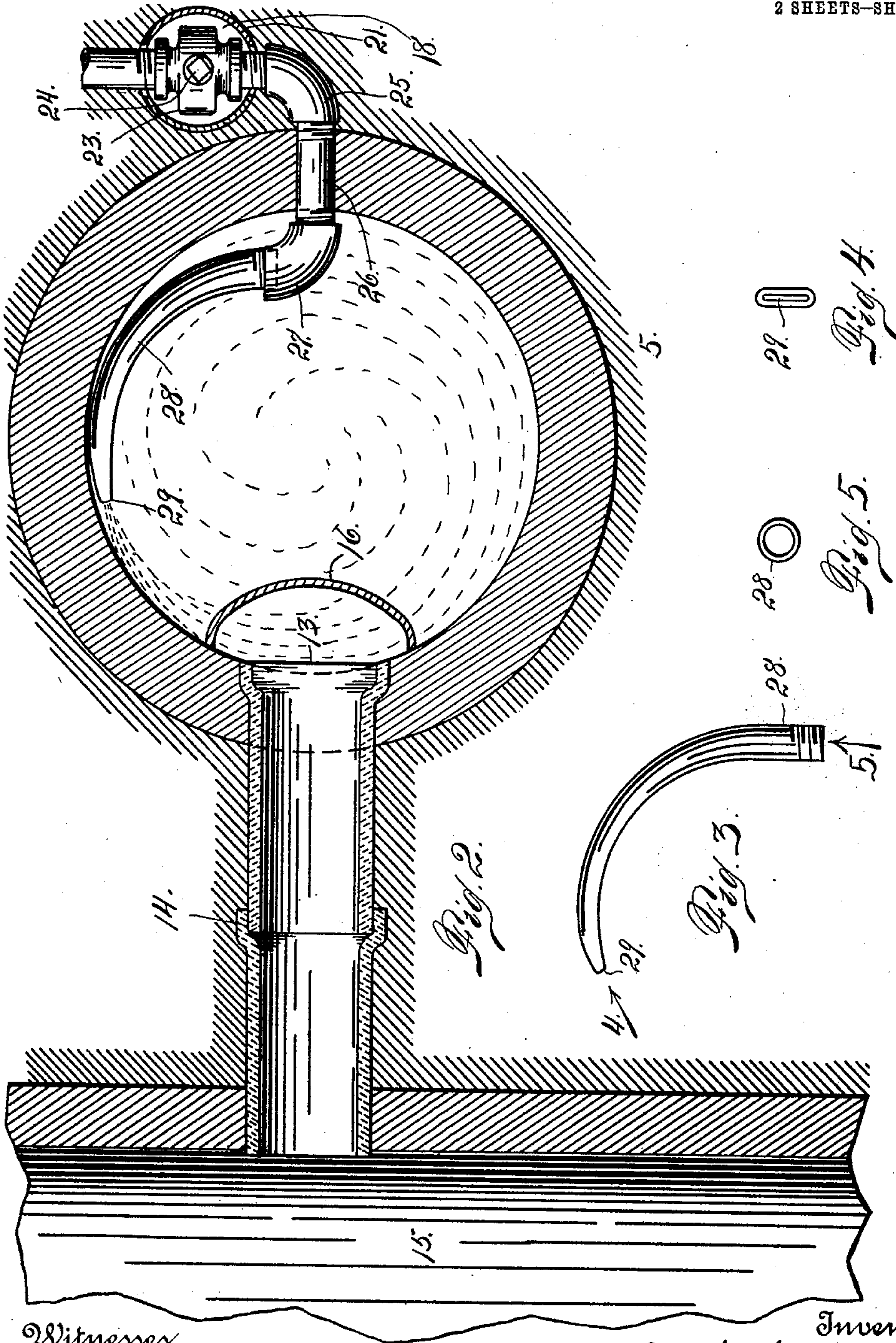
Inventor
Michael H. Anderson.
 By *C. J. O'Brien.*
 Attorney

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 C. H. Roessner.

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 Attorney

UNITED STATES PATENT OFFICE.

MICHAEL H. ANDERSON, OF DENVER, COLORADO, ASSIGNOR OF ONE-THIRD TO CHRIS IRVING, OF DENVER, COLORADO.

APPARATUS FOR FLUSHING CATCH-BASINS.

999,140.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed February 28, 1910. Serial No. 546,432.

To all whom it may concern:

Be it known that I, MICHAEL H. ANDERSON, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Apparatus for Flushing Catch-Basins; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in apparatus for flushing catch-basins. As is well known these basins, which are sometimes termed manholes, are located at suitable intervals in cities and communicate with the sewer and into which the water from the street is discharged and passes thence into the sewer by means of branch pipes, the catch basin being equipped with a sort of trap at the escape opening whereby floating material is prevented from clogging the said pipe. A suitable quantity of water is constantly maintained in the catch-basins to submerge the lower portion of the said trap, thus preventing the entrance to the branch pipe of floating material as aforesaid. Heretofore, so far as I am aware, in order to flush these catch basins, the caps are removed and water discharged from a hose directly into the basin, the operation being continued a sufficient length of time to flush the catch-basin or remove the impurities and foul water therefrom. This is a slow tedious operation and necessitates the use of a relatively large quantity of water.

In my improvement I employ an ordinary valve box which is located adjacent but outside the wall of the catch basin, the valve box being connected with the water main, access being gained thereto by means of a pipe communicating with the surface and suitably closed at the top. By opening this pipe, a key may be inserted and the valve of the valve box opened for the purpose of allowing water to pass into the catch-basin for flushing purposes. To this end a pipe leads from the valve box through an opening in the wall of the catch-basin, and communicates with a curved pipe or nozzle, the curve of the latter being made to conform approxi-

mately to the curve of the wall of the catch-basin, whereby the water is delivered to the basin in such a manner as to cause it to flow around the wall of the catch-basin, producing a whirlpool effect, which is extremely advantageous in removing the dirt and impurities from the bottom of the basin. As the nozzle leaves the pipe which passes through the wall of the basin, it is deflected downwardly whereby the stream of water discharged not only produces a whirlpool action in the water of the manhole but is also directed downwardly simultaneously. This nozzle is preferably flattened from the extremity where it is connected with the water pipe, the flattened condition gradually increasing toward its discharge extremity which is thereby vertically elongated causing the water to issue therefrom in a relatively thin but wide jet, thus acting upon a relatively large surface area of the vertical wall of the basin.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a vertical section taken through a catch-basin equipped with my improvement. Fig. 2 is a horizontal section of the same or a section taken on the line 2—2, Fig. 1, looking downwardly. Fig. 3 is a detail view of the flushing nozzle. Fig. 4 is an end view of the same, looking in the direction of arrow 4, Fig. 3. Fig. 5 is a view of the opposite end, looking in the direction of arrow 5, Fig. 3.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate a catch-basin of the ordinary construction used in cities. This basin is provided with a removable cap 6 which normally closes an opening communicating with the top of the basin. The upper surface of the said cap being flush with the sidewalk or surface where the basin is located. The opening 7 is formed in a stone slab 8 which is of sufficient size to cover the entire cross sectional area of the basin, the slab resting on the top of the wall 9. An opening 10 forms a communication between the gutter 12 and the top of the basin for the entrance of water from the street. At a suitable distance below the top of the basin an outlet opening 13 is

formed which communicates with a conduit 14 leading to the sewer 15. In front of the opening 13 is located a hood 16 which extends downwardly below the surface of the water 17 of the basin. This hood prevents light material which floats upon the water from entering the pipe 14, since it would have a tendency to clog the same.

The detailed description just given is that of the ordinary catch-basin construction and hence nothing is claimed thereon.

My improvement includes locating a valve box 18 adjacent the catch basin. This box is of ordinary construction and has a cover 19 at the top, a tube 20 leading downwardly and merging into an enlargement 21. The tube is normally closed by a screw cap 22. Within the enlargement at the base of the tube is located a valve casing 23 containing a valve with which is connected a stem 24 formed angular in cross section to fit a key which may be inserted through the tube 20 for the purpose of opening the valve. The turning of this stem controls the valve within the casing 23. Connected with this casing is an elbow 25 with which is connected one extremity of a pipe section 26 whose opposite extremity is connected with an elbow 27, located within the basin. With this last named elbow is connected the flushing nozzle 28 which is curved as shown in the drawing, to conform approximately to the curve of the wall of the basin. This nozzle is flattened, the flattened condition gradually increasing from the elbow 27 to the extremity of the nozzle, where its shape is such as to form a relatively long, vertically disposed, narrow opening, whereby the water jet issuing therefrom conforms to the general shape of its discharge extremity. This nozzle is deflected downwardly from the elbow 27. The use and operation of my improvement will be readily understood. When it is desired to flush a catch-basin, it is only necessary to remove the cover 19 of the valve box, unscrew the cap 22, and insert a key to engagement with the stem 24 of the valve located within the casing 23. The operation of this valve opens it to allow the water from the main, not shown, to enter the pipe 26 and pass thence to the flushing nozzle 28 from which it is delivered to the

catch basin in the form of a relatively thin, vertically disposed sheet caused to conform to the curve of the wall of the basin, thus producing a whirlpool effect within the basin, the jet being at the same time downwardly directed, whereby the contents of the basin are quickly agitated and caused to flow outwardly into the sewer.

By means of my improved construction it is evident that the work of flushing catch basins may not only be accomplished with great rapidity as compared with the time which has heretofore been necessary, but it is believed that the work may be accomplished by the use of a comparatively small quantity of water.

It will be observed from the drawing, that I prefer to locate the flushing nozzle close to the bottom of the basin, whereby the issuing jet becomes immediately available for producing a whirlpool action in the water of the basin and at the bottom of the same, thus immediately stirring up and placing in suspension any dirt or sediment that may have settled in the bottom of the basin.

Having thus described my invention, what I claim is:

The combination with a circular catch basin, of a downwardly deflecting flushing nozzle located wholly within the chamber of the catch basin and in close proximity to the bottom thereof, the nozzle being independent from the said chamber and curved to conform to the curve of the wall of the basin, the said nozzle having its discharge extremity located near the bottom of the basin at an acute angle thereto, a water supply conduit communicating with one extremity of the nozzle, the latter being flattened vertically as it leaves the supply conduit, the flattened condition increasing as it extends toward the discharge extremity of the nozzle to form a relatively long and narrow discharge extremity, for the purpose set forth.

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

MICHAEL H. ANDERSON.

Witnesses:

A. J. O'BRIEN,
VIRGINIA I. DAVIS.