

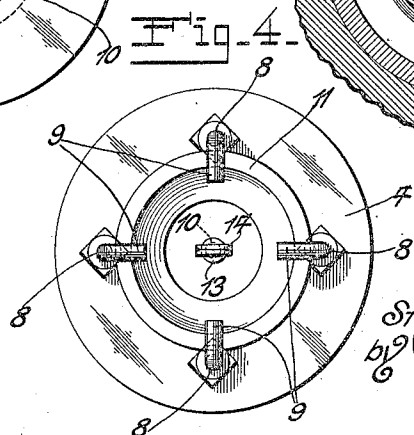
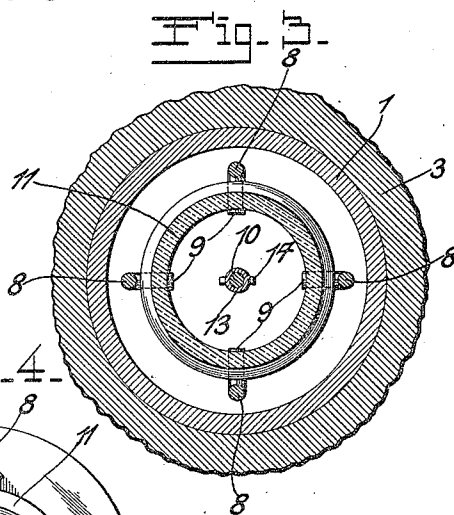
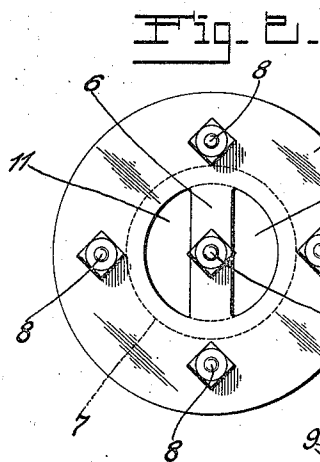
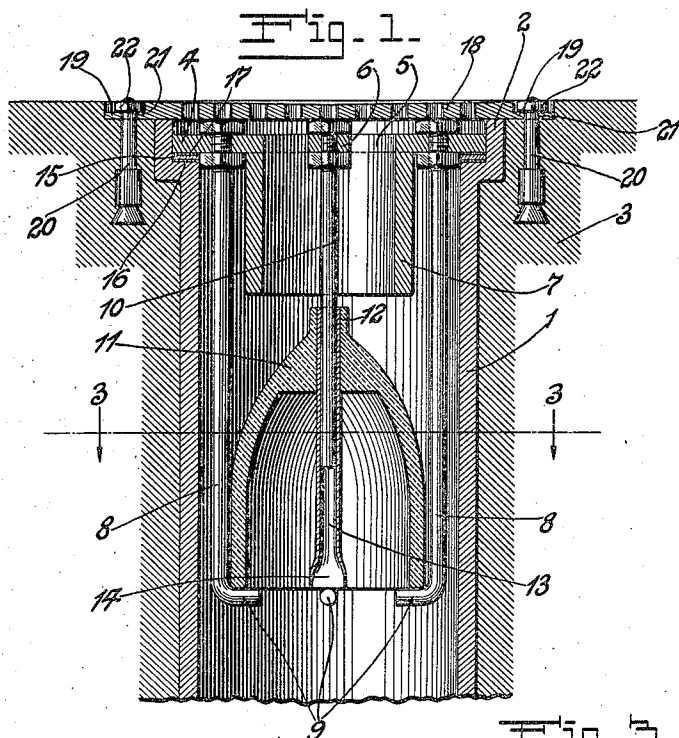
S. PAVITCHICH.

DRAIN VALVE.

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1,423,679.

Patented July 25, 1922.



Inventor.
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UNITED STATES PATENT OFFICE.

STEVE PAVITCHICH, OF WOODRIVER, ILLINOIS.

DRAIN VALVE.

1,423,679.

Specification of Letters Patent.

Patented July 25, 1922.

Application filed February 4, 1922. Serial No. 534,124.

To all whom it may concern:

Be it known that I, STEVE PAVITCHICH, a subject of the King of Jugo-Slavia, residing at Woodriver, Madison County, Illinois, have invented a new and useful Drain Valve, of which the following is a specification.

This invention relates to improvements in drain valves, and consists in the novel construction hereinafter disclosed.

An object of the invention is to provide a valve adapted to be inserted in a drain pipe operable effectively by the back pressure in the sewer to close the valve, preventing backing up of the contents of the sewer above the drain level.

Another object of the invention is to provide a valve of durable construction arranged to be operated to close the inlet of a sewer drain by the back pressure in the sewer.

Additional advantages of the construction will be apparent from the following detailed description thereof, taken in connection with the accompanying drawing, in which—

Fig. 1 is a vertical section through the drain passage of a sewer pipe showing the valve of the invention embodied therein.

Fig. 2 is a top plan view of the valve construction.

Fig. 3 is a cross section taken substantially on the line 3—3 of Fig. 1.

Fig. 4 is a bottom plan view of the valve.

As illustrated in the drawing the valve is mounted in a drain opening of a sewer system comprising a sewer pipe 1 provided with a bell end 2, said sewer pipe being set in a concrete surface 3.

A tubular member 7 is supported by a circumferential flange 4 at its upper end and is spanned by a web 6 leaving discharge openings 5 at the sides thereof. Depending rods 8 are connected with the flange 4 exteriorly of the depending cylindrical portion. The rods 8 are formed in rectangular series and have their lower ends in-turned at 9 constituting a cage which serves as a rest and guide for the valve element.

Depending from the web 6 at the axis of the flange 4 is a rod 10 which constitutes a guide rod for the valve element. The valve element 11 is conical in shape having a slight cylindrical projection 12 at its upper

end. It will be noted that the valve element is hollowed out at its lower end so as to provide an extended pressure area for holding the valve to its seat. The valve element carries axially a tube 13 which is closed at its lower end as indicated at 14. This tube is mounted in the upper portion of the valve and extends to a point substantially horizontal with the bottom edge of the valve element. The rod 10 extends into the upper end of the tube 13 and provides a sliding guide connection for the valve element.

The entire valve structure is suspended in the pipe 1 by mounting the flange 4 in the bell end 2 of the pipe. In order to provide a tight seat for the flange 4 a gasket 15 is interposed between the shoulder of the bell 2 and the lower face of the flange 4, said gasket being cemented by a layer of cement 16 to the shoulder of the bell, and also by a layer of cement 17 to the under face of the flange 4.

Above the valve structure is a perforated drain plate 18 that fits over the end of the valve, said drain plate having lateral extensions 19. Anchor bolts 20 are secured in the cement surface in alinement with perforations 21 in the extensions 19 of the drain plate, and nuts 22 serve to hold the drain plate rigidly in position, thereby preventing the valve structure from raising upwardly in the bell 2.

The valve is normally held in the position shown in Fig. 1 in which position the drain opening is free for the passage of liquid through the drain pipe. In the event of back pressure in the drain pipe, due to backing up of the sewer system, the valve structure is forcibly seated, closing the drain opening and thereby preventing the raising of the contents of the sewer above the drain opening.

It is preferred that the valve element 11 be made of semi-vulcanized rubber, although the material is not to be restricted to this substance. It will be noted that by reason of hollowing out the valve element an extended pressure surface is presented, so that the valve will be very tightly held to its seat, notwithstanding a relatively high back pressure in the drain pipe.

I am aware that the invention may be modified in certain particulars without departure from the spirit and scope thereof.

I do not limit myself, therefore, to the exact details of construction and arrangement shown and described.

What I claim and desire to secure by Letters Patent, is:—

1. The combination with a sewer pipe having an internal shoulder near its inlet end, of a tubular member extending downwardly into the sewer pipe, a flange on the upper end of said tubular member seated on the shoulder within the sewer pipe, a web extending across the upper end of said tubular member, a rod extending downwardly through said tubular member beyond the lower end of said member and having its upper end rigid with said web, a cage rigid with said flange and extending downwardly beyond the lower end of said tubular member, a valve element within said cage, and a tube within said valve element and opening through the upper end thereof and receiving the lower end of said rod and permitting said valve element to move upwardly to contact with the lower end of said tubular member.

2. The combination with a sewer pipe having an internal shoulder near its inlet end, of a tubular member within the sewer pipe,

a flange at the upper end of the tubular member supported by said shoulder, a web extending across the upper end of said tubular member, a rod extending axially through said tubular member and having its upper end rigid with said web, a valve element, a tube extending through the upper end of the valve element and enclosing the lower end of said rod, and means for limiting downward movement of said valve element.

3. The combination with a sewer pipe having a bell end, of a gasket cemented to the shoulder of said bell, a plate cemented to said gasket, said plate having drain openings at the center thereof, a cylindrical depending portion arranged below said openings, the lower edge of which constitutes a valve seat, a valve element comprising a conical hollow body having a relatively thick apex, a tube supported in said apex and extending downwardly to the lower edge of said valve body, and a rod extending downwardly from the center of said plate, said rod extending into said tube and constituting a slidable guide connection for said valve body.

STEVE PAVITCHICH.