G. L. KELLY.

DRAINAGE SYSTEM TESTER.

APPLICATION FILED DEC. 16, 1914.

1,159,950.

Patented Nov. 9, 1915.

2 SHEETS—SHEET 1.

Fig 1

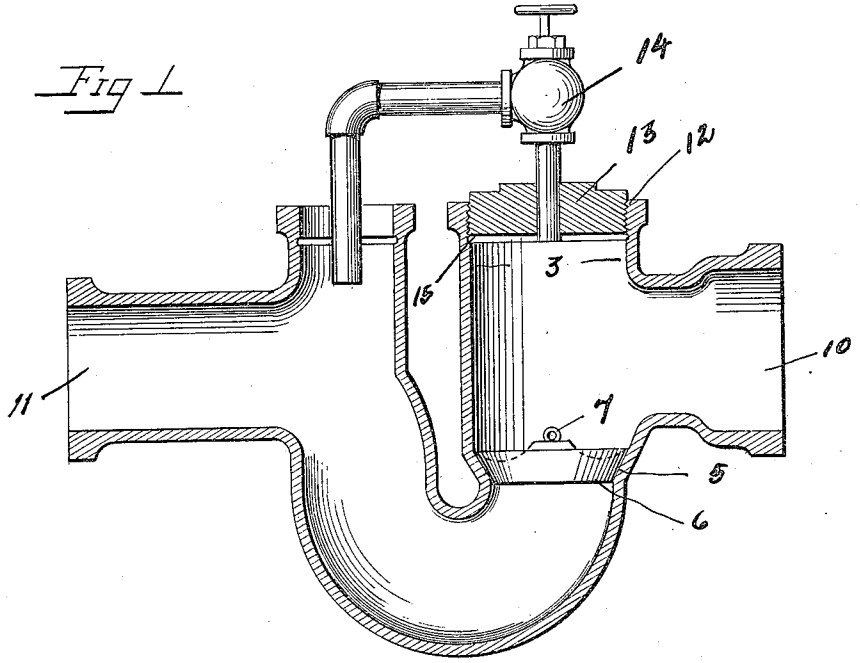
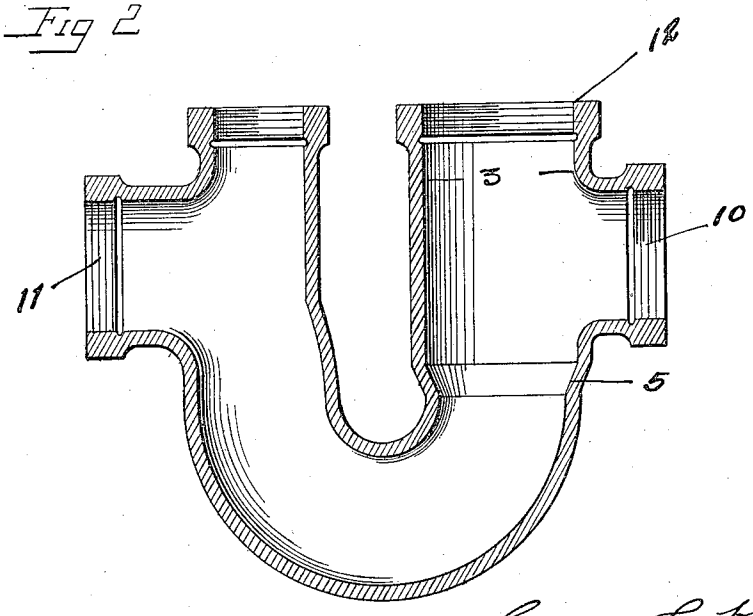


Fig 2



Witnesses

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2 SHEETS—SHEET 2.

Fig 3

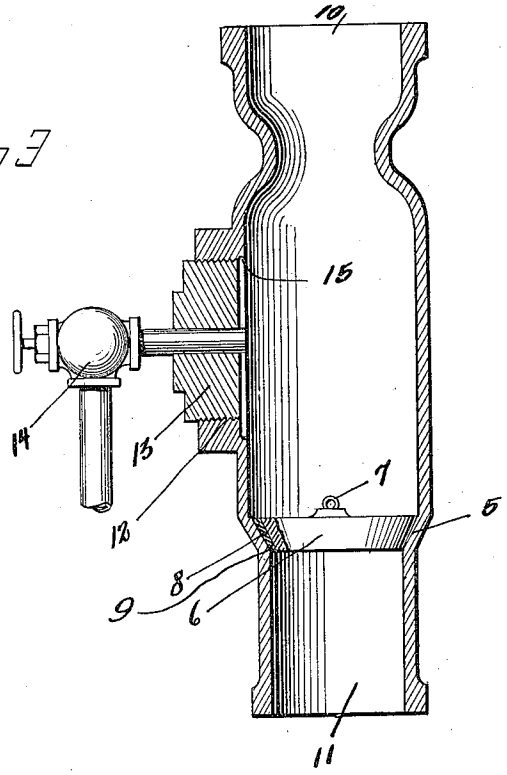


Fig 5

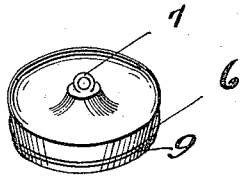
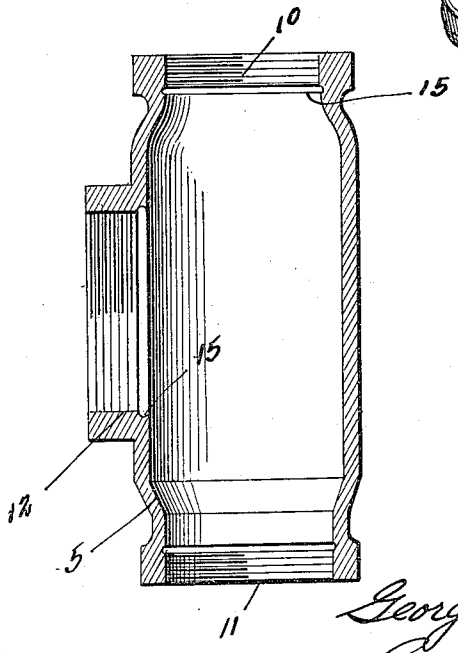


Fig 4



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DRAINAGE-SYSTEM TESTER.

1,159,950. Specification of Letters Patent. Patented Nov. 9, 1915.

Application filed December 16, 1914. Serial No. 877,529.

To all whom it may concern:

Be it known that I, GEORGE L. KELLY, a citizen of the United States, residing at New York, in the county of Bronx and State of New York, have invented certain new and useful Improvements in Drainage-System Testers, of which the following is a specification.

My invention relates to drainage system testers.

The primary object of my invention is to provide a drainage system tester so constructed that the plumbing in a building may be tested in sections, thus saving considerable time and expense.

Another object of my invention is to provide a drainage system tester so constructed that pipes may be tested under ground or in places where access to the same is very difficult, and for testing the pipes the tester may be left in its position without impairing the operation of the system.

A still further object of my invention resides in the provision of a drainage system tester which is so constructed that it may be permanently made a fitting in the plumbing of a building, and when so used brings about many additional advantages to the drainage system which would otherwise be lost.

With these and other objects in view my invention resides in such details in construction, combination and arrangements of parts as are illustrated in the accompanying drawings, described in the specification and claimed.

In the accompanying drawings wherein is illustrated the preferred embodiment of my invention; Figure 1 is a sectional side view of the same, showing the parts assembled; Fig. 2 is a sectional side view of Fig. 1 with the various parts other than the pipe fittings, not shown; Fig. 3 is a sectional side view of a modified form of my invention; Fig. 4 is a sectional view of Fig. 2 with the various parts other than the pipe fittings, not shown; and Fig. 5 is a view of the valve used in my invention.

Like characters of reference designate like or similar parts throughout the several views.

In order to clearly illustrate the functions of my invention I have shown in the drawings pipe fittings of two different kinds one of which is shown in Figs. 1 and 2 as that of the bent plate character while the pipe fitting shown in Figs. 3 and 4 is that of the vertical or longitudinal straight pipe fitting.

Referring particularly to Figs. 1 and 2 the numeral 10 designates the inlet opening. Midway of this opening is a downwardly bent substantially U-shaped portion which has an enlarged portion 3, formed in the pipe adjacent the inlet opening. Upon the lower extremity of the enlarged portion is formed a beveled valve seat 5, adapted to receive the beveled valve or stoppr 6 to which is secured a suitable ring 7 to raise the valve from its seat when desired.

I desire to call particular attention to the construction of my valve stopper. As is clearly shown in Fig. 3 the valve is composed of a metallic body portion slightly less in diameter than the valve seat and adapted to be encircled by a rubber ring or gasket 8 in order to provide a water tight connection. Upon the lower extremity of the body portion an annular flange is formed to limit the downward movement of the gasket. I have found it desirable to form the upper surface or the top of the valve concave to insure a perfectly tight seating of the same upon application of pressure from above. In vertical alinement with the valve and seat is a clean-out opening 12 which has provided therein screw threads adapted to receive screw threads upon a brass square shank plug. This shank plug is provided with an opening adapted to receive a pipe connection by which the water is drained after testing the system. This connection is provided with a suitable valve manually operated and has its opposite end extending within the clean-out recess adjacent the outlet opening of the trap. As is usual the inlet, outlet and clean-out openings are provided with recessed annular shoulders 15 such as are generally used in pipe fittings of this character.

The forms of my invention illustrated in Figs. 3 and 4 are adapted to be used on a straight pipe system and are provided with inlet and outlet openings 10 and 11 respectively. Adjacent the outlet opening is formed the valve seat 5 adapted to receive the valve 6 which has secured thereto a ring 7 and is provided with an annular shoulder 9 to maintain, in the proper position, the gasket or washer 8. In this form of my invention, the inlet opening is in vertical

alinement with the valve and seat whereas in the above described modification the clean out opening is in alinement with the valve and seat.

Midway the inlet and outlet openings is formed a clean out opening 12 which has screw threadedly attached thereto a threaded brass square shank plug 13 which is provided with an opening for the reception of a drain pipe 14 whereby the liquid is drawn from the pipe after having completed the testing of the system. This form of my invention is also provided with shoulders 15 in the walls of the openings.

Particular attention is called to the fact that my pipe fitting may be permanently made a part of the drainage system. The operation of my invention is as follows: The drainage valve 14 is placed in position in the clean out opening 12 after having placed in position the valve 6. The lines are then filled up with water or any fluid required for the test. After the test has been made, the drain is opened and the fluid emptied from the interior of the pipes, whereupon the drain pipe is removed and a stopper screwed in the clean out opening. The operation of both of my forms of my invention is identical.

Particular stress is laid upon the fact that my fitting is a permanent addition to a drainage system and serves a dual purpose. It may be used as a clean out in case of a stoppage in the line at any time. It also does away with the use of system testers which must be fitted to the pipe system and disengaged therefrom before and after every test. The particular relationship between the stopper and the clean out opening greatly facilitates the operation of my invention as the valve may be extracted with little or no inconvenience.

I desire to be understood that the forms of my invention illustrated in the accompanying drawings and described in the above specification merely set forth the preferred embodiments, and realizing that conditions surrounding the reduction of my invention to practice may vary, I desire to reserve unto myself the right to make slight changes provided such changes fall within the scope of what is claimed.

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

1. A drainage system tester of the character described consisting of a test fitting having a clear water-way and formed with an annular beveled seat therein, an annular beveled valve adapted to fit upon said seat, an annular shoulder formed upon said valve integral therewith and adjacent the lower extremity thereof, a rubber gasket seated upon said shoulder around said valve, the outer circumference of said gasket registering with the circumference of said shoulder at the point of contact between said shoulder and said gasket, said valve being formed with a concave depression in the upper face thereof, a boss formed centrally of said concave depression, and a ring member mounted upon said boss.

2. A drainage system tester of the character described consisting of a test fitting having a clear water-way and formed with an annular beveled seat therein, an annular beveled valve adapted to fit upon said seat, an annular shoulder formed upon said valve integral therewith and adjacent the lower extremity thereof, a rubber gasket seated upon said shoulder around said valve, the outer circumference of said gasket registering with the circumference of said shoulder at the point of contact between said shoulder and said gasket, and a ring member mounted upon the upper face of said valve.

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

GEORGE L. KELLY.

Witnesses:
W. H. BAADER,
MAXAMILLIAN GEISSLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."