(No Model.)

# W. S. CLARK.

## DRAIN AND SOIL PIPE.

No. 409,014. Patented Aug. 13, 1889.

Fig. 1.

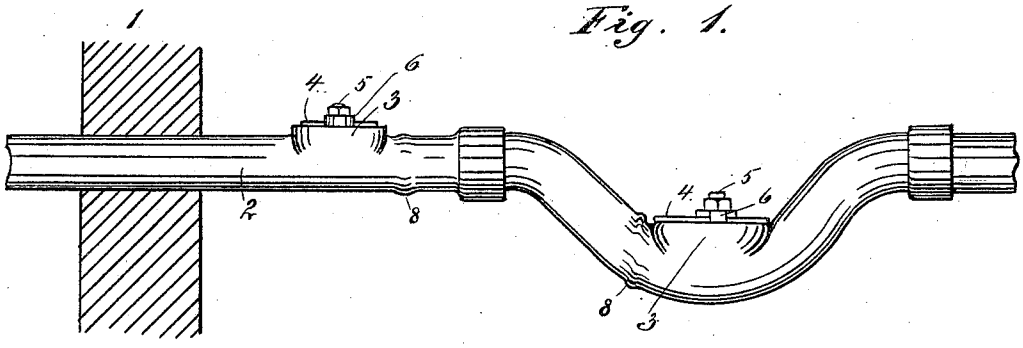



Fig 2.

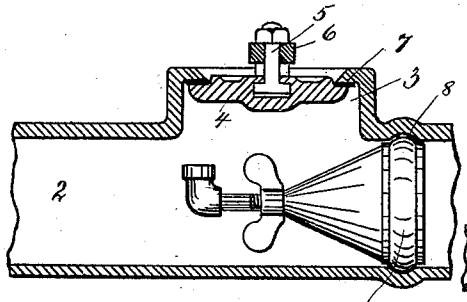



Fig. 3.

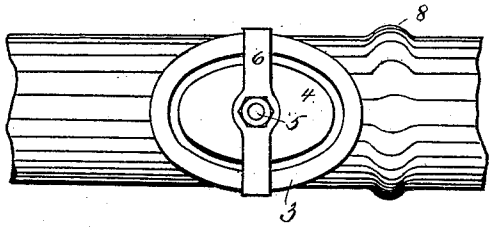
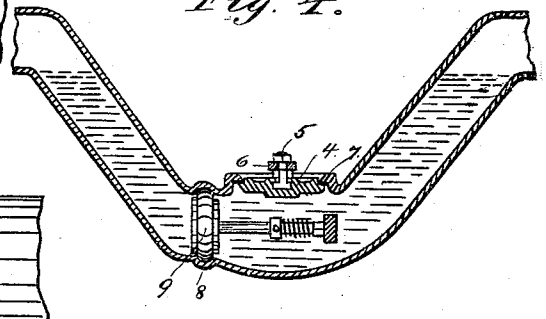



Fig. 4.




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# UNITED STATES PATENT OFFICE.

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## DRAIN AND SOIL PIPE.

SPECIFICATION forming part of Letters Patent No. 409,014, dated August 13, 1889.

Application filed May 9, 1889. Serial No. 310,183. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. CLARK, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Drain and Soil Pipes; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to pipes for draining, and has for its object the more convenient application of testing apparatus for proving the fluid-tightness of drains when erected for use; and it consists of a pipe having an expansion or swell formed in it contiguous to an opening or hand-hole affording access to the interior for cleaning or inspection, and for the introduction of an expansible stopper for closing the pipe, so as to subject it to fluid-pressure.

This invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation upon a drain-pipe containing this invention; Figs. 2 and 4, vertical sections of parts thereof, showing the mode of applying stopper-plugs therein; and Fig. 3, a top view of the part shown in Fig. 2.

The same reference-marks indicate like parts in the several figures.

1 represents the wall of a building; 2, a length of soil-pipe passing horizontally through it; 3, an elliptic hand-hole inside of the wall 1 of the building, affording access to the interior of the pipe and closed by a plate 4, secured by a bolt 5 and bridge 6, and provided with a gasket 7 to secure a fluid-tight closure. Contiguous to the elliptic hand-hole 3 is an annular diametral expansion 8 of the pipe, into which an expansible stopper 9 fits, which stopper is the subject of a distinct application for Letters Patent. The annular expansion 8 affords a seal for the stopper 9, and when applied in its pressure within the pipe has the effect of sealing any leakage around the stopper and closing it.

In Fig. 4 is shown a trap-pipe provided with the annular expansion 8 and also with the hand-hole 3.

Having described my invention, what I claim is—

1. In a drain and soil pipe, the combination of the annular expanded portion thereof, formed contiguous to a hand-hole in the said pipe, with an expansible stopper adapted to fit into the said expanded portion, substantially as shown and described, and for the purpose set forth.

2. A drain and soil pipe having the expansion 8 formed therein, and constructed with an elliptic hand-hole, and provided with the plate 4, bolt 5, bridge 6, and gasket 7, in combination with the expansible stopper 9, substantially as shown, and for the purpose specified.

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