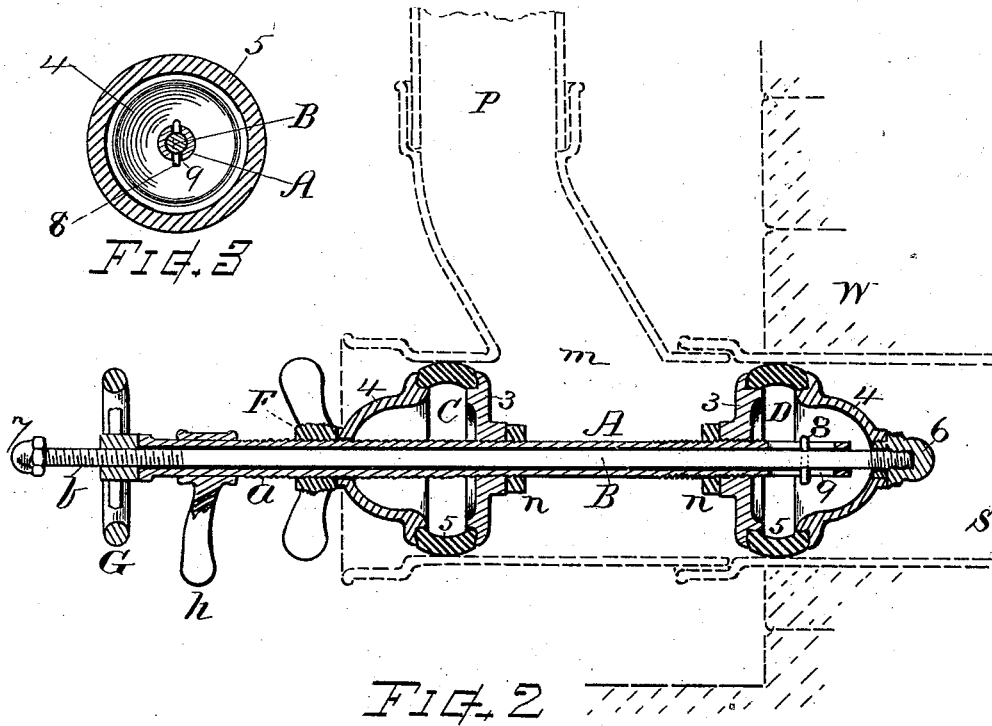
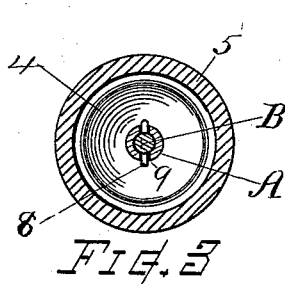
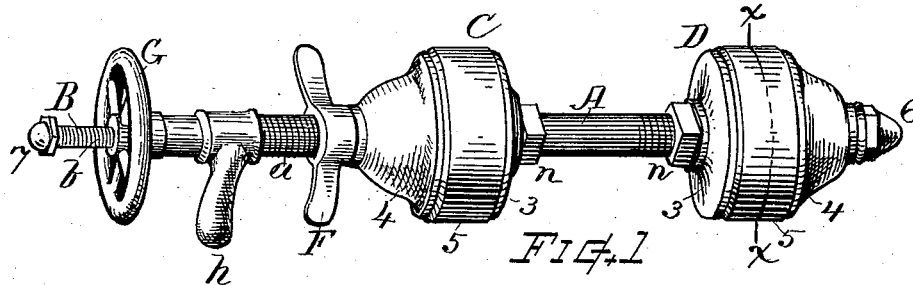


(No Model.)

J. F. McCARTNEY.
DOUBLE TESTING PLUG FOR SOIL PIPES.

No. 491,184.

Patented Feb. 7, 1893.



Witnesses.

Wm. P. Blenis.
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UNITED STATES PATENT OFFICE.

JOHN F. MCCARTNEY, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO
HENRY A. DESPER, OF SAME PLACE.

DOUBLE TESTING-PLUG FOR SOIL-PIPES.

SPECIFICATION forming part of Letters Patent No. 491,184, dated February 7, 1893.

Application filed October 12, 1892. Serial No. 448,639. (No model.)

To all whom it may concern:

Be it known, that I, JOHN F. MCCARTNEY, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Double Testing-Plug for Soil-Pipes, &c., of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my invention is to provide a testing-plug or appliance having two expansible stoppers, arranged at separate positions on a connecting stem or tube, and combined therewith convenient and efficient means for severally operating said stoppers, or for independently expanding and releasing the same when in use; whereby a testing-plug is produced which is adapted for closing or stopping a main or soil-pipe at both sides of a branch or T, and for controlling the passage at two positions, as more fully hereinafter explained. These objects I attain by means such as illustrated in the drawings, wherein

Figure 1 is a perspective view of my double-test plug. Fig. 2 is a longitudinal section of the same in position of use, and Fig. 3 is a transverse section at line *x x*.

Referring to parts, A denotes the hollow stem or tubular body, having disposed thereon with suitable intervening space between them, the two expansible stoppers C and D, each of which is preferably composed of a head-plate 3 that is rigidly supported on the stem; a bell-shaped cap 4 of corresponding diameter that is movable on the stem, and an elastic annulus 5 that is supported and compressible between the flanged edges of the head 3 and cap disks 4, as indicated. The stem A can be made of ordinary gas pipe stock, and it is best provided at or near one end with a handle *h* that projects laterally therefrom. The stem is screw-threaded on its exterior at *a* and a winged nut F is arranged on the thread *a*, which nut turns against the cap 4 of the stopper C for compressing and relieving the rim or annulus 5 of said stopper.

B indicates a rod extending longitudinally through the tubular stem A and having one end attached to the cap or plate 4 of the stop-

per D, which is confined to the end of the rod that projects from the hollow stem by a nut 6, or in other suitable manner. On the other end of said rod, which is threaded as at *b*, there is arranged a hand-wheel-nut G that turns against the end of the tubular stem for drawing said rod and the compressing cap 4 or stopper D forward. A tip or stop-nut 7 is best arranged on the end of the rod B to prevent the nut G from running off when turned backward.

The rod B is confined from rotating within the tubular stem A by suitable means. This is effected in the present instance and preferably by a pin 8 fixed in the rod B and engaging in a slot, or slots, 9 formed in the tubular stem A along that portion within the stopper D.

The head-plates 3 can be screwed onto the threaded exterior of the tubular stem A and there rigidly fixed by check-nuts *n*, as illustrated; or, if in any case preferred, said head-plates can be cast on said stem, or be secured in place thereon by pinning or riveting the parts together. The cap 4 or stopper D, being confined by a nut 6 separate from the cap, allows the cap to swing slightly so that the stopper can conform to any irregularity in the pipe.

The operation is as follows;—The soil pipes P having been put up and all connections made ready for testing, this double-plug is inserted into the foot of the pipe, as indicated in Fig. 2, with the stoppers C and D at opposite sides of the mouth *m* of the branch pipe. While the operator steadies the appliance by a hold on the handle *h*, the wing-nut F is turned up for expanding the stopper C causing it to firmly close the pipe at the outer end of the portion which extends through the cellar wall W. The hand-wheel nut G is then turned, drawing forward the rod B and cap 4 of the stopper D, thereby expanding said stopper to firmly close the pipe beyond the mouth *m* of the branch. The upright pipe P and connection thereof can then be tested by filling it with water introduced through a hose or in usual well known manner. When the test is completed the water from the pipes P can be discharged without its wetting the cellar, and passed off into the sewer by way of the exit S, by simply turning back the hand-

wheel nut G which relieves the stopper D before the stopper C is released. When the water has passed off the stopper C is released, by turning back the wing-nut F, the double-plug removed and a permanent stopper or cap placed in the end of the pipe. This double-plug appliance can, in similar manner be used for temporarily closing off any branch in a main or soil pipe wherever convenient and desirable.

It will be understood that I do not claim, broadly, the invention of an expanding stopper having an elastic annulus expansible by compression between approaching disks or surfaces; as I am aware that such means have heretofore been employed in different constructions for closing an orifice or passage.

What I claim as my invention to be secured by Letters Patent, is

1. A testing-plug for soil-pipes, having two expansible stoppers on a single continuous stem with an intervening space between said stoppers for spanning the mouth of the branch pipe, and means for independently expanding and releasing said stoppers operative from the outer end of the stem, for the purpose set forth.

2. A testing-plug for soil-pipes having two expansible stoppers arranged with intervening space, both in connection with a common tubular body or hollow stem, an operating

rod extending through said hollow stem, one end of said rod connected to the operating part of one of said stoppers, and its opposite or outer end having thereon a nut or means for effecting endwise movement of said rod, substantially as set forth.

3. The combination, of the tubular-stem, the two stoppers C and D, comprising the head-plate, elastic annulus, and movable cap or compressing disk, their head-plates fixed on said stem, the operating-nut F fitted to the screw-threaded exterior of said stem and turning against the cap of stopper C, the rod extending through said tubular stem and coupled to the cap of the stopper D, and the operating nut G arranged on the threaded end of said rod, all substantially as and for the purpose set forth.

4. The rod B, provided with the end-nut 6 and pin 8, in combination with the hollow stem A slotted, as at 9, the stopper D having its cap 4 separated from and fitting against said end nut, and the hand wheel-nut G fitted on the opposite threaded end of said rod against the tubular stem, as set forth.

Witness my hand this 1st day of October, A. D. 1892.

JOHN F. McCARTNEY.

Witnesses:

CHAS. H. BURLEIGH,
ELLA P. BLENUS.