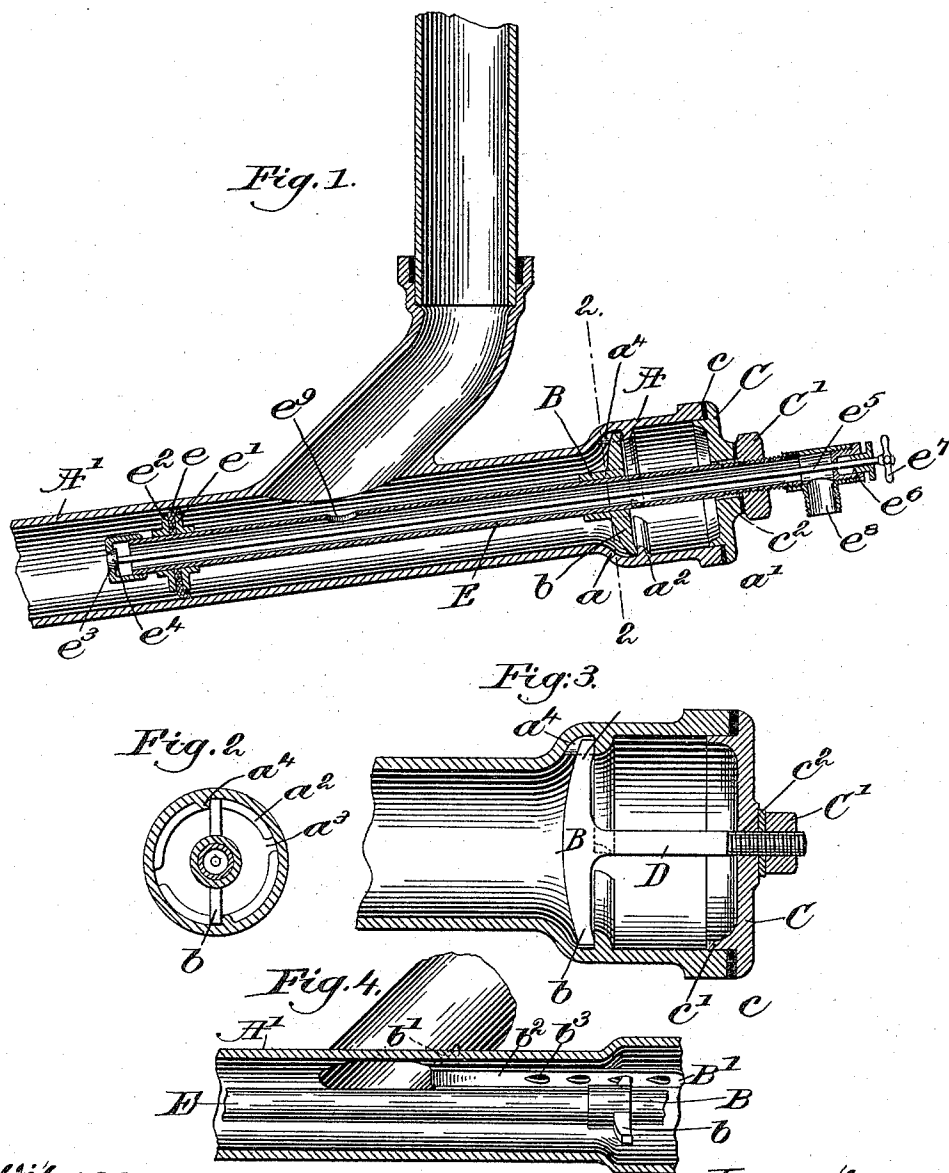


(No Model.)

C. H. ROLLINS.
PLUMBING ATTACHMENT.

No. 582,148.

Patented May 4, 1897.



Witnesses:

A. C. Harmon.

Edward F. Allen

Inventor:

Charles H. Rollins.

by Crosby & Gregory, attys.

UNITED STATES PATENT OFFICE.

CHARLES H. ROLLINS, OF WATERTOWN, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO DAVID FLANDERS, OF SAME PLACE.

PLUMBING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 582,148, dated May 4, 1897.

Application filed February 19, 1896. Serial No. 579,866. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. ROLLINS, of Watertown, county of Middlesex, and State of Massachusetts, have invented an Improvement in Plumbing Attachments, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This is an improvement in sewer attachments and test-plugs, being particularly applicable to the house-pipe of a house system of drainage and sewerage.

It is the object of my invention to provide an attachment for quickly and accurately closing the sewer-pipe, the test-plug containing means for automatically plugging or cutting off the pipe by insertion therein, and also containing means for quickly and readily running off the water down the sewer at the end of the test.

My invention comprises the various particulars as hereinafter set forth by description and more particularly pointed out in the claims.

In the accompanying drawings illustrative of my invention, Figure 1 is a central vertical section of one form of my invention shown in operative position in connection with a house-pipe, the latter being also shown in section. Fig. 2 is a cross-sectional view taken on line 2 2 of Fig. 1. Fig. 3 is a central vertical section of an adaptation of the closing device shown in the other figures, and Fig. 4 is a clamping attachment for use with the closing devices.

In the present embodiment of my invention, A designates an enlargement on the end of a pipe, being in the present instance a continuation of the ground-pipe A' of the house system which it is desired to test. This enlargement A terminates at one end in an internal shoulder *a* and at its opposite end preferably in a seat *a'*, being provided intermediately with an internal annular flange *a*³ adjacent the shoulder *a*. This flange is suitably recessed at one or more points *a*³ to receive the clamping member B, as presently described, and is provided on its inner side with a lug or lugs *a*⁴ to hold said clamping member B against undue rotation.

C designates a cap adapted to fit tightly over the seat *a'*, a washer or packing *c* being preferably interposed, this cap also having in the present instance a flange *c'*, fitting snugly within the mouth of the enlargement A. Through a perforation *c*² in the cap C is passed a suitable holder, shown in Fig. 3 as solid in the form of a bar or belt D and shown in Figs. 1 and 2 as hollow, constituting the inlet-tube E of the test-plug. This holder is threaded at or near its outer end to receive the nut C' and carries at a suitable distance from this threaded portion the clamping member B, before alluded to. The clamping member B comprises one or more arms *b*, two arms being shown, which enter the recesses *a*³ and are then rotated in engagement with the lugs *a*⁴, and then securely clamped against the flange *a*² by means of the nut C'.

At the inner end of tube E a flexible and preferably resilient disk or diaphragm *e* is carried between two clamping-flanges *e'* *e*², the diaphragm *e* being slightly larger than the tube, so that when inserted therein it will securely seal the same at that point.

A valve-seat *e*³ and valve *e*⁴ are provided to control the inner end of the tube, this valve being regulated in the present instance by means of a rod *e*⁵, passing lengthwise of the tube through a gland *e*⁶, said rod having a handle *e*⁷ at its outer end for its convenient manipulation. The tube E is further provided with an inlet-opening *e*⁸ for attachment to a force-pump and with an opening *e*⁹ intermediate its ends for the egress and ingress of the fluid used in making the test.

In the use of my invention, as shown in Fig. 1, the tube E is inserted in the pipe A, the clamp B entering through the recesses *a*³, and is then turned slightly, so as to abut the ends of the arms *b* against the lugs *a*⁴. The nut C' is then set up snugly, thus clamping the test-plug rigidly in place and compressing the cap C and the packing *c* into sealing engagement with the enlargement A. Proper connection having been made between the inlet *e*⁸ and a source of water under pressure and the valve *e*⁴ having been closed the water is turned on and flowing through the opening *e*⁹ is forced throughout the entire system of pipes being tested, so that if a joint at any

point is not tight that fact will be made evident to the observer by the spurting of the water through the said loose joint. The disk or diaphragm *e* absolutely and automatically prevents all leakage of the water at that point. The test having been completed, the operator grasps the handle *e'*, opening the valve *e'*, and permits the water which has been used in the test to flow back through the opening *e'*, past the valve, and out into the sewer.

The shoulder *a* limits the movement of the clamping member B and is particularly advantageous when the latter is of the T-head form, as shown in Fig. 3, thus insuring accuracy of movement, preventing the same from dropping down the pipe, and materially increasing the facility of adjustment.

The flange *a'* is provided within the enlargement A back far enough to permit the coupling together of its pipe with other sections in the ordinary manner.

Various changes in form, proportion, and arrangement of the parts of my invention may be resorted to without departing from the spirit and scope thereof.

Referring to Fig. 4, B' designates a bar having a hook *b'* at its inner end and a flattened shank *b'*, which is provided with a plurality of perforations *b'*. This bar is hooked within the pipe A' over the shoulder connecting the same with the house-pipe. The proper aperture *b'* is then fitted over the adjacent arm *b*, thus effectually holding the latter against outward movement and making it possible to use the test-tube in pipes not provided with the flange *a'*.

What I claim is—

1. As an article of manufacture, a pipe having an enlarged end, terminating in an internal shoulder adjacent the body of the pipe, and a cap and clamping member, the cap being adapted to fit tightly over the said enlarged end, and the clamping member comprising a holder, means to clamp the same to the cap, and a plurality of arms extending from the inner end of the holder and adapted to rest adjacent said shoulder against an internal flange provided therefor, said flange being removed from said shoulder only a sufficient distance to permit the necessary lateral or rotary movement therein of the arms and prevent tipping thereof, or movement longitudinally of the pipe, substantially as described.

2. As an article of manufacture, a pipe having an enlarged end, terminating in an internal shoulder adjacent the body of the pipe, and a cap and clamping member, the cap being adapted to fit tightly over the said en-

larged end, packing being interposed between the cap and end, and the clamping member comprising a holder, means to clamp the same to the cap, packing being interposed to render the connection water-tight, and a plurality of arms extending integrally from the inner end of the holder, a flange being provided closely adjacent said shoulder to permit the necessary lateral movement of the arms between said shoulder and flange, and to hold the same against movement longitudinally of the pipe in either direction, substantially as described.

3. As an article of manufacture, a pipe having an enlarged end, and a flange within said end, said flange being removed from the outer end of the enlargement to permit the coupling together of said pipe with another pipe, and a cap and clamping member therefor, said cap being adapted to engage and close the open end of said enlargement, and said clamping member being adapted to engage said cap and said flange to clamp the same together, substantially as described.

4. The combination with the cap and clamping member, of the tube having at its inner end means to plug a sewer-pipe, said tube being provided at its outer end with an inlet and at its inner end with an outlet, and also having an intermediate opening through the walls thereof, a valve-seat formed in said outlet, a valve therefor, and means to operate said valve from the outer end of said tube, substantially as described.

5. The combination with the cap and clamping member, of the tube having at its inner end a flexible diaphragm held thereon between two clamping flanges, to plug a sewer-pipe, said tube being provided at its outer end with an inlet and at its inner end with an outlet, and also having an intermediate opening through the walls thereof, a valve-seat formed in said outlet, a valve therefor, and means to operate said valve from the outer end of said tube, substantially as described.

6. As an article of manufacture, a pipe having an enlarged end, a shoulder between the body of the pipe and said end, and a flange closely adjacent to the said shoulder, said enlarged end projecting forward from said flange without interruption a sufficient distance to permit the coupling together therewith of another pipe, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES H. ROLLINS.

Witnesses:

ADDIE F. DANIELS,

FREDERICK L. EMERY.