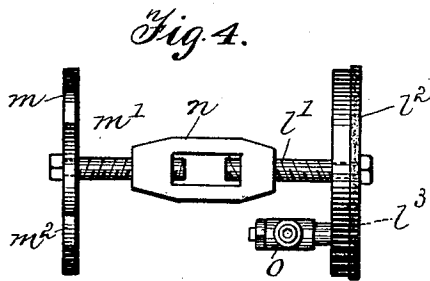
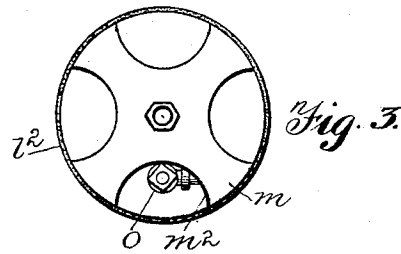
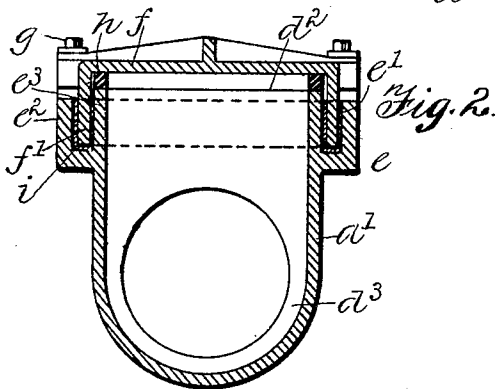
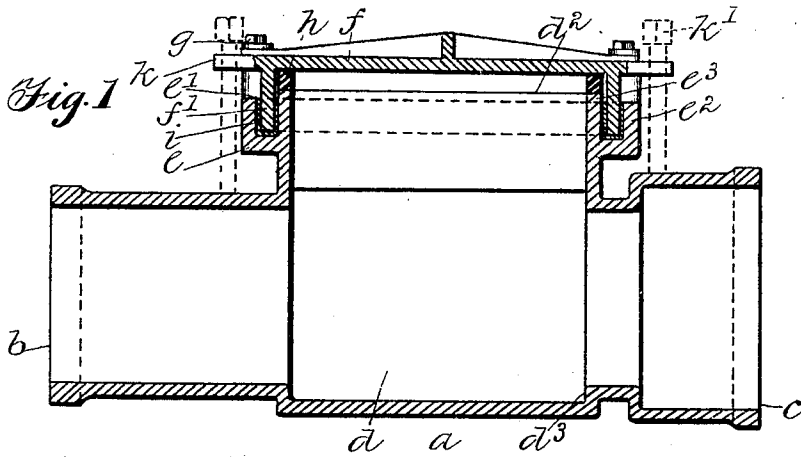


W. VANDERMAN.
PIPE FITTING.

APPLICATION FILED FEB. 2, 1903.



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UNITED STATES PATENT OFFICE.

WILLIAM VANDERMAN, OF WILLIMANTIC, CONNECTICUT.

PIPE-FITTING.

No. 795,319.

Specification of Letters Patent.

Patented July 25, 1905.

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To all whom it may concern:

Be it known that I, WILLIAM VANDERMAN, a citizen of the United States, and a resident of Willimantic, in the county of Windham and State of Connecticut, have invented a certain new and useful Pipe-Fitting, of which the following is a specification.

My invention relates to the system of plumbing contained in buildings, and more especially to the soil-pipes contained in and leading from the building; and the object of my invention is to provide a device which may serve the double purpose of a clean-out and a test-fitting; and a further object of the invention is to provide a device by the use of which the system of plumbing in a building may be easily and readily tested, one to which access can be readily obtained, one which shall possess an extreme degree of convenience, and one in which the ordinary means of forcing a passage through the pipes may be utilized to the greatest extent. A form of device by the use of which these objects may be attained is illustrated in the accompanying drawings, in which—

Figure 1 is a view in central lengthwise section through my improved fitting. Fig. 2 is a view in cross-section through the center of said fitting. Fig. 3 is an end view of the test-plug. Fig. 4 is a side view of the same.

By use of the ordinary means it is the custom in testing the plumbing system of a building to disconnect the end of the pipe immediately outside the walls of the building from the system of street sewerage, and the end of the pipe of the system in the building is closed against the passage of water. This method involves considerable expense, and in order to disconnect and connect the parts a much greater length of the pipe must be uncovered than is actually required for the test. As perfect a connection cannot be made in replacing the disconnected ends as would be the case if the sewer and soil pipes were laid as one continuous pipe and without the necessity of disconnection in order to test the system. Again, after the system has been tested the obstruction in the end of the pipe must be removed before a connection can be made, and the water from the entire system thus runs into the trench which has been opened, creating a muddy and objectionable condition. All of the above are faults which are remedied by the use of my improved fitting.

In the accompanying drawings my improve-

ment is shown of such shape and form as to constitute one of the lengths or sections of a sewer or waste pipe leading from a building. This section may be provided at each end with any suitable means of connection to the other sections of the system.

In the form of the invention herein shown and described the fitting consists of a body part *a*, which may be constructed of any desired form to possess the necessary requirements, and on the ends are located a spigot end *b* and a hub end *c* for connection to the ends of the pipe of the system. The opening through this structure is formed in a straight line, this opening including a chamber *d*, formed in the body part *a* of the structure. The body or main portion of the fitting in the preferred form is of cylindrical outline as to its lower portion to conform generally to the usual shape of a length of pipe. The sides *d'*, however, of this main portion from the center upward are straight, so that the chamber *d* within this main portion may be of a width equal to or greater than the greatest diameter of the pipe from the center of the pipe upward to the mouth *d*² of the chamber. A flange *e* is formed about this main portion and in which is formed a groove *e'*. The lip *e*², forming the outer wall of this groove, is of less height than the lip *e*³, which forms the inner wall of the groove. A cap *f* is constructed of proper form and dimensions to fit upon this flange and cover the mouth *d*² of the opening of the chamber *d*. This cover has a projection *f'*, arranged to lie within the groove *e'* when the cover is in place. The cover is held in place, as by means of bolts *g*, passing through the cover and through the flange *e*, nuts being secured to the inner ends of the bolt. A packing *h*, preferably of asbestos, is located between the inner surface of the cover and the lip *e*³, and a packing *i*, of lead or like material, is run into the space around the projection *f*². The lip *e*² is made less in height than the lip *e*³, so that in pouring this lead in to form the joint there will be no danger of the lead flowing over the lip *e*³ into the pipe. By this means a secure joint is formed between the cover and the pipe, one that will not deteriorate under the action of gases or acids from within the pipe and one which will also meet the various requirements imposed in a structure of this class. The cover *f* is also provided at each end with ears *k*, through which screws *k'* pass, the inner ends of the screws being adapted to press against the outer surface of

the spigot or hub end of the connection. This screw is provided with any usual means by which it may be turned, and its object is to force the cover from its seat by turning the screw down against the outer surface of the fitting and whenever it shall be required to remove the cover for any purpose.

A test-plug is constructed especially for use in connection with this improved fitting. This plug consists of a valve l and a support m . The valve and the support are each provided with a threaded stem or shank l' and m' , respectively, which threads are of different construction either as to pitch or as to the direction in which they extend. In the form shown the threads on the stems preferably extend in different directions. A turnbuckle connects the stems and is provided with threads to correspond with the threads on said stems. The valve l is provided with a packing-ring l^2 and an opening l^3 , to the latter of which a pipe connection o , including a valve, may be attached or connected. The packing is employed for the purpose of making a tight joint to prevent the flow of water. The support m is provided about its periphery with openings m^2 , through which water may flow, and both the valve l and support m are preferably removably secured to their respective stems. This is for the purpose of accommodating the device to different sizes of pipes. The support and valve are each constructed of a proper size to rest against the shoulders d^3 in the chamber d of the fitting hereinbefore described.

In use in testing the system in a building the cap f is removed and the test-plug is inserted in the chamber d . By turning the turnbuckle n the support and valve are forced tightly against their respective shoulders, the valve being located on that shoulder next to the opening leading toward the system in the building. A pipe is now attached to the pipe connection o and water from any suitable source admitted to the system through the opening l^3 until the system is full. When the system has been properly tested, the turnbuckle is loosened and the water flowing around the edges of the valve passes through the chamber d and through the openings in the support m into the sewer system, the flow of water being regulated by the valve to such extent that the water does not flow over the edges of the chamber d . In the same manner if a stoppage occurs in the waste-pipes within the building the test-plug may be inserted in place, as above described, and a pipe connected with the opening l^3 . By this means the water-pressure contained in the water system of the building can be employed for forcing the stoppage in the pipe. The same means may be employed to force the stoppage between the connection and the main sewer by simply reversing the test-plug in the chamber d . By this means in many cases the digging

up of the street and outside premises would be prevented.

By constructing the chamber d from its mouth inward of a size equal to the greatest diameter of the pipe means are provided whereby ready access may be obtained to the pipe and a swab or plug for the purpose of removing any obstructions, as grease or the like, which may have accumulated on the inner surface of the pipe, readily inserted, and such means are located in the straight length of the pipe, and no corners or angles have to be turned in order to operate the device to remove obstructions. This construction of the chamber d from its mouth inward of a size equal to the greatest diameter of the pipe forms a valuable feature of my invention.

It is obvious that the device may be modified to a considerable extent without departing from the invention, and I do not desire to limit myself to the exact construction herein shown and described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with a pipe-fitting including a section formed of a single piece with a waterway therethrough and containing a chamber constituting a lateral opening for the fitting with a suitable closure to be secured thereto, said fitting being adapted for connection to the waste-pipe of a building, a test-plug including a valve and a support therefor, said valve being adapted to close the opening into one end of the chamber, and with a connection to the opposite end thereof with the support, said connection having means for forcing the valve and support against the walls of the chamber, and means independent of the connection between the valve and support for introducing a fluid through the valve.
2. In combination with a pipe-fitting including a section formed of a single piece with a waterway therethrough and a lateral opening with a suitable closure, said fitting being adapted for connection to the waste-pipe of a building, a test-plug including a support and a valve having threaded stems or shanks, a turnbuckle connecting said stems, an opening through said valve, and a pipe connection cooperating with said opening and adapted to permit the passage of a fluid beyond the valve.
3. In combination with a pipe-fitting having a chamber with a shoulder at each end, a test-plug including a valve and a support each having a threaded stem or shank and each adapted to fit the shoulders within said fitting, a turnbuckle fitting said threaded stems, an opening through the valve, a pipe connection secured in said opening, and means for permitting passage of water through the support.
4. In combination with a pipe-fitting having a chamber with a shoulder at each end of the chamber, a test-plug consisting of a valve and a support each adapted to rest against one of

said shoulders, said support being of disk form and provided with peripheral openings, and means for forcing the valve and support against their respective shoulders.

5. In combination in a pipe-fitting including a section formed of a single piece having an opening therethrough and a chamber constituting a lateral opening for the fitting with a closure to be secured thereto, said fitting being adapted for attachment to the waste-pipe of a building, a test-plug comprising a sec-

tional threaded stem, means for connecting said stems to force them in opposite directions, a valve and a support each removably secured to said threaded stems, said support being of disk form and provided with peripheral notches.

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Witnesses:

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