Dec. 28, 1948. W. C. TURPIN ET AL 2,457,418

CLEAN-OUT Y

Filed April 30, 1946

Fig. 1.

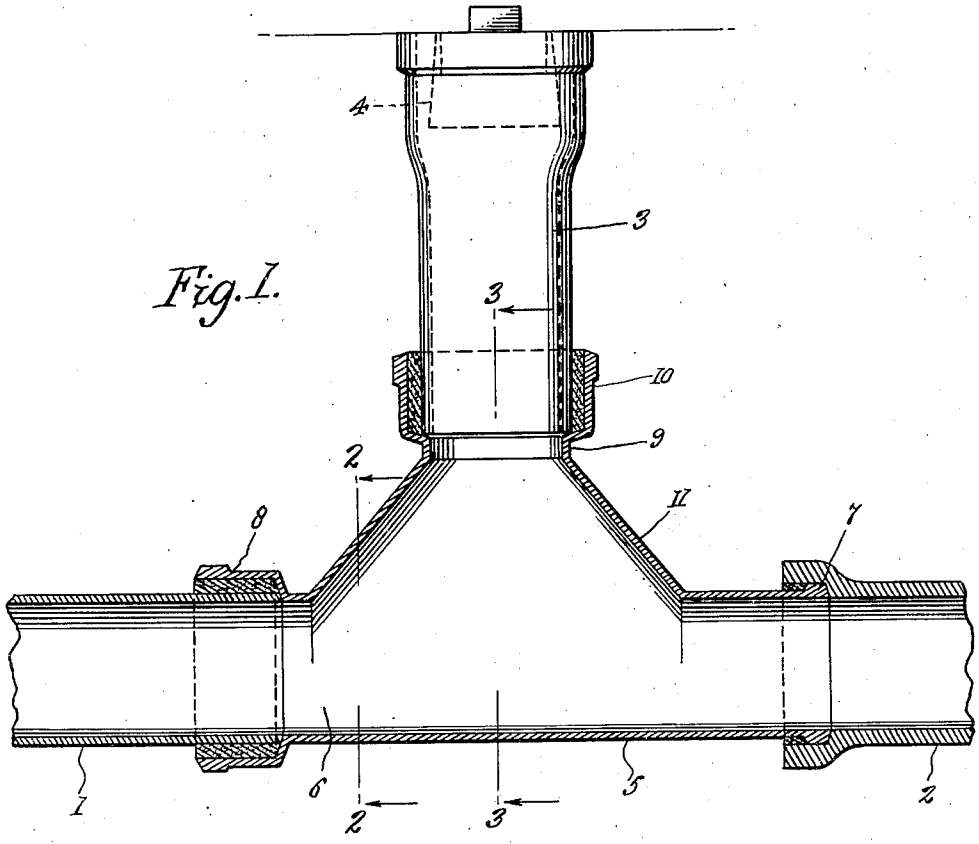



Fig. 2.

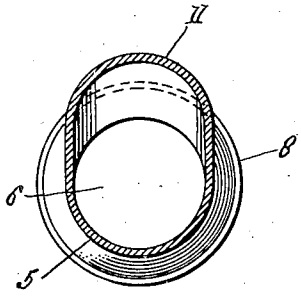
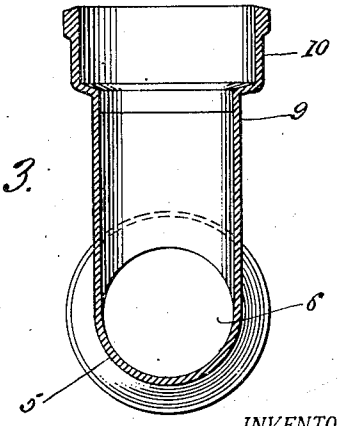



Fig. 3.




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Patented Dec. 28, 1948 2,457,418

# UNITED STATES PATENT OFFICE

2,457,418

## CLEANOUT Y

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Application April 30, 1946, Serial No. 666,135

2 Claims. (Cl. 285—210)

1

This invention relates to improvements in a clean-out Y of the character used particularly for sewers.

Sewers frequently become clogged, especially when constructed of small diameter, such as ordinarily cast iron or terra cotta pipe. It has been the practice heretofore to provide clean-out boxes or a clean-out Y at intervals along the sewer pipe and extending to the surface of the ground, so as to permit the pipe to be cleaned out by the insertion of a wire or cable therein for the purpose.

The usual type of clean-out provided heretofore has employed a pair of Y joints facing toward each other and so connected with the sewer line that access may be had thereto for the purpose. These have not been entirely satisfactory, however, due to the difficulties of getting access to the sewer, the ineffectiveness of clean-out provided therefor, and the extra expense of using a plurality of pipe connections extending to the surface of the ground.

The object of this invention is to improve the construction of the clean-out Y to permit the use of a single connection extending to the surface of the ground and yet provide for the effective and practical cleaning out of the sewer line by the usual cable or wire.

This object is accomplished in the preferred embodiment of the invention by the construction of the clean-out Y with an upper portion constructed to receive a joint of pipe that extends to the surface of the ground and having downwardly inclined and widely flaring sides so constructed as to direct the clean-out cable or wire into the respective ends of the Y thence to the respective sections of sewer joined thereto.

This form of the invention is illustrated generally in the accompanying drawings in which:

Fig. 1 is a vertical sectional view through the clean-out Y connected in a sewer line and having a pipe connection shown in elevation extending to the surface of the ground;

Fig. 2 is a cross section therethrough on the line 2—2 of Fig. 1; and

Fig. 3 is a similar view on the line 3—3 of Fig. 1.

The invention is shown as applied to a sewer pipe line, one section of which is indicated generally by the numeral 1, and another section is shown at 2. These pipe sections may be constructed either of the usual cast iron pipe, as shown at 1, or of terra cotta pipe, as shown at 2, or both may be used in a single line. At one or more desired points in the sewer line, it is

2

desirable to have a clean-out connection that extends to the surface of the ground. For this purpose, a pipe 3 is adapted to extend downwardly from the surface of the ground, where it is provided with an open upper end that is adapted to be closed by a plug or adapter generally indicated at 4. This plug may be removed from the pipe 3 when it is desired to get access to the sewer line.

The pipe 3 is joined to the sewer line 1—2 by means of a Y generally designated at 5. This Y 5 has an opening continuously therethrough in a lengthwise direction as designated generally at 6 and at opposite ends of the opening 6, the body of the Y is formed with male and female connecting portions 7 and 8, respectively, in the form of plug and socket adapted to interfit with complementary portions of the pipe sections 1 and 2.

Intermediate the length of the body portion of the Y 5 is a branch connection 9, that is provided with a socket 10 to receive the lower end of the pipe 3. The opposite sides in a lengthwise direction of the branch connection 9 are widely flaring at 11, substantially at an angle of 45° to the longitudinal axis through the opening 6. The upper sides of the respective sloping portions 11 are semi-circularly curved, as shown in Fig. 2. The purpose of these flaring sides is to guide the clean-out cable or wire into the respective end sections of the sewer and thus effectively clean-out the entire length of the sewer and yet by means of a very simple and inexpensive structure for the purpose. By reason of having opposite sides of the Y as sloping at 11, it is possible to direct the clean-out cable or wire in either direction.

The structure thus described, presents a greatly simplified formation structurally, thus tending to provide for low cost of manufacture. However, the greater advantages become apparent when the structure is in service. One of these advantages is directly due to the body formation which presents the oppositely flared walls 11 extending at a definite angle—approximately 45°—to the axis of the opening which receives the connection 3 leading to the ground surface and which may be considered as the stem opening of the connection. As is indicated in the drawings, the inner face of each of the flared zones is practically linear in type in the direction of length of the wall portion and with the wall portion curved in transverse section. As a result, the juncture or meeting point of a wall portion 11 and the upper zonal wall of the outlet openings to the sewer connection presents a definite angular re-

lationship, the angle being of obtuse type. This becomes of definite advantage should the clogging condition become severe, such, for instance, as would tend to force the advance end of the cleaning implement toward and into engagement with the inner face of a wall portion 11. In such case, the implement advance end will move downwardly over the face as the implement is advanced, possibly providing an intermediate curve effect or actually conforming to the wall itself, with the outward movement controlled by the angle of the face so that liability of any undesired shaping of the implement will be prevented. The greater advantage comes, however, from the fact that when such implement advance end reaches the lower limit of the face, such end is advancing in a direction to enter the content of the sewer end zone of the connection at an acute angle to the axis of such end zone, with the result that the implement end zone will tend to traverse such content in the direction of such axis, thus rendering the implement especially effective in breaking up the clogged condition, since the advance end is being made active with the core zone of the obstruction rather than the periphery.

Since less severe clogging will permit such traversing action within the body zone, it can be understood that through the presence of the definite angular relationship at such junction or meeting point, the cleaning implement will be caused to traverse the content in the direction of the core axis under all conditions of service, thus ensuring effective clean out action under all conditions.

We claim:

1. In clean-out connections of the Y-type for sewers and the like, wherein the connection includes a pair of axially-alined openings positioned for connection within the sewer formation and a third opening having its axis extending normal to the axis of the pair of openings and adapted for connection with a stem portion leading to the ground surface, a connection of such type having its body portion formed for open communication between said openings, said body portion including opposite wall portions connecting the zone of the single opening with the respective zones of the pair of openings, said wall portions presenting an outward and downward straight line flare of the body leading downward from the single opening and extending generally at a definite angle to the single opening axis and leading to the top zones of the pair of openings, each of such flared wall portions meeting the top of the sewer end zone at a definite angle to thereby establish a definite angular relation between such meeting point and such axially aligned openings.



2. A connection as in claim 1 characterized in that the inner face of the flared wall extends at an angle approximating 45° to the axis of the single opening.

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