

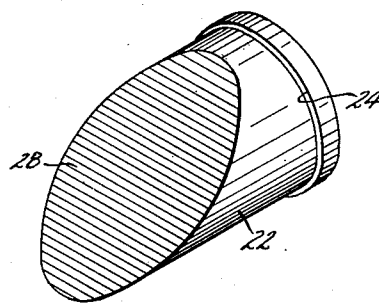
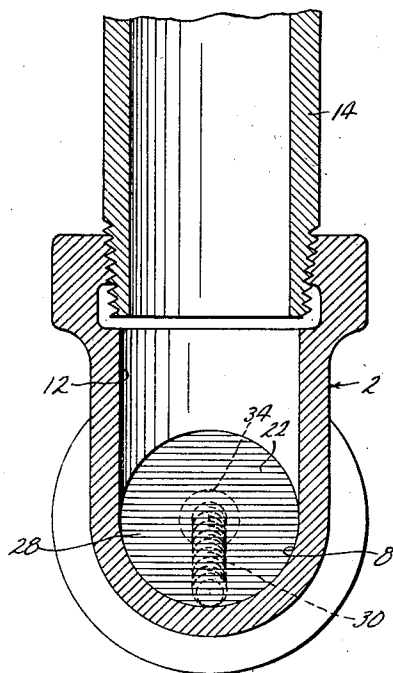
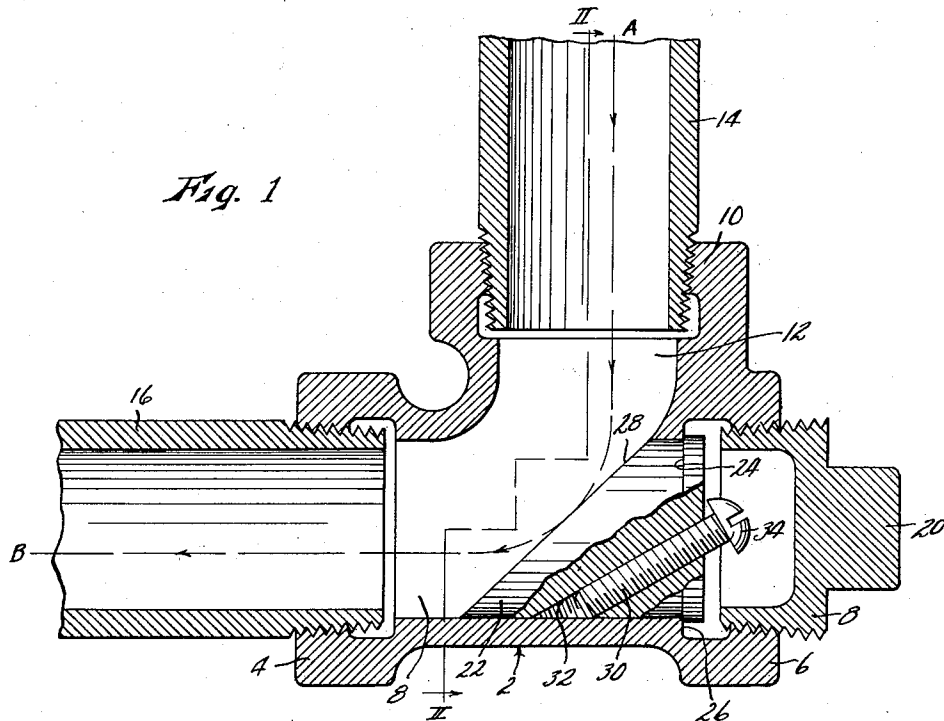
Nov. 3, 1959

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2,911,235

CLEAN-OUT FITTING

Filed Sept. 6, 1956



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2,911,235

## CLEAN-OUT FITTING

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Application September 6, 1956, Serial No. 608,240

1 Claim. (Cl. 285—93)

This invention relates to new and useful improvements in clean-out fittings, and has reference particularly to clean-out fittings such as are commonly used in plumbing waste lines.

In plumbing waste lines, it is customary to install T-fittings at the angles thereof, each said fitting having a straight-through passage and a side outlet. The waste pipes adjacent the fitting are connected respectively in said side outlet and one end of said straight-through passage. The other end of said straight-through passage is provided with a removable plug, which when removed provides direct access to the pipe connected in the other end of the straight-through passage, whereby a clean-out tool may be introduced into said pipe without necessity of passing said tool around any curves or bends. Strategic location of such fittings provides such direct access to every section of the waste pipeline.

However, flexible clean-out tools capable of negotiating curves and bends are of course common, and in many cases it would be desirable to use such a flexible tool rather than to locate and remove the plugs from the fittings. Besides the obvious saving of time and labor thereby effected, the fittings are often in places to which access is difficult, and in many instances the removal of the plug of a fitting will cause living quarters, restaurants or the like to be flooded with the waste which has been clogged in the pipes. With a standard T fitting, it is often virtually impossible to feed a flexible clean-out fitting therethrough, since the head of the tool introduced therein may turn toward the plug, rather than toward the next contiguous pipe section.

The principal object of the present invention is therefore the provision of a fitting having an insert adapted to be placed in the outlet thereof which is closed by the plug, said insert having a bevelled face operative to deflect a flexible clean-out tool introduced into the side outlet thereof toward the outlet opposite said plug.

Another object is the provision of an insert of the type described which requires no special fitting, but may be used in many standard fittings in old installations.

Other objects are simplicity and economy of construction, efficiency and dependability of operation, ease of removal of the insert in the event direct access is required, and adaptability to prevent collection of solid waste matter adjacent the plug.

With these objects in view, as well as other objects which will appear in the course of the specification, reference will be had to the drawing, wherein:

Fig. 1 is a mid-sectional view of a clean-out fitting embodying the present invention, together with its related pipe sections, with parts left in elevation and partially broken away,

Fig. 2 is a sectional view taken on line II—II of Fig. 1, and

Fig. 3 is a detached perspective view of the fitting insert.

Like reference numerals apply to similar parts throughout the several views, and the numeral 2 applies to a

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T fitting having a pair of end outlets 4 and 6 interconnected by a straight through passage 8, and a side outlet 10 interconnected with passage 8 by a lateral passage 12. Outlet 10 is threaded to receive a waste delivery pipe 14, and outlet 4 is threaded to receive a waste discharge pipe 16, the waste flowing in the direction indicated by arrowed line AB. Outlet 6 is threaded to receive a closure plug 18 provided at its outer end with an integral wrench lug 20.

Disposed removably in passage 8, inwardly from plug 18, is an insert 22. Said insert, which is adapted to be slid into position after plug 18 is removed, is cylindrical in form, and of such diameter as to fit snugly but slidably into passage 8. It is provided adjacent its outer end with an external peripheral shoulder 24 which abuts an outwardly facing shoulder 26 formed in the fitting just inwardly from the threaded portion of outlet 6, thereby limiting the inward movement of the insert. The inner end of the insert is bevelled as indicated at 28, said bevelled face being positioned substantially at the intersection of passages 8 and 12, and being inclined equally to the axes of the two passages. The insert is locked in position against outward movement and against rotation by a screw 30 threaded in a drilled and tapped hole 32 formed in the insert, said hole being angled so as to extend at one end through the outer end face of the insert, and at its opposite end through the cylindrical wall of the insert. Said screw engages the wall of passage 8 of the fitting, and acts as a set screw securing the insert in position. The head 34 of the screw is normally positioned partially or entirely within plug 18, which is normally hollow. If the plug 18 were to be solid, it will be obvious that the screw head could be contained in a countersunk recess in the insert.

It will be seen that any flexible clean-out tool inserted into the fitting through pipe 14 will strike and be deflected by bevelled face 28 of insert 22 into pipe 16, as indicated by arrowed line AB, this being the primary object of my invention. Obviously the tool cannot turn toward and be lodged against plug 18. Also, in certain instances it may be desired to pass a clean-out tool through the fitting in a direction opposite to that indicated by the arrows, and the insert functions similarly in such circumstances. Without the insert, any clean-out tool inserted through pipe 16 would of course lodge against plug 18.

The insert also prevents that portion of passage 6 occupied thereby from becoming clogged and jammed by solid waste and sediment, as commonly occurs in such fittings. By eliminating this zone, which is ordinarily "dead," having little circulation and no through passage, the flow characteristics of the fitting are actually substantially improved. The insert may of course be removed when especially severe clogging of the pipes requires direct access to pipe 16 and the use of other than flexible clean-out tools, simply by removing plug 18 and loosening set screw 30. Screw head 34 serves as a means for gripping and loosening the insert for pulling it out, in the event the insert should become frozen or stuck tightly by sediment or waste matter deposited thereon.

The position of set screw 30 serves as a reliable index for positioning bevelled face 28 properly with respect to the axes of passages 8 and 12. The insert obviously could not be attached to or form a part of the plug, since the plug threads are subject to wear and the plug may therefore have a different angular position each time it is inserted and screwed up tight. Also, the insert should be spaced apart from the plug, so as not to interfere with setting up the plug sufficiently tightly to form a water-tight seal.

While I have shown and described a specific embodiment of my invention, it will be apparent that many

minor changes of structure and operation could be made without departing from the spirit of the invention as defined by the scope of the appended claim.

What I claim as new and desire to protect by Letters Patent is:

A clean-out fitting for plumbing waste lines comprising a T fitting having a straight-through passage and a lateral passage interconnected with said straight-through passage, the outlet of said lateral passage and one of the outlets of said straight-through passage being adapted respectively to have waste delivery and discharge pipes interconnected therein, a plug removably inserted in and sealing the opposite outlet of said straight-through passage, a cylindrical insert disposed removably in said straight-through passage adjacent said plug, the inner end face of said insert being disposed substantially at the intersection of said passages and being inclined at substantially equal angles to the axes of said passages, and a set screw threaded in said insert and inclined relative to the axis thereof so as to be extendable through the cylindrical wall of the insert to engage said fitting, the opposite end portion of said screw extending outwardly from the outer end of said insert, the variation of angular position of said extending screw portion caused by

rotation of said insert serving as a visual index for positioning the inclined insert face properly with respect to the pipe outlets of the fitting, and wherein said screw is provided at its outer end with an enlarged head, said head serving as a handle for loosening and removing said insert from said fitting.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

|           |             |                |
|-----------|-------------|----------------|
| 1,108,918 | Lob         | Sept. 1, 1914  |
| 1,305,491 | Poppenhusen | June 3, 1919   |
| 1,487,845 | Galusia     | Mar. 25, 1924  |
| 1,600,561 | O'Connor    | Sept. 21, 1926 |
| 1,738,933 | Strachan    | Dec. 10, 1929  |
| 1,835,703 | Flaherty    | Dec. 8, 1931   |
| 2,451,068 | Butler      | Oct. 12, 1948  |

##### FOREIGN PATENTS

|         |               |               |
|---------|---------------|---------------|
| 112,536 | Australia     | Feb. 11, 1941 |
| 754,255 | Great Britain | Aug. 8, 1956  |

##### OTHER REFERENCES

Germany, K25357, X11147, Jan. 19, 1956.