April 20, 1926. 1,581,973

J. J. MEYER

INSERTABLE JOINT

Filed April 24, 1924

Fig. 1.

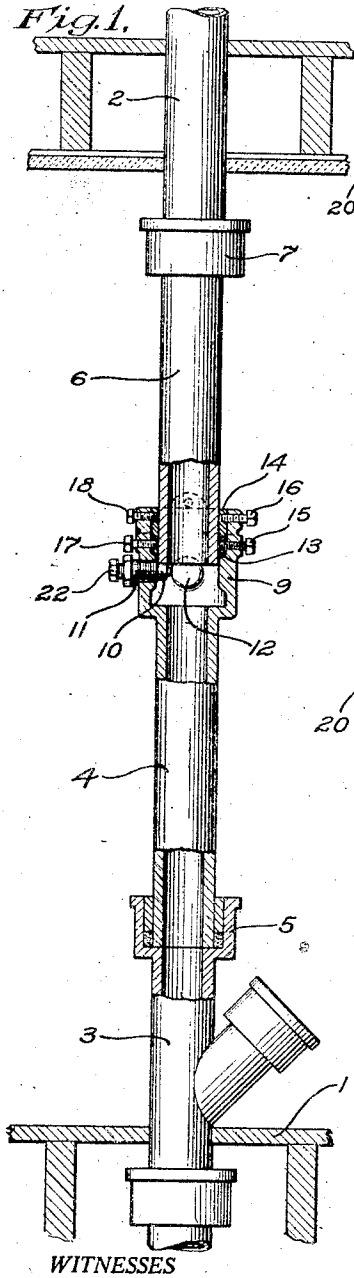



Fig. 2.

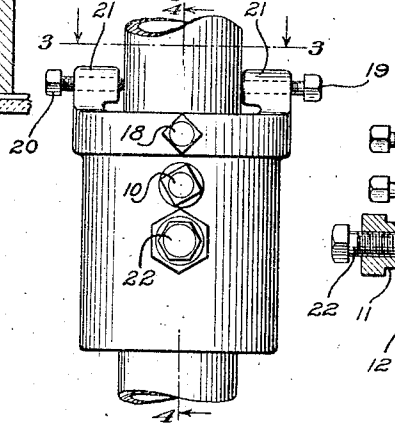



Fig. 4.

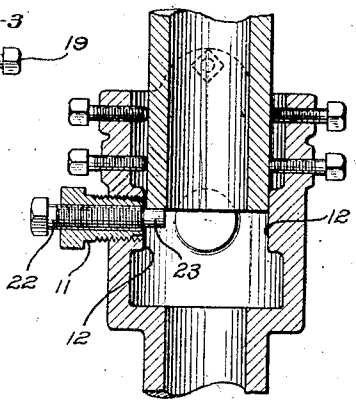



Fig. 3.

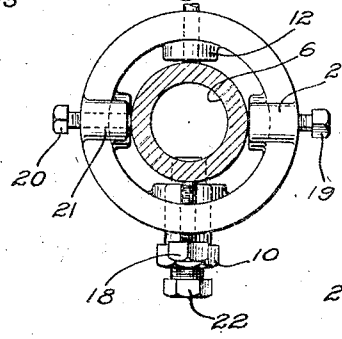



Fig. 5.

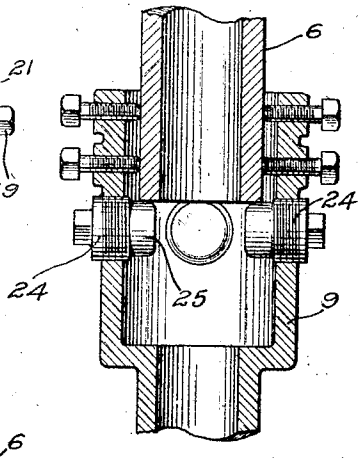



Fig. 6.

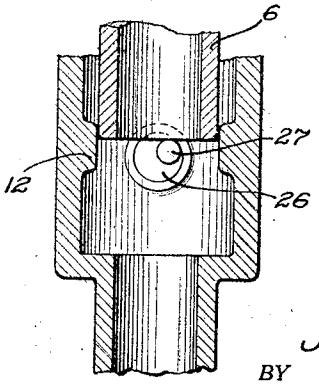
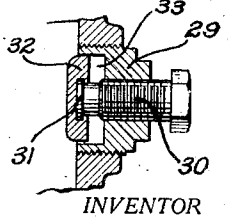



Fig. 7.




WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN J. MEYER, OF NEW YORK, N. Y.

## INSERTABLE JOINT.

Application filed April 24, 1924. Serial No. 708,811.

*To all whom it may concern:*

Be it known that I, JOHN J. MEYER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county of New York and State of New York, have invented a new and Improved Insertable Joint, of which the following is a full, clear, and exact description.

This invention relates to insertable joints for soil pipes and the like and has for an object to provide an improved construction wherein a new section may be inserted without disturbing the lower part of the soil pipe or the upper part and at the same time present proper support for the superimposed sections of pipe, the structure being such that a substantially continuous pipe structure is provided.

Another object of the invention is to provide an improved joint for soil pipes wherein set screws are utilized to center and support the superimposed pipe sections.

A still further object of the invention is to provide a structure wherein superimposed pipe sections may be supported at different points on the inserted pipe section.

A still further object of the invention is to provide an insertable joint which in part is a continuation of my co-pending application, Serial No. 612,779, patented Jan. 15, 1923, Number 1,492,521.

In the accompanying drawings—

Figure 1 is a fragmentary elevation of part of a soil pipe line arranged in a building, certain parts being shown in section for better illustrating the construction.

Figure 2 is a side view of the upper end of the inserted pipe section shown in Figure 1.

Figure 3 is a sectional view through Figure 2, approximately on line 3—3.

Figure 4 is a sectional view through Figure 2, approximately on line 4—4.

Figure 5 is a view similar to Figure 4, but showing a slightly modified construction.

Figure 6 is a view similar to Figure 4, but showing a second modified construction.

Figure 7 is a fragmentary sectional view through part of a hub and supporting abutment disclosing another form of support.

Referring to the accompanying drawings by numerals, 1 indicates part of a building and 2 the soil pipe line. In order to put in an extra section, as for instance, the Y section 3, it is necessary to remove one of the sections of the line 2 and in removing the same the section is usually broken. As the various sections of the line 2 have bells or hubs, an ordinary section cannot be placed in position unless all the superimposed pipe sections are removed. To obviate this necessity, a single insertable pipe section 4 is provided and is made of a special construction whereby it may be readily inserted and certain parts thereof adjusted to cause a proper support of the superimposed pipe sections arranged above the section 4. It will be noted that the Y section 3 is of usual construction provided with a hub or bell 5 and the lowermost pipe section 6 of the superimposed sections of the pipe line 2 is of the usual construction having a bell or hub 7 and a straight body adapted to fit into the hub or bell 9 of section 4. The lower end of section 4 is fitted into the hub 5 in the usual manner but before this is done, the hub 9 is telescoped over the lower end of section 6 until the lower end of section 4 may be swung over the hub 5. After this has been done, the parts are lowered to the position shown in Figure 1 while the section 6 and other superimposed sections are supported by a wire or in any desired manner temporarily. After the section 4 has been lowered, the abutment end 10 of the hollow screw 11 is moved over to a position beneath the lower end of the section 6 whereupon said section is properly supported and the temporary supports connected with this section may be removed.

In the accompanying drawings, there has been shown one screw 11 but if desired more than one could be provided. In the hub 9 a number of bosses 12 are provided and formed integral with the hub. One of these bosses is bored and threaded for receiving the screw 11 whereby an ample thickness is provided. Also the various bosses 12 act as an artificial or raised bottom for the hub 9 and readily engage and support the fiber or packing 13 which in turn supports the lead or other packing 14 until the same becomes hard, after which it may be tamped in position if desired. Before the packing members are inserted, the various set screws 15, 16, 17 and 18 are brought under tension for properly centering the end of the section 6 for clamping the same against movement. In addition, the clamping screws 19 and 20 are also tightened. If desired, one of these screws could be eliminated and only

a single screw used so that one of the projections 21 could act as an abutment. If desired, all of the set screws 15 to 18 could be eliminated where one of the screws 19 or 20 is provided.

When it is desired to support the section 6 at a lower point than the abutment end 10, the screw 11 is moved outwardly to the position shown in Fig. 4 and the screw 22 is screwed inwardly until the abutment end 23 thereof presents a proper support for the section 6.

In Figure 5, a slightly modified form is shown to that illustrated in Figures 1 to 4. In this figure the bosses 12 are eliminated and solid screws 24 are provided, each screw having an abutment end 25 preferably of the same size as the bosses 12. If desired, one or all of the screws 24 could be projected inwardly as shown in Figure 5 or only one projected inwardly for acting as a support and the others acting separately in the capacity of a raised bottom for the hub 9.

In Figure 6, another form of the invention is presented wherein the screw 26 is formed similar to the screw 11 except that the aperture therein is offset so that the screw 27 will be eccentrically positioned. By this construction and arrangement, the end of screw 27 may be adjusted vertically upon a rotation of the screw 26 whereby the end of the pipe section 6 will be raised or lowered. In this form of the invention, preferably bosses 12 are presented.

Figure 7 discloses another form of the invention whereby a proper support and raised or auxiliary bottom presented. In this form of the invention the screw 29 acts in the capacity of a plug and also a support for the screw 30, which latter screw is provided with a flange 31 embedded into a supporting and clamping head 32. Preferably the head 32 is rotatably mounted on the flange 31 whereby the head may be pressed outwardly against the side walls of the lower end of section 6 or may be projected beneath the lower end of section 6 when in operative position. Whenever desired, the head 32 may be withdrawn into the socket 33 formed in the plug or screw 29.

It is understood that the set screw invention may be applied to the hub of a Y section or branch fitting or that the insertable joint may have a branch outlet. It is further understood that the bosses act as guides as well as a false bottom and as protectors for the screws, presenting a minimum of exposure of the screw supporting head to the corrosive action of the water.

What I claim is:

1. An insertable joint for vertical soil pipes, comprising a section of pipe formed with a comparatively long filler joint hub, a movable support carried in the wall of said hub adapted to be moved through the wall into the hub to act as an abutment for a superimposed pipe section and a padding of metal cast integral in said hub on the interior for aligning said superimposed pipe section longitudinally in said hub and for aligning the bore of said superimposed pipe section with the innermost vertical face of said abutment.

2. An insertable joint for soil pipes and the like, comprising a pipe section having a body and a hub at one end of said body, said hub being formed with upwardly extending lugs at the upper end, set screws extending through said lugs acting as a support for a superimposed pipe section terminating above the bottom of said hub, said hub being of the caulked lead filler type, said set screws extending through said lugs above the lead filler.

3. An insertable joint for soil pipes and the like, comprising a pipe section having a body and a hub at one end of said body, said hub being formed with a pair of upwardly extending lugs at the upper end, a set screw extending through one of said lugs acting to force a superimposed pipe section toward the opposite lug, and a screw between the top of said lugs and the bottom of said hub acting as a support.

4. An insertable joint for soil pipes and the like, comprising a pipe section having a body and a hub at one end of said body, said hub being formed with a pair of upwardly extending lugs at the upper end, a set screw extending through one of said lugs acting to force a superimposed pipe section against the opposite lug for acting as a support for supporting said superimposed pipe section above the bottom of the hub.

5. An insertable joint for soil pipes and the like, comprising a pipe section having an elongated filler joint hub, a screw extending through the side wall of said hub adapted to clamp a superimposed pipe line to said hub, said screw being positioned in said hub between the lower end of said pipe line and the top end of said hub, said screw making a direct contact with said soil pipe line and a boss or inwardly extending thickened portion on said hub bore adapted to align and hold said superimposed pipe line so that when said screw is moved inwardly it will move the pipe to form a contact with said boss or thickened portion whereby the screw and said boss will form a joint and co-operating support.

6. An insertable joint for soil pipes and the like, comprising a section of pipe provided with an elongated filler joint hub at one end, and a screw carried by said hub for supporting an upper pipe line terminating in said hub, said screw acting as a water-tight plug and pipe line support, said screw to have a thread bare supporting head to prevent catching of fibrous sewage matter

and to extend underneath said upper pipe line, said screw being adapted to limit its inward movement to insure against its penetration into the pipe bore.

7. An insertable joint for soil pipes and the like comprising a pipe section having a body and a hub, a pipe terminating in said hub, a lead filler joint between said pipe and said hub, and set screws in the top of said hub above said lead filler joint, said set screws acting as a support for the pipe terminating in said hub.

8. An insertable joint for soil pipes and the like, comprising a body and a long hub having its upper end adapted for a caulked lead filler joint, one or more supporting screws carried in the wall of said hub for supporting a superimposed pipe from beneath the end of said superimposed pipe, and a thickened wall portion below said filler joint portion directly on said hub for guiding and centering said pipe in said hub to effect accurate alignment with a supporting screw.

9. An insertable joint for soil pipes and the like, comprising a body and a long telescoping hub adapted for a caulked lead filler joint, a supporting screw carried in the wall of said hub for supporting a superimposed pipe from underneath the end of said superimposed pipe, and a vertical shoulder on said screw for guiding and centering said superimposed pipe in said hub, said shoulder being located between the threaded portion of said screw and its supporting portion.

10. An insertable joint for soil pipes and the like, comprising a section of pipe having a long lead filler joint hub, a hole in the wall of said hub having a supporting screw threaded into said hole, said screw having a supporting head extending underneath a superimposed pipe to support said pipe in said hub, and means on said hub for centering said superimposed pipe.

11. An insertable joint for soil pipes and the like, comprising a section of pipe having an elongated hub adapted for a lead filler, said insertable joint being adapted to center a superimposed pipe in said hub, a supporting screw carried in the wall of said insertable joint and extending beneath the superimposed pipe as a support therefor, said screw adapted to align with the bore of said superimposed pipe, a boss or thickened portion on the wall of said hub acting as added cover and support for said screw.

12. An insertable joint for soil pipes and the like, comprising a pipe section having a long telescoping hub at one end thereof, a supporting screw member extending through the side wall of said hub acting as a support for a superimposed pipe line, said hub being formed to receive a caulked lead filler at its upper end, and means integral with said hub for aligning the bore of said superimposed pipe with the bore of said hub and the supporting screw.

13. An insertable joint for soil pipes and the like, comprising a pipe section having a filler joint telescoping hub, a rotatable supporting and clamping screw member of appreciable diameter extending through the side wall of said hub, and a supporting screw of less diameter extending through said screw member, said supporting screw member and said supporting screw being arranged to adjustably support a superimposed pipe at different heights in said hub, either of said screw members being capable of being screwed inwardly to the bore of said superimposed pipe.

14. An insertable joint for soil pipes and the like, comprising a pipe section having a long filler joint hub at one end thereof, a screw plug extending inwardly through the wall of said hub, said screw plug having a horizontal shoulder extending underneath a superimposed pipe as a support therefor, said shoulder portion having a less diameter than said screw plug, said shoulder being limited in width so as not to project into the bore of said superimposed pipe, said screw plug having a vertical shoulder intermediate the horizontal shoulder when screwed inwardly whereby the same may clamp the superimposed pipe against the opposite wall of said hub and at the same time act as a support.

15. In combination with a cast iron soil pipe line or the like and a branch fitting, an insertable joint comprising a short section of pipe having a long telescoping hub at one end thereof, said hub being adapted for a caulked lead filler at its upper end, a screw plug extending through the wall of said telescoping hub and provided with a shoulder extending beneath a superimposed pipe as a support therefor, said cast iron superimposed pipe having its spigot end of uniform diameter, said screw plug being of extra thickness so as to be capable of wholly sustaining the weight of the pipe line thereabove, said screw plug being adapted to act as a water pressure tight plug.

JOHN J. MEYER.