July 21, 1931. E. KENNEDY 1,815,205

PLUMBING SYSTEM

Filed Aug. 7, 1930

Fig:1.

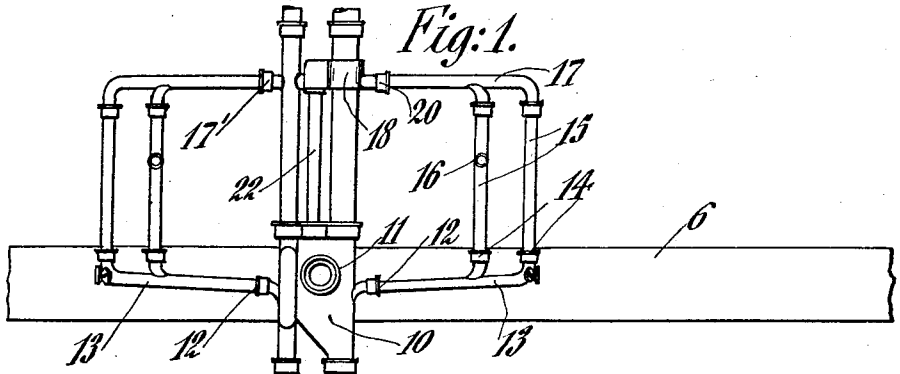


Fig:4.

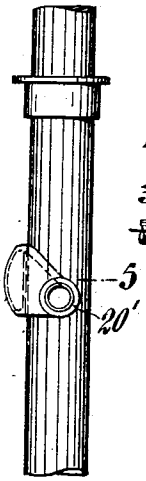
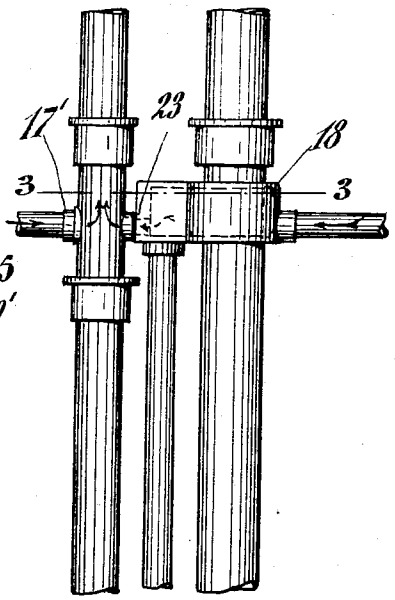


Fig:2.



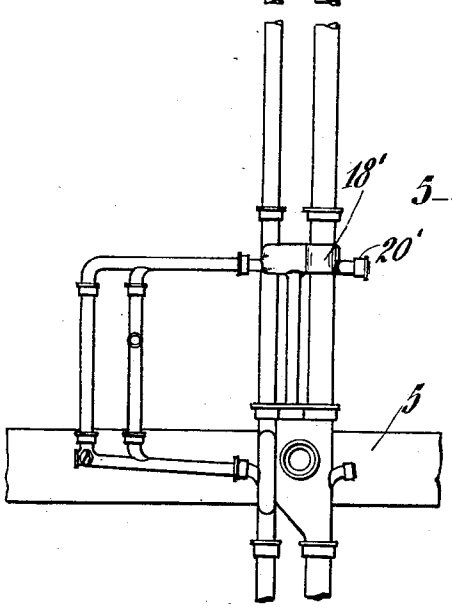


Fig:6.

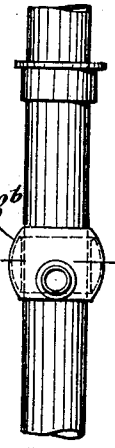


Fig:3.

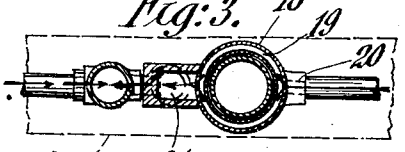
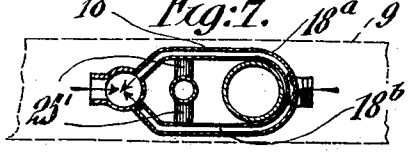


Fig:5.



Fig:7.



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1,815,205

UNITED STATES PATENT OFFICE

EDWARD KENNEDY, OF NEW YORK, N. Y.

PLUMBING SYSTEM

Application filed August 7, 1930. Serial No. 473,559.

This invention relates to plumbing systems, and has for its primary object to provide an improved waste and vent stack installation embodying novel means for effectively venting a plurality of fixtures and which may be wholly enclosed and concealed within the walls of the building.

It is another object of the invention to provide means for connecting a plurality of fixtures arranged upon either side of the vent and waste stacks with the vent stack.

It is an additional object of the invention to provide vent stack connections for the fixtures which enables the ordinary standard waste pipe sections and coupling means therebetween to be employed.

More particularly, in a practical embodiment of the invention, I provide a connecting member between one of the vent stack sections and the branch vent pipes connected with the fixtures in the form of a simple casting which extends across the waste stack, and is so constructed, that it will be wholly contained within the vertical wall of the building.

It is also another object of the invention to provide a venting unit embodying the said casting and a vent pipe for connection with the discharge receiving connecting T in the waste stack and which may be easily and quickly installed or assembled and connected with the vent stack, after the waste stack has been installed.

With the above and other objects in view, the invention consists in the improved plumbing system and in the form, construction and relative arrangement of the several parts thereof, as will be hereinafter more fully described, illustrated in the accompanying drawings, and subsequently incorporated in the subjoined claims.

In the drawings, wherein I have illustrated several simple and practical embodiments of my present improvements, and in which similar reference characters designate corresponding parts throughout the several views,—

Figure 1 is a vertical section through two floors of a building, showing one installation of my improved plumbing system;

Fig. 2 is an enlarged fragmentary elevation;

Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is an enlarged elevation of the lower portion of the installation shown in Fig. 1 looking at right angles thereto;

Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 4;

Fig. 6 is a view similar to Fig. 4 showing a modified form of the device, and

Fig. 7 is a horizontal sectional view taken on the line 7—7 of Fig. 6.

Referring in detail to the drawings, 5 and 6 designate vertically spaced floors of a building, the vertical waste and vent stacks indicated generally at 7 and 8 respectively, extend through or are incorporated within the vertical walls of the building, as indicated by the broken lines at 9 in Figs. 3, 5 and 7 of the drawings. It is desirable, that all parts of the installation shall be completely concealed so that there are no projections from either face of the building wall. The waste and vent stacks are each composed of standard length pipe sections which are connected by the discharge receiving members 10 having a plurality of suitable connecting nipples shown at 11 and 12 for the connection thereto of drain pipes extending from the lavatory, water closet, bath tub, or other fixtures in the plane of the respective floors of the building. The members 10 may be generally of similar type to that shown in Fig. 5 of my issued Patent No. 1,747,514, of February 18, 1930, but it is to be particularly noted that the connecting nipples 12 projecting laterally from opposite sides of the member 10 are located in horizontal alignment with each other. With these nipples, the discharge pipe sections 13 are connected at one of their ends, while with the other ends thereof, drain pipes extending from the fixtures (not shown) are adapted to be coupled. The pipes 13 are provided with spaced hubs 14 for the connection of the lower ends of vertically extending vent pipe sections 15, one of which may be provided with means shown at 16 for the connection thereto of the drain pipe

from a sink or other fixture. Horizontally extending pipe sections 17 are connected with the upper ends of the vent pipe sections 15.

One of the pipe sections 17 is adapted to be directly coupled with one section of the vent stack 8 as shown at 17.

For the purpose of connecting the vent pipe section 17 on the opposite side of the vertical vent and waste stacks with said vent stack section, I provide a hollow casting generally indicated at 18 which in one form of the invention may be in the form of a short cylinder closely surrounding the waste stack 7 and providing an annular passage as indicated at 19, said ring at one side thereof having a connecting nipple indicated at 20 with which the end of the horizontal vent pipe section 17 is adapted to be connected. At the opposite side of the casting 18, said casting has a hollow lateral extension providing a chamber 21 in communication with the annular chamber 19. The upper end of a supplementary vent pipe 22 is connected with this chamber, the lower end of said pipe 22 being directly connected with the discharge receiving member 10 between the waste and vent stack sections. The chamber 21 is also connected to the section of the vent pipe 8 opposite the connecting nipple 17′ as indicated at 23.

The casting 18 may be readily assembled with the vent stack section, and requires no other supporting means than its connection with the section of the vent stack and the pipes 17 and 22. All of the fixtures will thus be effectively vented through the connections between the vent stack section and the drain discharge pipes 13. The casting 18 is of simple form, and as seen in Fig. 3 of the drawings, enables all of the parts to be installed within the vertical building wall of standard thickness, thus eliminating unsightly projections from the surfaces of said wall.

In Fig. 1 of the drawings, I have shown the venting connections for fixtures arranged at both the right and left hand sides of the waste and vent stacks, those on the right hand side being connected through the novel form of the casting 18. In the lower part of Fig. 1, I have shown the venting means only on the left hand side of the waste and vent stacks, the connecting nipples 12 and 20 of the members 10 and 18, being closed by means of suitable plugs. By arranging the nipples 12 opposite each other and the nipples 17′ and 20 also in horizontal alignment, the same assembly of pipe sections 13, 15 and 17 may be used at either the right or left hand sides of the waste and vent stacks for venting similar fixtures. It will of course, be understood that if, only a single fixture is to be taken care of on one side of the waste and vent stacks, as for instance, the left hand side at the top in Fig. 1, one of the vertical pipe sections 15 may be omitted.

The casting 18′ for venting the fixtures on the lower floor 5 in Fig. 1 and as shown in Figs. 4 and 5 of the drawings, is of somewhat different form from the casting 18 above described. It may consist of a flat tubular structure extending horizontally across one side of the waste stack and suitably connected at one end with the vent stack section, the other end thereof shown at 20′ being connected to the horizontal vent pipe section 17. The auxiliary vent pipe section 22 is extended transversely of the building wall and at its upper end is suitably coupled with the casting 18′ as indicated at 25.

In Figs. 6 and 7 of the drawings, I show a slightly modified construction, in which the casting 18^a is in the form of an elongated loop embracing the waste stack and providing parallel passages 18^b at opposite sides thereof connected at their ends with the vent stack. One or both of these spaced horizontal vent passages may be coupled with the upper end of the vent pipe section 22 as indicated at 25′.

From the foregoing description considered in connection with the accompanying drawings, the construction, manner of use and several advantages of my present improvements will be clearly and fully understood. It will be apparent that I have provided a simple and inexpensive means for connecting the various fixtures with the vent stack of a plumbing system which enables the expense incident to such installations to be materially reduced, with an appreciable saving in the time consumed in placing the various parts and making the connections therebetween. In the construction shown in Fig. 5, the waste stack may be completely installed, and the casting 18′ together with the pipe section 22 and the section of the vent stack 8 then applied in assembled relation to the waste stack as a single unit, after which the connections with the laterally extending pipes 13 and 17 are made. My present construction avoids the relatively complicated castings incorporated as parts of the waste stack heretofore employed for effecting a proper venting of the fixtures.

I have disclosed herein a practical mechanical form of the several novel features of my present disclosure. It will however, be readily understood to those skilled in the art, that these features might also be incorporated in various other alternative structural forms, and I accordingly reserve the privilege of resorting to all such legitimate changes therein as may be fairly embodied within the spirit and scope of the invention as claimed.

I claim:

1. In combination with the waste and

vent stacks of a plumbing system, means for connecting the waste stack with one or more fixtures, and means for venting the fixture or fixtures including a member having a continuously open passage independent of the waste stack extending horizontally across the waste stack and connected at one end with the vent stack, and vent pipe connections between the other end of said passage and the connecting means between the fixtures and the waste stack.

2. In combination with the waste and vent stacks of a plumbing system, means for connecting the waste stack with one or more fixtures, and means for venting the fixture or fixtures including a member having a continuously open passage independent of the waste stack extending horizontally across the waste stack and connected at one end with the vent stack, vent pipe connections between the other end of said passage and the connecting means between the fixtures and the waste stack, and an auxiliary vent pipe connection between said horizontal passage and the waste stack.

3. In combination with the waste and vent stacks of a plumbing system, means for discharging drainage from one or more fixtures into the waste stack, vent pipes connected with said drainage discharge means, means directly connecting certain of said pipes with the vent stack at one side of the latter, and means for connecting vent pipes on relatively opposite sides of the waste stack to said vent stack, said means consisting of an independent unit having a continuously open vent passage connected with the latter vent pipes at one of its ends extending across said waste stack and connected at its other end with the vent sack.

4. In combination with the waste and vent stacks of a plumbing system, means for discharging drainage from one or more fixtures into the waste stack, vent pipes connected with said drainage discharge means, means directly connecting certain of said pipes with the vent stack at one side of the latter, means for connecting vent pipes on relatively opposite sides of the waste stack to said vent stack, said means consisting of an independent unit having a continuously open vent passage connected with the latter vent pipes at one of its ends extending across said waste stack and connected at its other end with the vent stack, and an auxiliary vent pipe connected with said passage adjacent its latter end and extending downwardly therefrom and connected with the waste stack adjacent the point of connection of the drainage discharge means therewith.

5. In combination with the waste and vent stacks of a plumbing system, means for discharging drainage from one or more fixtures into the waste stack, vent pipes connected with said drainage discharge means, means directly connecting certain of said pipes with the vent stack at one side of the latter, and means for connecting vent pipes on relatively opposite sides of the waste stack to said vent stack, said means comprising a hollow annular casting surrounding the waste stack having means at one side for connection with said vent pipes provided at its opposite side between the waste and vent stacks with a laterally projecting chamber in continuously open communication with the interior of said annular casting and connected with said vent stack.

6. In combination with the waste and vent stacks of a plumbing system, means for discharging drainage from one or more fixtures into the waste stack, vent pipes connected with said drainage discharge means, means directly connecting certain of said pipes with the vent stack at one side of the latter, and means for connecting vent pipes on relatively opposite sides of the waste stack to said vent stack, said means comprising a hollow annular casting surrounding the waste stack having means at one side for connection with said vent pipes provided at its opposite side between the waste and vent stacks with a laterally projecting chamber in continuously open communication with the interior of said annular casting and connected with said vent stack, and an auxiliary vent pipe connected at its upper end with said chamber and at its lower end with the waste stack adjacent the point of connection of the drainage discharge means therewith.

In testimony that I claim the foregoing as my invention, I have signed my name hereto.

EDWARD KENNEDY.