

UNITED STATES PATENT OFFICE.

MARK C. HONEYWELL, OF WABASH, INDIANA.

FITTING FOR HOT-WATER HEATING-PIPES.

No. 921,111.

Specification of Letters Patent.

Patented May 11, 1909.

Application filed August 19, 1907. Serial No. 389,166.

To all whom it may concern:

Be it known that I, MARK C. HONEYWELL, a citizen of the United States, residing at Wabash, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Fittings for Hot-Water Heating-Pipes, of which the following is a specification.

In those hot water heating systems in which a plurality of radiators are connected in parallel to a pair of circulating pipes difficulty is experienced in supplying the farthest radiator with its proper proportion of hot water, owing to the fact that it is customary to supply the several radiators from the top or side of the flow main and, as the hottest water travels along the top of the main, the hottest water is always supplied to the nearest radiator.

The object of my present invention is to provide means by which the radiators may be supplied with water taken from the bottoms of the flow main and returned into the bottom of the return main, thus equalizing the circulation, and to this end I have produced a novel and efficient tee fitting which may be used both in the flow and return mains, said fitting being preferably in a form closely resembling an ordinary tee.

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation of a reducing tee embodying my invention; Fig. 2 a side elevation of a straight tee embodying my invention; Fig. 3 a transverse medial section of the tee shown in Fig. 2; Fig. 4 a similar view of the tee shown in Fig. 1; Fig. 5 a perspective view illustrating my improved system, with the inlets and outlets at opposite ends of the radiators, and Fig. 6 a similar view using my improved valve described in Patent No. 853,364.

In the drawings, 10 indicates my improved fitting comprising a main passage 11 equipped at each end with heads 12 adapted to receive mains 13. At one side the main body 10 is provided with a head 14 suitably threaded to receive a tapping pipe 15. Leading from head 14 from the top of main body 10 around its side, is a passage 16 which communicates with the passage 11 through a port 17 which lies close to the bottom of passage 11, practically diametrically opposite head 14.

In Figs. 1 and 4 one end of the tee is fitted

for a smaller main than the other and the smaller opening is arranged with its top in alinement with the top of the larger opening, so that the various sizes of mains will be in line with one another, thus overcoming air pockets at the top of the mains and causing the full area of mains to be occupied by water, thereby permitting the hottest water to have an unobstructed passage throughout the length of the mains.

In use the fittings 10 are arranged in the flow main 20 and in the return main 21 with their heads 14 uppermost. Suitable tapping pipes 22 are then used to connect with the radiators 23 where, as shown in Fig. 5, the piping is of the ordinary kind with the circulation through the radiators from end to end. If desired, the same systems may be used in connection with my improved valve shown in Patent No. 853,364, in which case the arrangement will be as shown in Fig. 6.

In operation it will be found that when the system is being first heated up, the gradually warming water will begin to flow outward through flow main 20 and, because it will lie close to the top of said flow main, it will pass ports 17 of the fittings 10 of the nearest radiators and will proceed to the end of the system. After circulation has been established in the several radiators the cooler water returning from the radiators will pass into the bottom of the return main below any warmer returning water and thus prevent any tendency of that warmer water in the return main from entering the return branches to either retard the flow in the radiators or cause a back circulation short-circuiting the end radiators.

While the fitting which I describe is primarily designed for use in hot water heating systems, it will be readily understood that it may also be used in refrigerating systems in a similar manner but in this case the heads 14, instead of being directed upwardly, should be directed downwardly so that the supply for the coils will be taken from the top of the flow main and returned to the top of the return main, the fundamental theory of the system being that the ports for the tapping passages shall be at a line of minimum temperature efficiency of the circulating medium, i. e., at the coolest point in temperature-raising systems and at the warmest point in temperature-lowering systems.

I claim as my invention:

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A pipe fitting consisting of a main hollow body having pipe-receiving openings of different sizes in its opposite ends, with the smaller opening eccentric to the larger opening, an amount substantially equal to the difference in radii, said main body also having a pipe-receiving portion leading from that side of the fitting toward which the smaller opening of the main body is displaced, and a passage forming a communication between said last-mentioned pipe-receiving portion and the

interior of the main body at a point beyond the axis of the main body.

In witness whereof, I, have hereunto set my hand and seal at Wabash, Indiana, this 15th day of August, A. D. one thousand nine hundred and seven.

MARK C. HONEYWELL. [L. S.]

Witnesses:

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 2 SHEETS—SHEET 1.

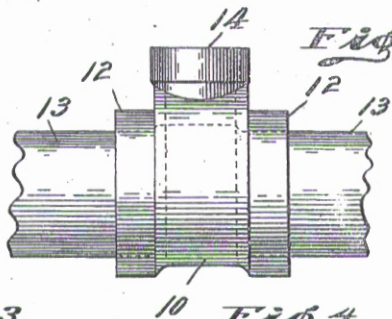
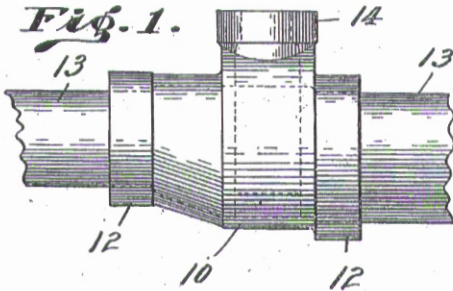
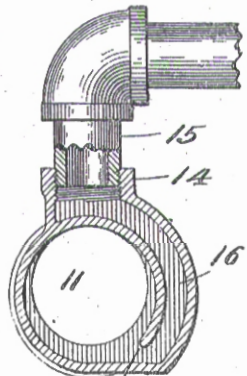
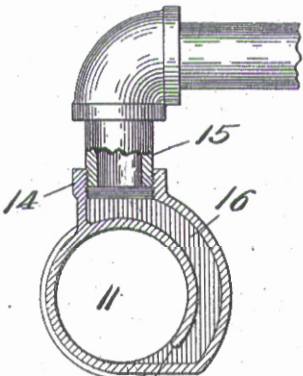


Fig. 3.

Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

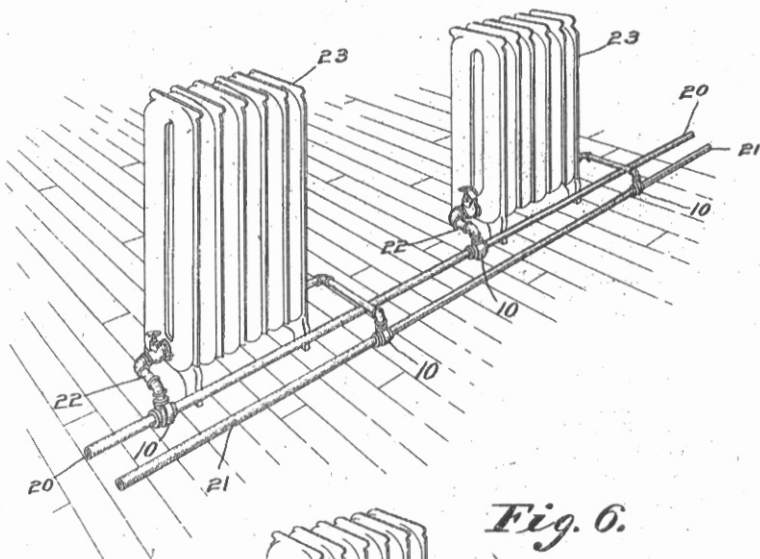
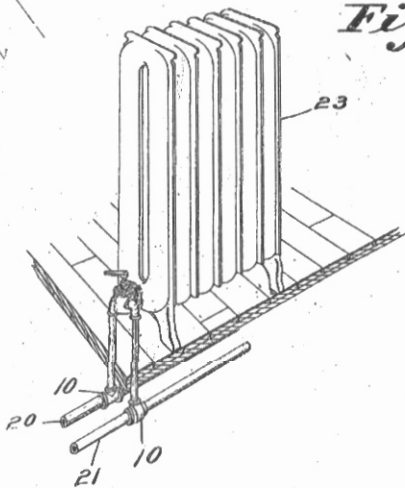


Fig. 6.



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