No. 806,271. PATENTED DEC. 5, 1905.

S. MANNING & W. B. ARMSTRONG.

DEVICE FOR EQUALIZING THE PRESSURE OF FLUIDS.

APPLICATION FILED FEB. 26, 1904.

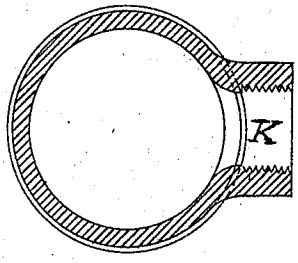


Fig 2
Sec. X—X

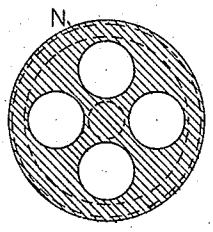


Fig 3
Sec. C—D

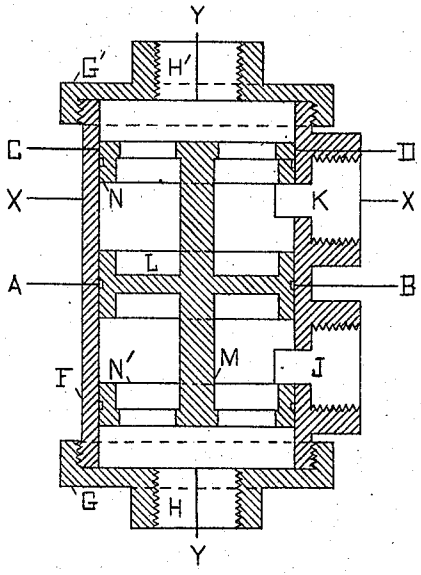


Fig 1

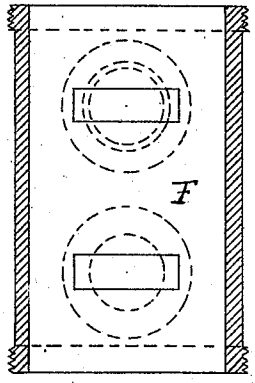


Fig 6
Sec. Y—Y

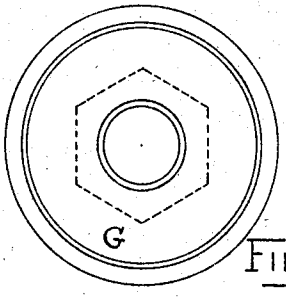


Fig 4

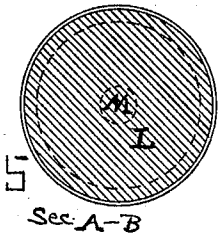


Fig 5
Sec. A—B

Witnesses
Fred. W. Cook.
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DEVICE FOR EQUALIZING THE PRESSURE OF FLUIDS.

No. 806,271. Specification of Letters Patent. Patented Dec. 5, 1905.

Application filed February 26, 1904. Serial No. 195,501.

To all whom it may concern:

Be it known that we, SAMUEL MANNING and WILLIAM B. ARMSTRONG, citizens of the United States of America, and residents of the city and county of Albany, State of New York, have invented certain new and useful Improvements in Devices for Equalizing the Pressure of Fluids, of which the following is a specification.

Our invention relates to equalizing pressure devices; and the object of our invention is to equalize the pressure of the flow of fluid from two pipes conveying fluid from separate sources without mixing the fluid. We accomplish this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a section. Fig. 2 is a section along the lines X X on Fig. 1, said section taken after the piston has been removed. Fig. 3 is a section along the lines C D on Fig. 1. Fig. 4 is an elevation of a cap. Fig. 5 is a section along the lines A B on Fig. 1. Fig. 6 is a section along the lines Y Y of the body of the casting.

Similar letters refer to similar parts throughout the several views.

For the purpose of arranging for the temperature of the water to be supplied for bathing purposes in institutions it is the practice to convey hot and cold water to a so-called "mixer," the temperature of the water being arranged at the source of supply, and when the water is taken from the mixer it passes directly to the person to be bathed. In case any faucets are opened in the pipes leading from the source of supply to the mixer, either of hot water or cold, the water delivered to the mixer will be changed in temperature, sometimes resulting in severe chills being administered to the patient and sometimes painful scalding results.

By our invention we arrange for equalizing the pressure so that no greater pressure of warm water will be admitted to the mixer than of cold, or vice versa.

It is understood that we do not limit the use of our invention to this particular kind of apparatus and cite the use of it in connection with a mixer in the institutions where baths are given simply as an example of the use to which it may be put.

The casting F is provided at its end with screw-threads upon which the caps G G′ may be secured, said caps provided with threaded ports H H′, respectively, the ports H H′ being connected with pipes leading to a water-mixer or other apparatus, as desired. (Not shown.) The casting F also has the ports J K, preferably provided with threaded nipples, the port J conveying the hot water from the pipe meshing with the thread of the nipple, (not shown,) the port K admitting the cold water from the pipe meshing with its threaded nipple. (Not shown.)

Within the casting F we place a piston consisting of an imperforate disk L, secured to the piston-rod M, which piston-rod carries at each end disks N N′, said disks N N′ having openings therethrough, as shown in Fig. 3. The disks N N′ are arranged to reciprocate within the casting and are of sufficient width along the edge to close the ports J and K, respectively. The piston and disks are placed so that when the hot and cold water enter the casting F at the same pressure the ports J and K are wide open and the water passes through, the hot water passing out through the port H and the cold water through the port H′. In case one of the pipes—for instance, the one supplying hot water leading to the port J—should have its pressure reduced by opening of a faucet before reaching the casting F the pressure of the water on the disk L of the piston would be decreased, and therefore the disk N will be moved toward the left and the port K will be throttled, to what extent depending upon the amount the pressure is reduced. The result will be that the pressure of the hot and cold water delivered to the mixer or other apparatus connected with the casting F will be the same. Should one of the pipes leading to the ports J and K be cut off completely, the other port would be completely throttled, and no water would be transmitted through the casting.

What we claim as our invention, and desire to secure by Letters Patent, is—

In a device for equalizing the pressure of fluids; a casting provided with two inlet-ports and two outlet-ports; caps adapted to be secured at the ends of said casting, respectively; a piston-rod in said casting; an imperforate disk secured to said piston-rod, about midway between its ends; perforated disks secured to said piston-rod at each end thereof, respectively; said perforated disks being of sufficient width along the edge to close the inlet-ports, respectively.

Signed at Albany, New York, this 23d day of February, 1904.

SAMUEL MANNING.
WILLIAM B. ARMSTRONG.

Witnesses:
LOTTIE PRIOR,
FREDERICK W. CAMERON.