

No. 611,064.

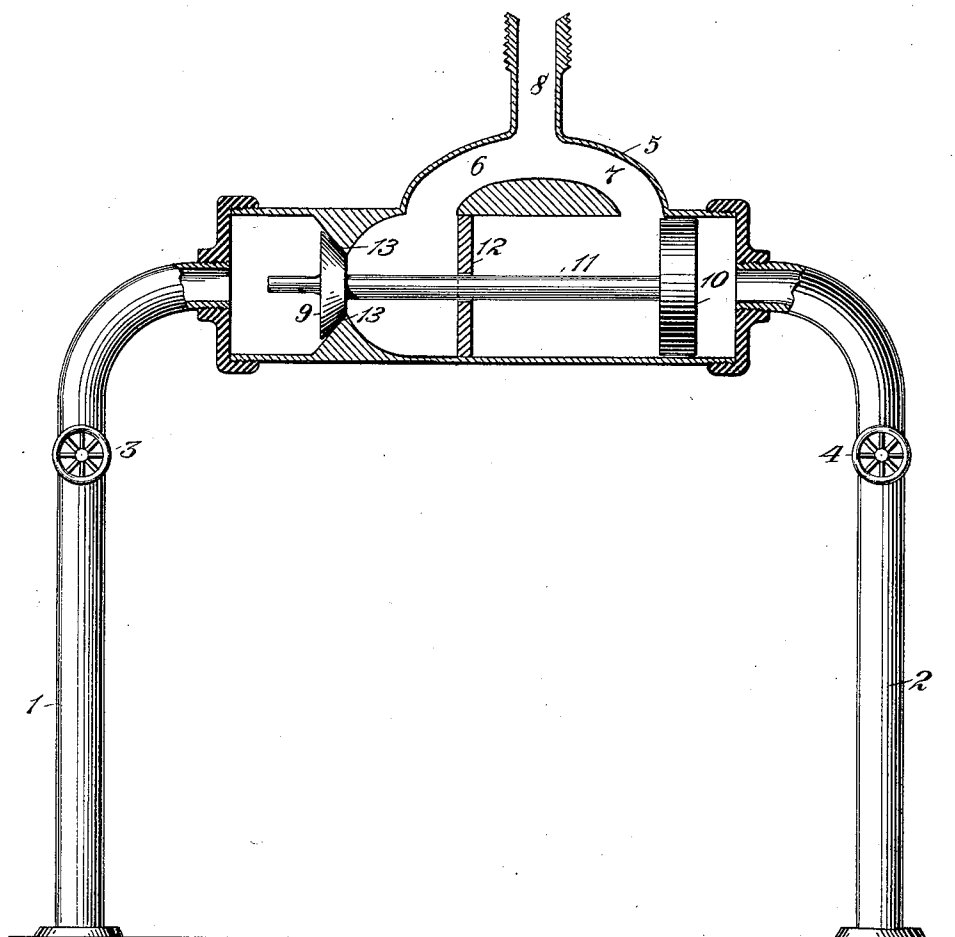
Patented Sept. 20, 1898.

W. DEMAREST & F. J. CUNNINGHAM.

VALVE FOR SHOWER BATHS.

(Application filed Mar. 26, 1898.)

(No Model.)



WITNESSES:
Edward L. Crawford.
F. W. Brückel

INVENTORS
William Demarest, et al.
Frank J. Cunningham,
BY
Francis P. Reilly,
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM DEMAREST AND FRANK J. CUNNINGHAM, OF NEW YORK, N. Y.

VALVE FOR SHOWER-BATHS.

SPECIFICATION forming part of Letters Patent No. 611,064, dated September 20, 1898.

Application filed March 26, 1898. Serial No. 676,221. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM DEMAREST and FRANK J. CUNNINGHAM, of the borough of Manhattan, in the city, county, and State of New York, have invented a new and useful Valve for Shower-Baths, which invention is fully set forth and illustrated in the following specification and accompanying drawing.

The object of this invention is to provide a valve for use in connection with shower-baths which will deliver hot and cold water in the desired quantity and will automatically cut off the supply of hot water from the bath in case the supply of cold water should be shut off by some one other than the person using the bath.

In shower-baths as heretofore constructed great inconvenience and danger to the person using the bath have frequently arisen by the shutting off from the bath of the supply of cold water by some person in another part of the building in ignorance of the fact that the bath was being used, the result being that the supply of cold water ceases and the supply of hot water continues and scalds the user of the bath. This disadvantage is entirely obviated by our invention, which will first be described in detail and then set forth in the claims.

The accompanying drawing shows in elevation an arrangement of pipes for a shower-bath provided with the automatic valve embodying our invention, the valve being shown in section.

In said drawing, 1 indicates the pipe for supplying hot water to the bath, and 2 indicates a similar pipe for supplying cold water, said pipes being respectively provided with suitable hand-operated valves 3 4, adapted to be opened and closed by the user of the bath. The pipes 1 2 lead into a valve casing or chamber 5, provided with ports 6 7, leading to an exit-pipe 8, to which exit-pipe the usual shower attachment may be connected. Arranged within the casing 5 is a differential valve composed of two pistons or valves 9 10, connected by a rod or stem 11, any suitable guide, such as 12, being provided for said rod. The hot-water valve or piston 9 is, it will be observed, of considerably less area than the area of the cold-water valve or piston 10. The latter may be made, if desired, the same diameter

as the diameter of the cylindrical portion of the casing 5, and any suitable seat, such as 13, may be provided for the smaller valve 9.

The operation of the valve is as follows: If the cocks or valves 3 4 in the hot and cold water pipes 1 2 be opened by the person desiring to use the bath, the pressure of the cold water upon the valve or piston 10 of larger area will overcome the pressure of the hot water upon the smaller valve 9, and both of said valves (connected by the stem 11) will be forced toward the left. The hot and cold water is thus free to enter the casing 5 and to be discharged through the ports 6 7 and exit-pipe 8 upon the person in the bath, the temperature of the water being regulated by the supply-valves 3 4. If now while the bath is in use the supply of cold water should be cut off from the pipe 2 by some one in another part of the building, the pressure upon the large valve 10 is thereby withdrawn, and as a result the pressure of the hot water from the pipe 1 upon the smaller valve 9 will force the latter toward the right and into its seat 13, thereby shutting off the hot water from the bath and restoring the parts to the positions shown in the drawing. Thus by this automatic action of the valves 9 10 is avoided the serious injury which might result to the user of the bath were the supply of hot water to continue after the shutting off of the supply of cold water.

It is evident that, if desired, instead of using hot water in the pipe 1 steam could be supplied to the bath through said pipe, the respective areas of the valves 9 10 being regulated as practice might dictate, and it is also evident that the form and arrangement of the several parts could be modified without departing from our invention.

Having thus fully described our invention, we claim—

1. In a shower-bath apparatus, the combination of supply-pipes; a discharge-pipe; a valve chamber, or casing, between said supply and discharge pipes; and a differential valve within said casing, constructed and arranged so as to shut off, automatically, the supply of hot water, or steam, upon the cutting off of the supply of cold water.

2. In a shower-bath apparatus, the combination of supply-pipes; a discharge-pipe; a

valve chamber or casing, between said supply and discharge pipes; and a differential valve within said casing, composed of two pistons or valves of unequal areas, the valve
5 of larger area being opposed to the pressure of the cold water; for the purposes set forth.

3. In a shower-bath apparatus, the combination of a hot-water, or steam, supply pipe, as 1; a cold-water-supply pipe, as 2; a valve
10 casing or chamber, as 5, provided with exit-

ports, as 6, 7; a discharge-pipe, as 8; and a valve within said chamber, composed of a small valve or piston, as 9, and a larger valve or piston, as 10, connected by a stem or rod, as 11; for the purposes set forth.

WILLIAM DEMAREST.

FRANK J. CUNNINGHAM.

Witnesses:

CHARLES S. LENDER,
GEO. C. GOELLER.