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TAP FOR WASHSTANDS FOR COLD AND HOT WATER AND FOR MIXING THEM

Filed July 30, 1926

Fig. 1.

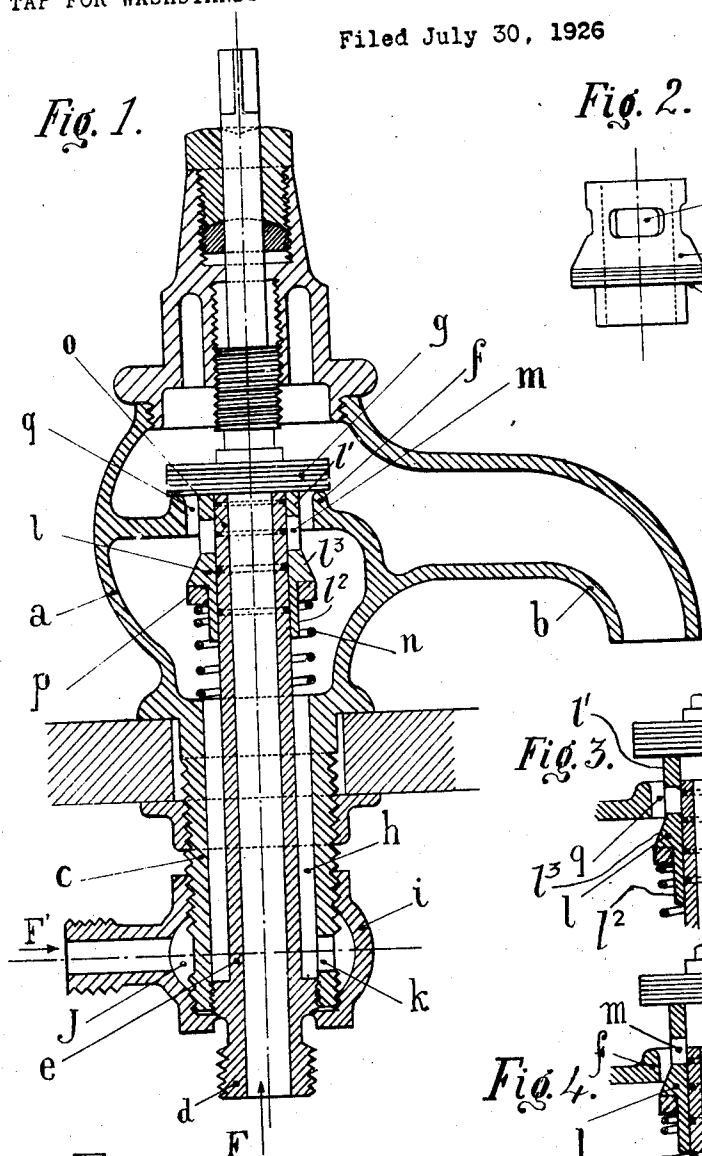


Fig. 2.

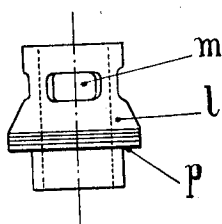


Fig. 3.

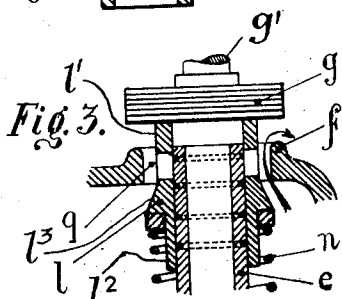


Fig. 4.

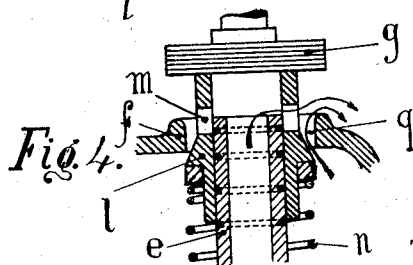


Fig. 5.

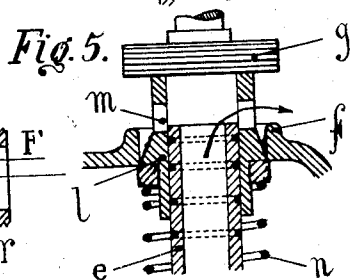
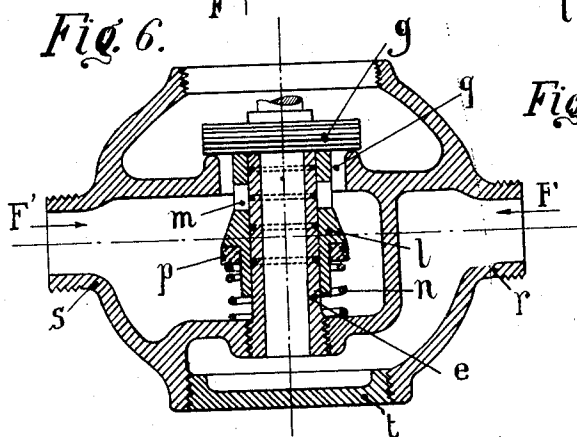


Fig. 6.



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TAP FOR WASHSTANDS FOR COLD AND HOT WATER AND FOR MIXING THEM

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The present invention refers to taps for wash-stands furnishing cold and hot water or any mixture of them. This tap, presenting itself in the form of an ordinary tap for wash-stands, is especially arranged to distribute cold or hot water or a mixture of them of a mathematically exact temperature and to replace the two generally used cocks for cold and hot water by a single one.

Among other applications this tap can be placed in one of the holes provided in all patterns of hand-basins, of porcelain, of general use.

This tap presents also the advantage of avoiding, due to its distribution of water at a predetermined temperature, the wasting of hot water.

The drawings appended illustrate one executive mode of this tap.

On the drawings:

Figure 1 is a vertical axial section through this tap;

Figure 2 shows a sleeve for the distribution of water;

Figures 3, 4 and 5 show the different phases of working, and

Figure 6 represents a somewhat different arrangement of the inner parts of the cock.

The tap is similar in appearance to ordinary wash-stand taps, comprising a body having a discharging spout *b* and a threaded shank *c* for attachment of the tap to the basin and for its connection with piping.

Hot water arrives, as indicated by the arrow *F* through the nozzle *d* of a central tube *e* screwed concentrically in the interior of the shank of the tap.

When mounting the cock, care should be taken to place the upper edge of this tube at the same level as the ordinary seat *f*, appertaining to taps of this kind in order to form, in this manner, two seats concentrically disposed with regard to each other.

A valve *g*, integral with a screw-threaded stem *g'* mounted on the head of the tap, may be actuated for opening and closing the water passage.

Cold water enters the annular space *h* situated between the exterior of the central tube and the inner surface of the shank of the

tap, a union *i*, of special form, being provided for this purpose; cold water entering the same as indicated by the arrow *F'*. An annular space *j* is provided in this union and permits the passage of water through the aperture *k* provided in the shank of the tap in every position of the piece.

In order to regulate the distribution of cold or hot water or of a mixture of them at any predetermined temperature, a sleeve *l* of special form is provided, having two cylindrical parts *l'*, *l''* connected by a conical part *l'''* and sliding freely on the outer surface of a centrally disposed tube *e*. Openings *m* are provided in this sleeve in order to permit the passage of hot water through its annular wall.

This sleeve is placed on a spiral spring *n* and compresses the latter during its downward stroke, the sleeve being pushed by the valve *g* if the tap is being closed; the sleeve reascending with the valve, being pushed by the spring, in order to distribute more or less hot water.

In order to prevent, during the distribution of hot water alone, (Fig. 5), cold water passing between the sleeve and the central tube, a series of packing rings *o* are provided on the latter, the sleeve itself having, in its lower part, a washer of plastic substance *p* of a diameter slightly greater than the annular aperture *q* for the purpose of preventing a mission of cold water during the distribution of hot water alone.

The central tube *e* on which the sleeve is slidable, permits an easy adjustment of the sleeve with great exactness, previous to inserting the tube in place in the tap, which exactness is absolutely absent in a tap cast in one piece.

The working of the tap is as follows:

On lifting the valve *g*, when the screw *g'* is operated the sleeve *l*, pushed by the spring *n*, ascends with it and cold water, passing into the annular space *q* is discharged alone, at the upper part of the sleeve and the valve at the head of the central tube preventing the discharge of hot water (see Fig. 3).

On continuing the movement, the orifices *m*, provided in the sleeve, are uncovered

(Fig. 4) and hot water is permitted to flow out, whereby a mixture of cold and hot water of a suitable temperature is obtained.

This temperature increases in proportion as the sleeve ascends along the central tube, the conical part of this sleeve diminishing progressively the passage of cold water until the disc *p* closes completely on its seat in order to permit discharge of hot water alone (Fig. 5).

According to a modified form of the tap as shown in Figure 6, the body of the tap itself presents two nozzles, the nozzle *r* for admission of hot water, and the nozzle *s* for admission of cold water, these nozzles being preferably disposed horizontally in a plane perpendicular to one of the discharging nozzles *b* and directed in opposite directions.

The nozzle *r* communicates with the central tube *e* while the nozzle *s* communicates with the annular passage *q*. A stopper *t* disposed in the lower part of the body, permits access to the interior of the part *s*.

The working of the tap is the same as in the construction first described; the distribution of water being effected by the sleeve *l*.

Furthermore, the mounting of the tap can be effected without any difficulty, and all its parts are accessible and easily replaceable when worn.

The working of the apparatus is very effective, it being understood that by the simple displacement of the movable sleeve, hot and cold water are mixed in a well determined proportion at a suitable temperature.

It is obvious that the described and represented devices permit their application to all kinds of taps or cocks and for all usages, in a very advantageous manner, the application of this tap to a wash-stand being given here as one example only of one of its possible uses.

What I claim is:

1. In a tap for cold and hot water and for mixing them, a central conduit in the body of the tap, for admission of hot water, a concentric and separate conduit within said central conduit, for admission of cold water, a sleeve movable on said inner conduit in an annular space between said conduits, a spring to push this bush upwardly, a valve to close said annular space, apertures in said sleeve to establish communication between the interior of the inner conduit and the discharging nozzle in the raised position of the valve and of the sleeve and shoulders on said sleeve to close the said annular space when said sleeve is in its position to permit discharge of hot water alone.

2. In a tap for cold and hot water and for mixing them, a central conduit for cold water, a conduit for hot water separate therefrom and concentric with the same so that an annular space is formed therebetween, a sleeve movable on the inner conduit and

having apertures and also having a conical portion to progressively close said annular space as said sleeve ascends, a valve to close said annular space from above, manually operable means to actuate said valve and a spring to move the sleeve upward.

3. In a tap for hot and cold water and for mixing them, an inner conduit for hot water, a concentric conduit for cold water, a valve, an annular space between said conduits, a sleeve on said inner conduit, a spring to move said sleeve with said valve, tightening means between said sleeve and said inner conduit, means on said sleeve to close said annular space, apertures in said sleeve to establish communication between said sleeve, the inner conduit and the discharge in the highest position of the sleeve, a horizontal annular chamber for admission of cold water and means to effect admission of water from said chamber to the outer central conduit in any position of the chamber.

4. A tap for hot and cold water comprising a body having a tubular portion, a hot water inlet tube threaded in the lower end of said tubular portion of the body and of less diameter than said tubular portion so that an annular space for the passage of cold water is formed therebetween, a cold water inlet union secured to the inlet end of said tubular portion of the body and establishing communication with the annular space therein, the said body having a partition provided with an opening through which the upper end of said hot water tube extends, a valve to close downwardly on said partition and on the upper end of said hot water tube, a sleeve fitted snugly on said hot water tube, movable vertically thereon and having openings near its upper end and also having a conical portion to progressively close the opening in the partition as said sleeve ascends and a spring to move said sleeve upwardly.

In witness whereof I affix my signature.

JULIEN ALBERT LEMETAIS.