

PATENTED SEPT. 6, 1904.

J. D. CALDWELL.
SHOWER BATH APPARATUS.
APPLICATION FILED JAN. 12, 1901.

NO MODEL.

Fig. 1.

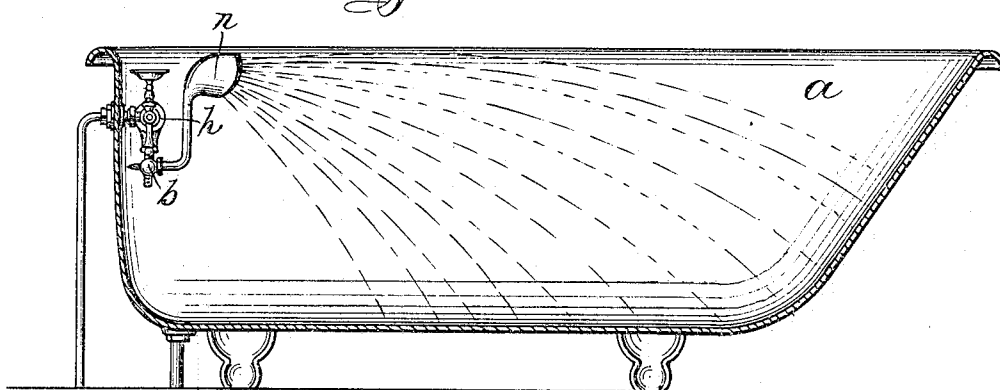


Fig. 2.

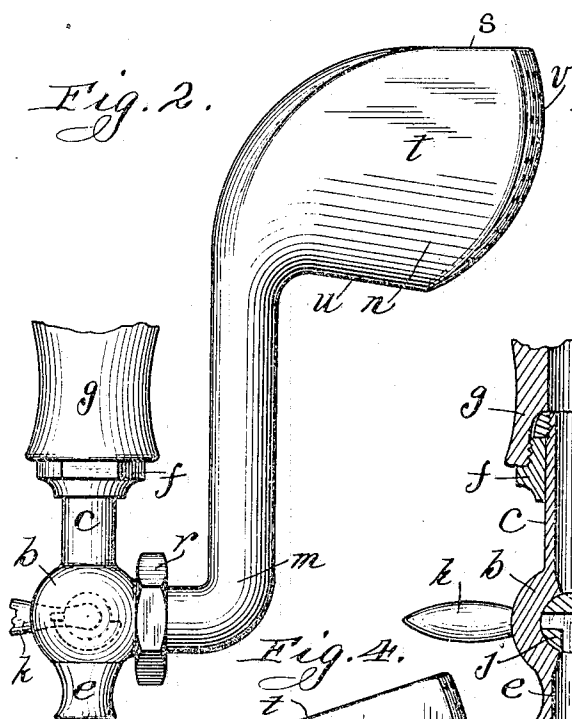


Fig. 3.

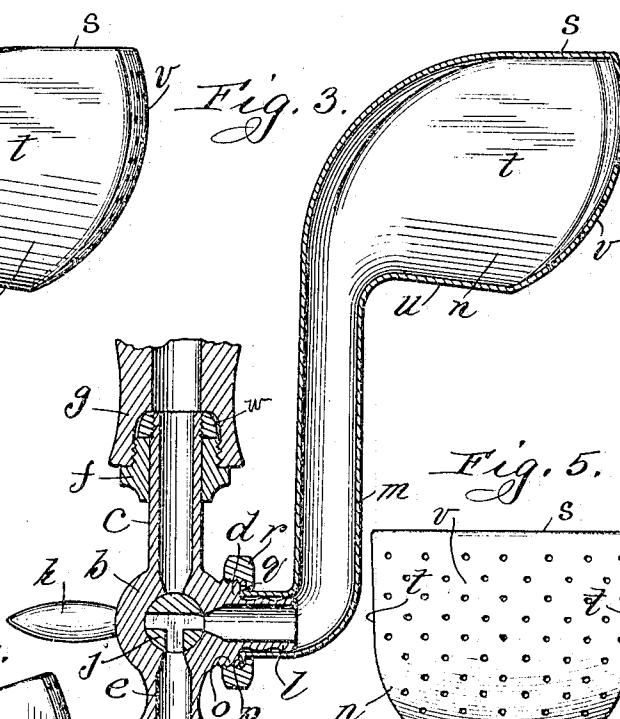


Fig. 5.

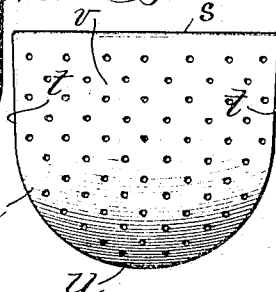
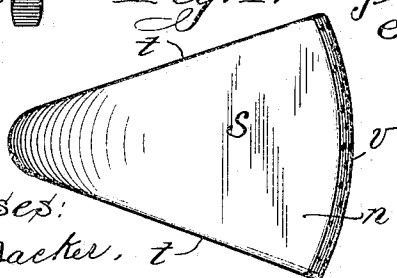


Fig. 4.



Witnesses:

R. J. Jacker, &
Hattie O Halvorson.

Inventor:

John H. Caldwell.

By Cohen, Hibben & McElroy,
Attys.

UNITED STATES PATENT OFFICE.

JOHN D. CALDWELL, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF
TO ALISON E. MOSIER, OF CHICAGO, ILLINOIS.

SHOWER-BATH APPARATUS.

SPECIFICATION forming part of Letters Patent No. 769,429, dated September 6, 1904.

Application filed January 12, 1901. Serial No. 43,056. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. CALDWELL, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shower-Bath Apparatus, of which the following is a specification.

My invention relates to a novel shower-bath apparatus designed to be secured within an ordinary bath-tub in position where it is always ready for use by merely turning on the water and which does not in any way interfere with the normal use of the tub.

My invention is further concerned with a specific form of a shower-bath nozzle which when properly located within the tub will spray substantially the entire interior thereof without any possibility of throwing the water outside of the tub.

Referring now to the accompanying sheet of drawings, in which the same reference characters are used to designate identical parts in all the figures, Figure 1 is a longitudinal section through a bath-tub, showing the apparatus secured therein. Fig. 2 is a side elevation of the apparatus. Fig. 3 is a central section through the apparatus. Fig. 4 is a plan view of the nozzle, and Fig. 5 is a front elevation of the same.

My invention is adapted to be secured to any bath-tub *a* and has the substantially spherical valve-body *b*, provided with the tubular arms *c*, *d*, and *e*, projecting upwardly, outwardly, and downwardly, respectively. The upwardly-projecting arm *c* is adapted to be secured by any suitable connections, as the nut *f* shown, to the discharge end *g* of the mixer *h*, so as to form a water-tight joint. In order to permit of the valve being secured to any of the different-sized mixers, which have different-sized seats, I preferably make the tip *w* of the arm *c* removable by screwing it on, as clearly shown in Fig. 3, so that by supplying as many small tips *w* as there are standard sizes of mixers the apparatus can be secured to any bath-tub. The downwardly-projecting arm *e* serves as a nozzle for discharging the water directly into the bath-tub when the three-way cock *j*, located in the valve-body *b*, is set for that purpose with its handle *k* projecting upward.

The outwardly and forwardly projecting arm *d* serves as a passage-way to discharge the water into the shower-nozzle when the cock *j* is set with the handle *k* projecting horizontally forward. From Fig. 3 it will be apparent that when the handle *k* projects horizontally and rearwardly the water is shut off from both discharge-nozzles. The arm *d* is preferably provided with the corrugated nozzle *l*, upon which a rubber tube may be secured, if desired for any purpose, and for securing the stem *m* of the nozzle *n* thereto has the screw-threaded portion *o*, terminating in a shoulder *p*, against which the flange *q*, terminating the stem *m*, is adapted to be clamped by a shoulder on the nut *r*, coöperating with the screw-threaded portion *o* to form the water-tight joint.

The mode of operation of the valve will be readily apparent. If it is desired to use the tub in the ordinary manner, the cock *j* may be left open with its handle *k* in a vertical position and the flow of the water be controlled by the hot and cold water cocks without using the cock *j*, or the hot and cold water may be left in any desired arrangement to secure any desired mixture and the water shut on or off by the cock *j*. When the shower is to be used, the cock *j* is turned with its handle *k* in a vertical position, and the temperature of the water is regulated by hot and cold cocks. When the desired temperature is obtained, the handle *k* of the cock *j* is moved along until it is projecting forward, when the water will be discharged from the nozzle *n* upon the occupant of the tub.

As will be seen, the stem *m* extends vertically upward, so as to bring the nozzle *n* to substantially the top of the tub, and it then flares to form the body of the nozzle. The top *s* is substantially flat except for the curve necessitated by changing the direction of the movement of the water therein from vertical to horizontal. The diverging sides *t* are vertical at the top, but are curved toward each other at the bottom to form the convex bottom portion *u*. The perforated face *v* of the nozzle is substantially vertical at the top, but curves rapidly to the rear as it extends down-

ward, so that while substantially horizontal jets spray from the top the curvature is such as to direct the lowest jets downward, and the intermediate jets cover substantially the entire interior of the tub. The face *v* is also slightly convex on a horizontal line across it, so that the jets will diverge sufficiently to fill the width of the interior of the tub. The action of the nozzle will be readily apparent.

10 The water rising in the stem *m* will strike with its greatest force at the top of the face *v*, so that the top jets, which have to travel the greatest distance, will have the greatest velocity. The lowest jets being out of the

15 direct line of movement of the water will have sufficient force to spray the portions they strike thoroughly, although not having the velocity of the upper ones.

While I have shown my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications and that I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

30 1. As a new article of manufacture, a shower-nozzle provided with connections for rigidly securing it to the mixer or discharge-pipe of a bath-tub in such a position that it is adapted to throw horizontal sprays along the top of the tub and slanting sprays throughout the

35 body of the tub, and having the gradually-flaring sides and the perforated face curved

downwardly and rearwardly and to the sides, substantially as and for the purpose described.

2. As a new article of manufacture, a shower-nozzle adapted to throw horizontal sprays 40 along the top of the tub and slanting sprays throughout the body thereof, and having the top *s* flat at its front and curved downward to the rear, the gradually-flaring sides *t*, the curved bottom *u*, and the perforated plate 45 curved downwardly and rearwardly from the top to the sides, substantially as described.

3. As a new article of manufacture a combined plain nozzle and a shower-nozzle provided with connections for rigidly securing it 50 to the mixer and discharge-pipe of a bath-tub in such a position that it is adapted to throw a plain stream into the tub or to throw horizontal shower-sprays along the top of the tub and slanting shower-sprays through the body 55 of the tub, the shower-nozzle having the gradually-flaring sides and the perforated face curved downwardly and rearwardly and to the sides, substantially as and for the purpose described. 60

4. As a new article of manufacture, a shower-nozzle adapted to throw horizontal sprays along the top of a bath-tub and slanting sprays throughout the body thereof, and having the perforated nozzle-plate curved downwardly 65 and rearwardly from its top to its bottom and rearwardly from the center to the sides; substantially as described.

JOHN D. CALDWELL.

Witnesses:

J. H. McELROY,

HATTIE O. HALVORSON.