J. J. LAWLER.

SHOWER BATH HEAD.

APPLICATION FILED FEB. 20, 1917.

1,290,249. Patented Jan. 7, 1919.

Fig. 1.

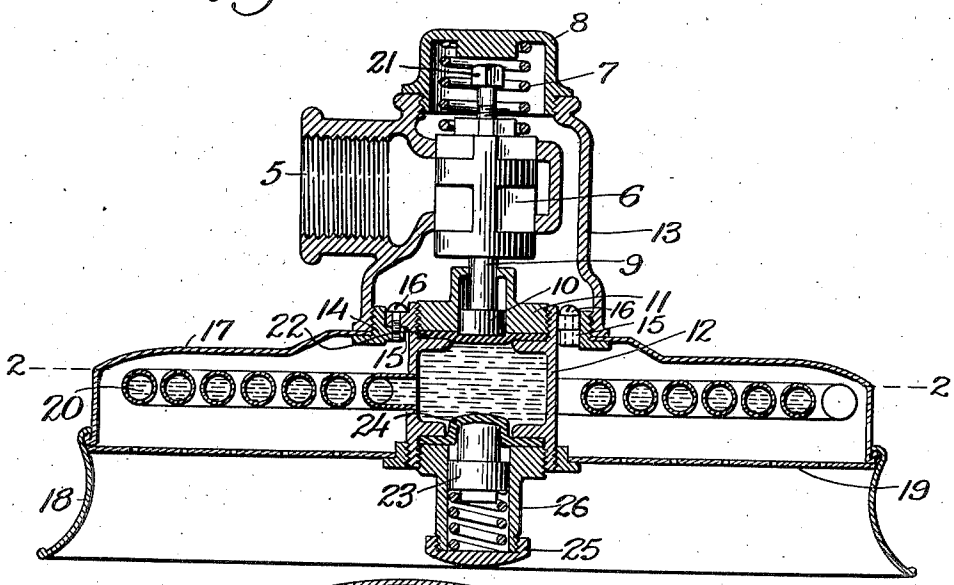


Fig. 2.

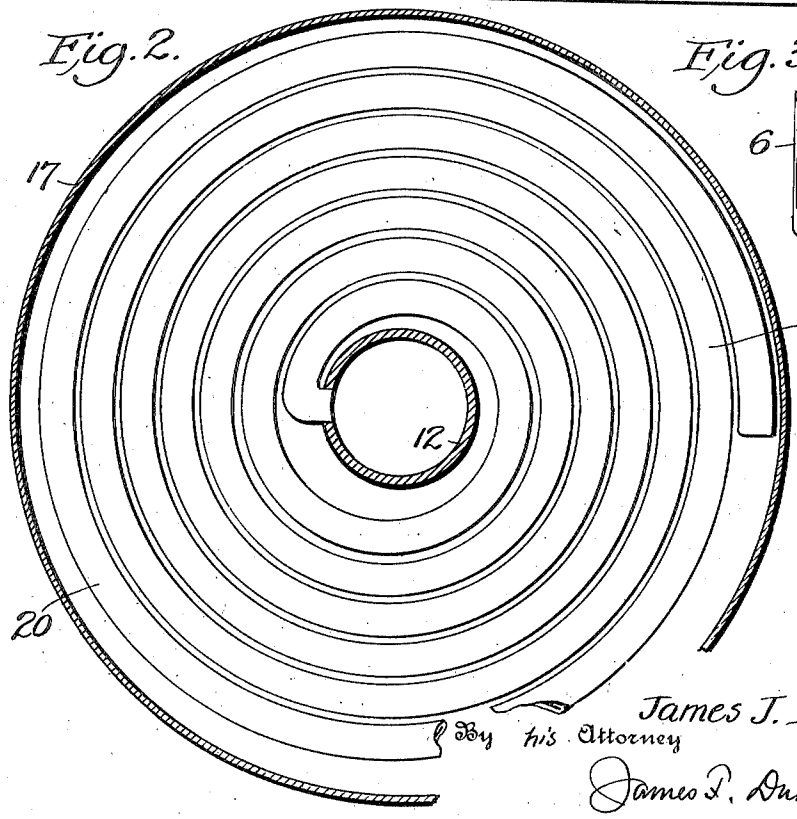
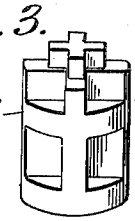


Fig. 3.



Inventor,

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JAMES J. LAWLER, OF PELHAM, NEW YORK.

SHOWER-BATH HEAD.

1,290,249. Specification of Letters Patent. Patented Jan. 7, 1919.

Application filed February 20, 1917. Serial No. 149,790.

To all whom it may concern:

Be it known that I, JAMES J. LAWLER, a citizen of the United States, and resident of Pelham, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Shower-Bath Heads, of which the following is a specification.

This invention relates to shower baths and more especially to heads for the same which are adapted to receive and discharge hot and cold water and are provided with a valve closed thermostatically when water of a certain heat enters the head, the object of the invention being to prevent the bather from being scalded by accidental or injudicious use of the hot water when opening the cock supplying the same to the head. The valve under these circumstances is instantly closed automatically as long as the hot water cock is open.

These and other details and objects of the invention are more fully described in the following specification, set forth in the claims, and illustrated in the accompanying drawings, wherein:

Figure 1 is a vertical sectional view through the head.

Fig. 2 is a horizontal sectional view on the line 2—2.

Fig. 3 is a perspective view of the valve.

To relieve the bather of the danger of scalding water a shower both head of the usual construction is provided with the water inlet 5 which is coupled to both the hot and cold water systems of a house and the usual cocks are employed to control the water to the head. An equalized valve 6 controls the entrance of the water to the head and is normally open, being pressed downward by a spring 7 within a cap 8 and supported at the end of a plunger 9 whose head 10 plays within the cap 11 of a cylinder 12 carried at the lower end of the valve casing 13 and connected with the same by means of a ring 14. From the inside of the ring and the outside of the cylinder extend the arms 15 which are bolted together by the screws 16 and between the lower edge of the casing and a flange of the ring is secured the upper edge of a bell 17 with flaring lower edge 18 and divided horizontally by means of a perforated diaphragm 19 for the discharge of the water as a shower.

When the water is permitted to enter the head it freely passes down and out of the perforations after flowing over a spiral coil 20 of thin metal tubing communicating with the interior of the cylinder 12 and closed at its outer end. The upper end of the cylinder is provided with a flexible diaphragm 22 supporting the plunger head 10 and the cylinder and coil are filled with a fluid, preferably of a volatile and quick expanding nature. While cool or luke warm water flows over the coil and out of the perforated diaphragm no action results therefrom but when water of a higher temperature reaches the coil its contents expand and force the plug 6 upward into the position shown and closes the inlet.

The valve remains closed until the coil and its contents cool and until the flow of hot water is reduced or the cold water increases.

While a coil of a thin heat conducting metal is necessary for immediate action, the expansion of the liquid therein frequently exerts too great a force and moves the plunger 9 and valve plug 6 so far upward as to again open the valve and for this reason a stop 21 is adjusted in the end of the valve plug to impinge the cap 8 and limit its movement.

In the bottom of the cylinder 12 is a second plunger 23 adapted to yield and be forced downward to provide for an undue pressure of the liquid and to relieve the plunger 9. This second plunger is covered by a flexible cap 24 and supported by a coil spring whose tension may be adjusted by the cap 25 at the lower end of the container 26.

The valve is originally set to allow the passage of water of a certain temperature and when placed at the end of a supply pipe needs no further adjustment.

While the plunger and flexible cap in the lower end of the cylinder 12 are not absolutely necessary to the operation of the valve it is obvious that the parts may be otherwise arranged or modified without departing from the essential features above described or from the scope of the appended claims.

What I claim as new is:

1. In a shower bath head, the combination of a head having an inlet and an outlet, a container for an expansive fluid within the head and between the inlet and the outlet, a coil of pipe about the container and communicating with its interior, a valve at

the inlet, and a stem on the valve and actuated by the fluid in the container.

2. In a shower bath head, the combination of a head through which water is adapted to pass, a container for an expansive fluid within the head, a pipe communicating with and coiled about the container, a plunger at the end of the container, a valve to control the entrance of the water and at the outer end of the plunger, and means for exerting a pressure on the fluid in the container.

3. In a shower bath head, the combination of an inlet pipe, a perforated plate forming the outlet, a valve seat at the inlet pipe, a valve adapted to play in the same, a spring operating on the valve, a container for an expansive fluid, a plunger beneath the valve and playing in the container, a compression plunger for the container, a coil of pipe about the container and communicating with the same, and means for adjusting the compression plunger.

Signed at New York in the county of New York and State of New York this 13th day of February, A. D. 1917.

JAMES J. LAWLER.