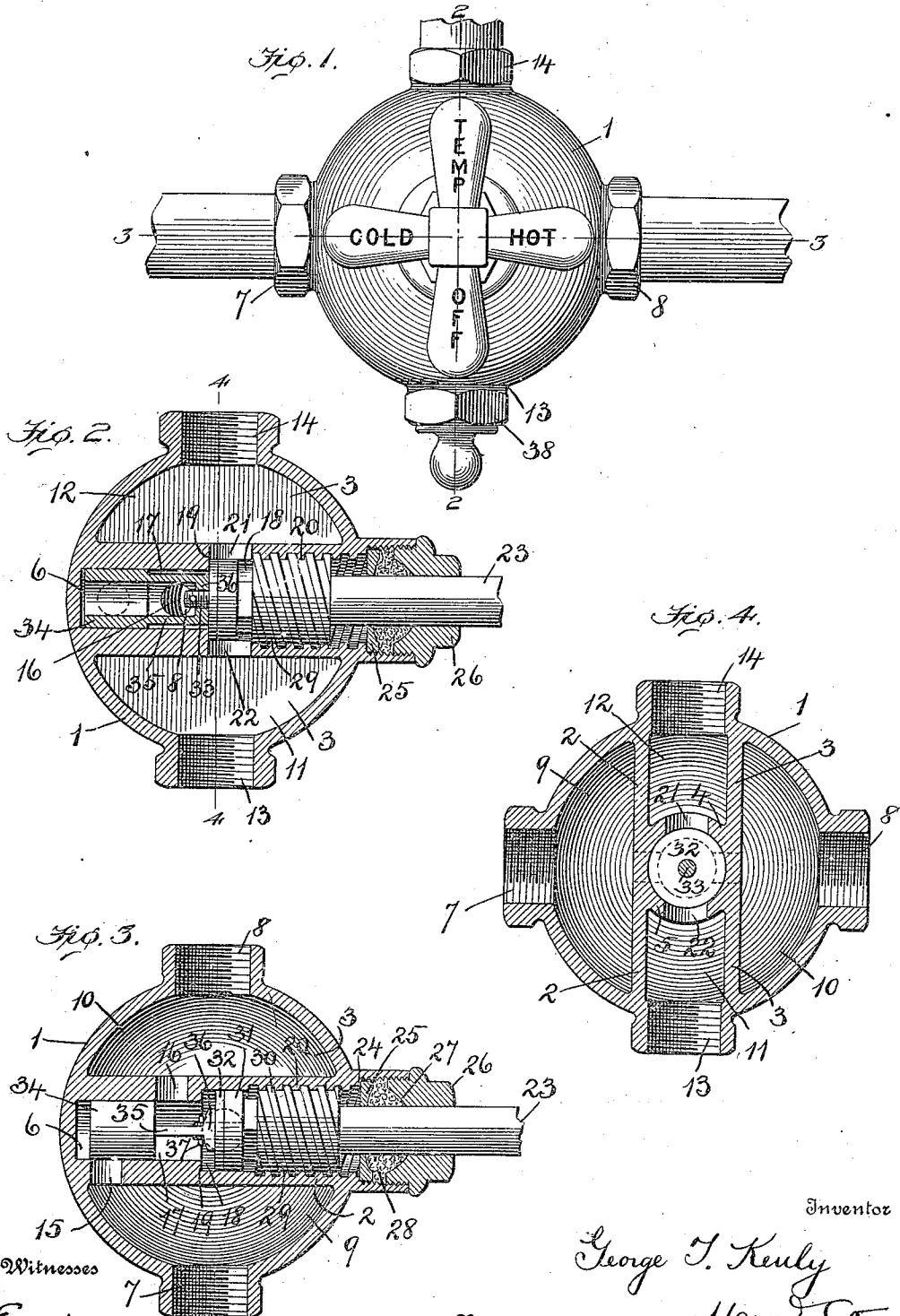


G. T. KENLY.
SHOWER VALVE FOR BATH APPARATUS.
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Witnesses
Edwin L. Bradford.
J. Ferdinand Vogt.

Inventor
George T. Kenly
Mann & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE T. KENLY, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE PLUMBING
SPECIALTY COMPANY, A CORPORATION OF DELAWARE.

SHOWER-VALVE FOR BATH APPARATUS.

961,723.

Specification of Letters Patent. Patented June 14, 1910.

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To all whom it may concern:

Be it known that I, GEORGE T. KENLY, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Shower-Valves for Bath Apparatus, of which the following is a specification.

This invention relates to improvements in combination valves for shower bath apparatus and has for its object to provide a valve of improved construction whereby cold, hot or temperate water may be discharged by the manipulation of a single stem.

The device is especially adapted for use in connection with shower apparatus although it may readily be used for bath tubs and other purposes where valves of this character are employed.

The invention is illustrated in the accompanying drawing, in which,—

Figure 1, is a front elevation of the valve. Fig. 2, a vertical cross-section of the same,—the section being taken on the line 2—2 of Fig. 1. Fig. 3, a horizontal cross-section through the valve,—this section being taken on the line 3—3 of Fig. 1, and Fig. 4, is a vertical cross-section taken at right angles to the section shown in Fig. 2 and on the line 4—4 of said Fig. 2.

Referring to the drawing the numeral, 1, designates a circular shell or casing having spaced-apart vertical partitions, 2, and, 3, therein and cross-partitions, 4, and, 5, connecting said vertical partitions whereby to form a central valve-chamber, 6. This central valve chamber, 6, is circular in form and extends horizontally from one side of the shell to the other. The shell is provided at opposite sides of the partitions with threaded inlet ports, 7, and, 8, which open respectively into chambers, 9, and, 10. Between the vertical partitions the shell is provided with a lower and an upper chamber, 11, and, 12, which are in communication with outlet or discharge ports, 13, and, 14.

A port, 15, is provided in the partition, 2, for the purpose of establishing communication between the chamber, 9, and the inner end of the valve-chamber, 6, while a similar port, 16, is provided in the partition, 3, so that when desired communication between chamber, 10, and said valve-chamber may be established. The central valve-chamber

comprises an inner bore, 17, of a comparatively small diameter into which the ports, 15, and, 16, open and an outer bore, 18, of a larger diameter, thereby forming a valve seat, 19, between the two. The outer larger bore is provided with an interior square thread, 20, and between the inner end of said thread and the valve seat, 19, the cross-partitions, 4, and, 5, are provided with ports, 21, and, 22. The port, 21, opens into the upper chamber, 12, while the port, 22, opens into the lower chamber, 13, between the partitions, 2, and, 3.

By reference to Figs. 3 and 4 it will be seen that the ports, 15, and, 16, which open from the chambers, 9, and, 10, respectively into the smaller bore of the valve chamber, are in the same horizontal plane but have position in different vertical planes. The valves are attached at the inner end of a horizontal stem, 23, which latter passes through a circular boss at the outer side of the shell, 1, and directly outside of the larger threaded bore, 18. The interior diameter of this boss is slightly larger than the diameter of the threaded bore so as to form a circular seat or shoulder, 24, between the two against which a circular disk, 25, may seat. A perforated nut, 26, is screwed into the boss and has a concave inner side, 27, which serves to compress a filling of packing material, 28, around the stem and thereby make a tight joint to prevent leakage of water. The inner end of the horizontal stem, 23, is provided with a circular head, 29, having exterior circumferential square threads 30, which engage the threads, 20, of the outer bore. A circular valve, 31, is attached in any suitable manner to the inner end of the threaded head, 29, and travels horizontally with the said head and stem as the latter are advanced by the threads, 20, and, 30. The inner side of the valve, 31, is provided with a washer, 32, which may fit close against the seat, 19, and cut off communication between the inner and outer horizontal bores. The valve, 31, thus serves to prevent the passage of water from the port, 16, in the smaller bore into the larger bore and out through the ports, 21, and, 22, at such times when said valve is seated. A stem, 33, projects at the inner side of the washer, 32, and an inner valve is loosely attached to said stem and extends horizontally through the smaller horizontal bore.

This inner valve comprises a cylinder end portion, 34, which snugly fits the smooth inner bore and two arms, 35, extend forwardly from opposite sides of said cylindrical end portion and are connected at their outer ends by a perforated cross bar, 36, which receives the stem. A pin, 37, which extends through the stem secures the latter and valve together. The length of this cylindrical end portion, 34, of the inner valve is such that when its outer end is at the inner edge of the port, 16, so as to fully uncover the latter, its inner end will fully cover the port, 15. So also when the outer end fully covers port, 16, the inner end will fully uncover port, 15. By means of this construction it will be readily understood that by turning the stem, 23, the valve, 31, may be made to unseat and to also uncover the ports, 21, and, 22, so that water may pass through inlet, 8; chamber, 10; bore, 17; bore, 18, and out through ports, 21, or, 22, to chambers, 11, or, 12. Further outward movement of the stem will cause the valve, 33, to also uncover port, 15, so that water from chamber, 9, may pass into the bore, 17, then up through the interior of valve, 33, where it will commingle with the water from port, 16, and pass out as before. This will cause a mixture of hot and cold water to any degree desired. If the stem is moved still farther out the valve, 33, will completely cover port, 16, and open fully port, 15, so that if hot water enters through said port, 15, it alone will pass as before described.

In Fig. 1 I have shown a plug, 38, in the discharge port, 13, so that as long as

this plug is in place the water may not pass out that way but will only flow up through chamber, 12, and out through discharge, 14. It is sometimes desirable however to provide a hose attachment to a shower valve and in such instances the same would be attached at the outlet, 13, and suitable valves then placed in the pipes adjacent those outlets.

Having thus described my invention what I claim and desire to secure by Letters Patent is,—

A valve having an outer shell with inlets at opposite sides and an outlet in the side at right angles to said inlets and also having spaced apart partitions forming two side chambers, an outlet chamber, and a central circular valve chamber,—the said central valve chamber extending from one side to the other of said shell and having two diameters whereby to form an annular valve seat, and said central chamber having an outlet port in its larger portion at said annular valve seat and two inlet ports in the smaller portion beyond the valve seat, a stem entering the shell at right angles to the inlet and outlet thereof and carrying a circular valve to seat against the annular valve seat and tubular valve at its inner end which tubular valve is open at both ends and is movable longitudinally in the smaller portion of the valve chamber between the two inlet ports.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE T. KENLY.

Witnesses:

CHARLES B. MANN, Jr.,
G. FERDINAND VOGT.