

No. 881,332.

PATENTED MAR. 10, 1908.

I. J. OWEN & R. A. BROOKS.

BATH SPRAY.

APPLICATION FILED SEPT. 14, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

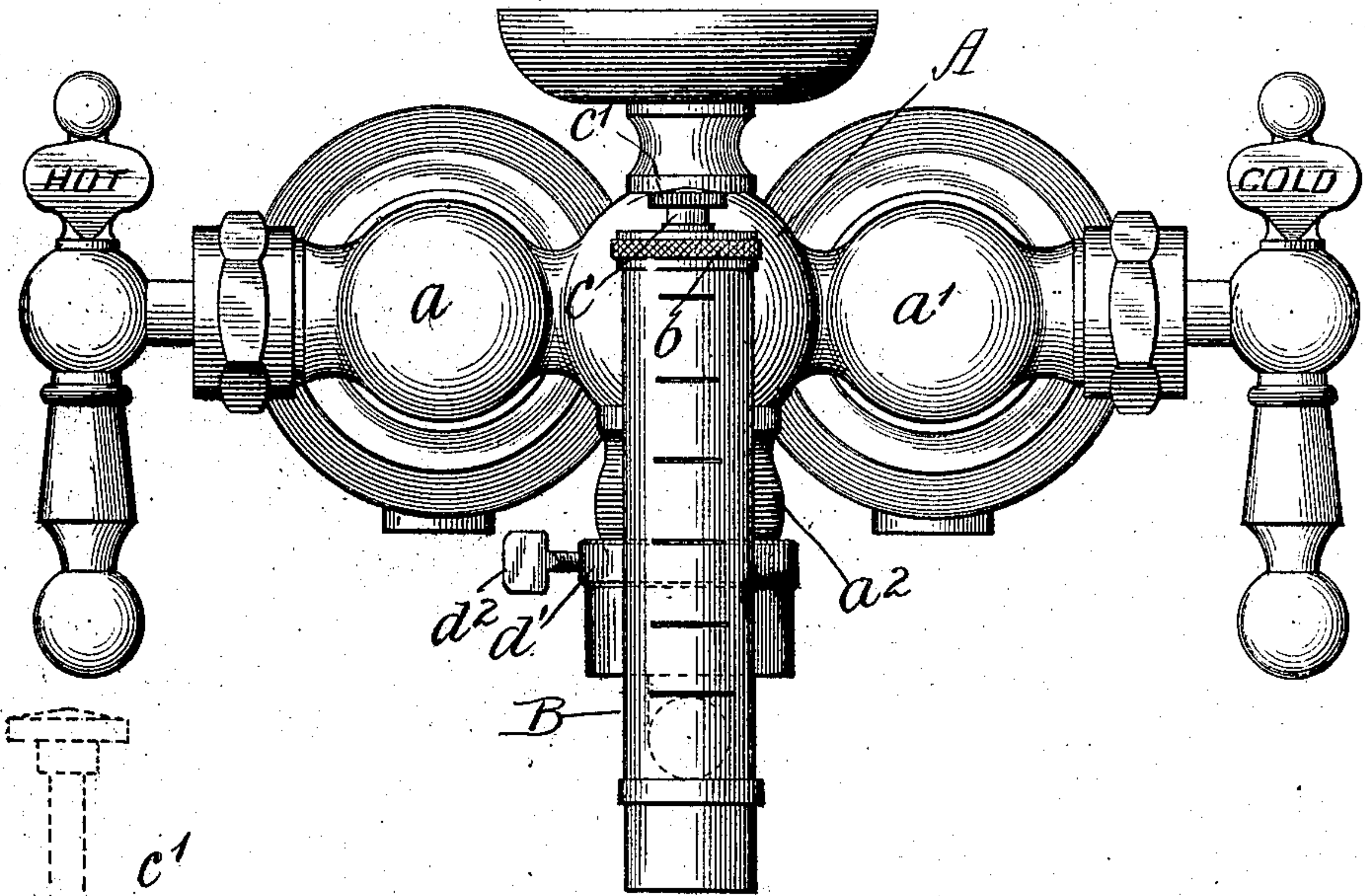


Fig. 2.

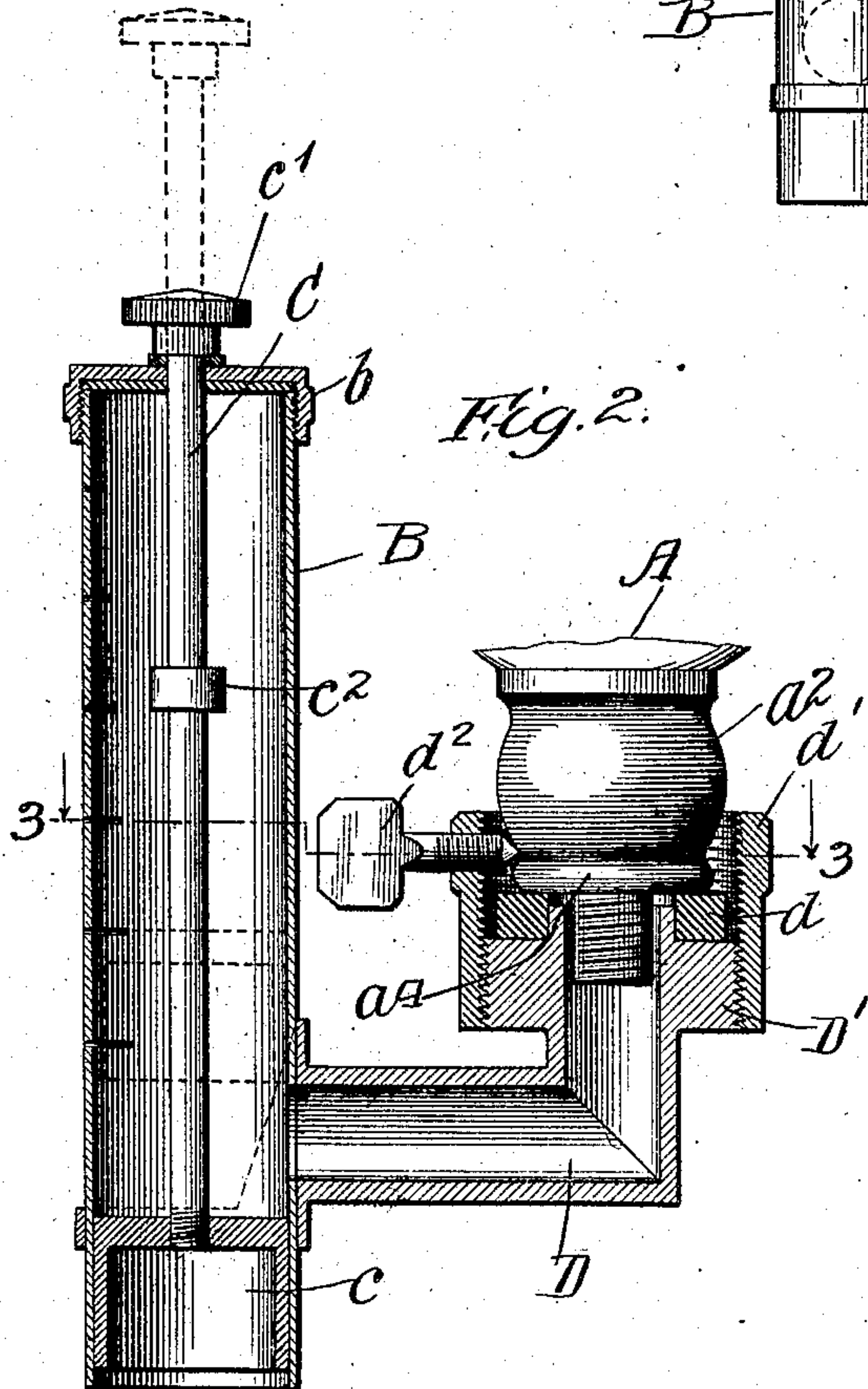
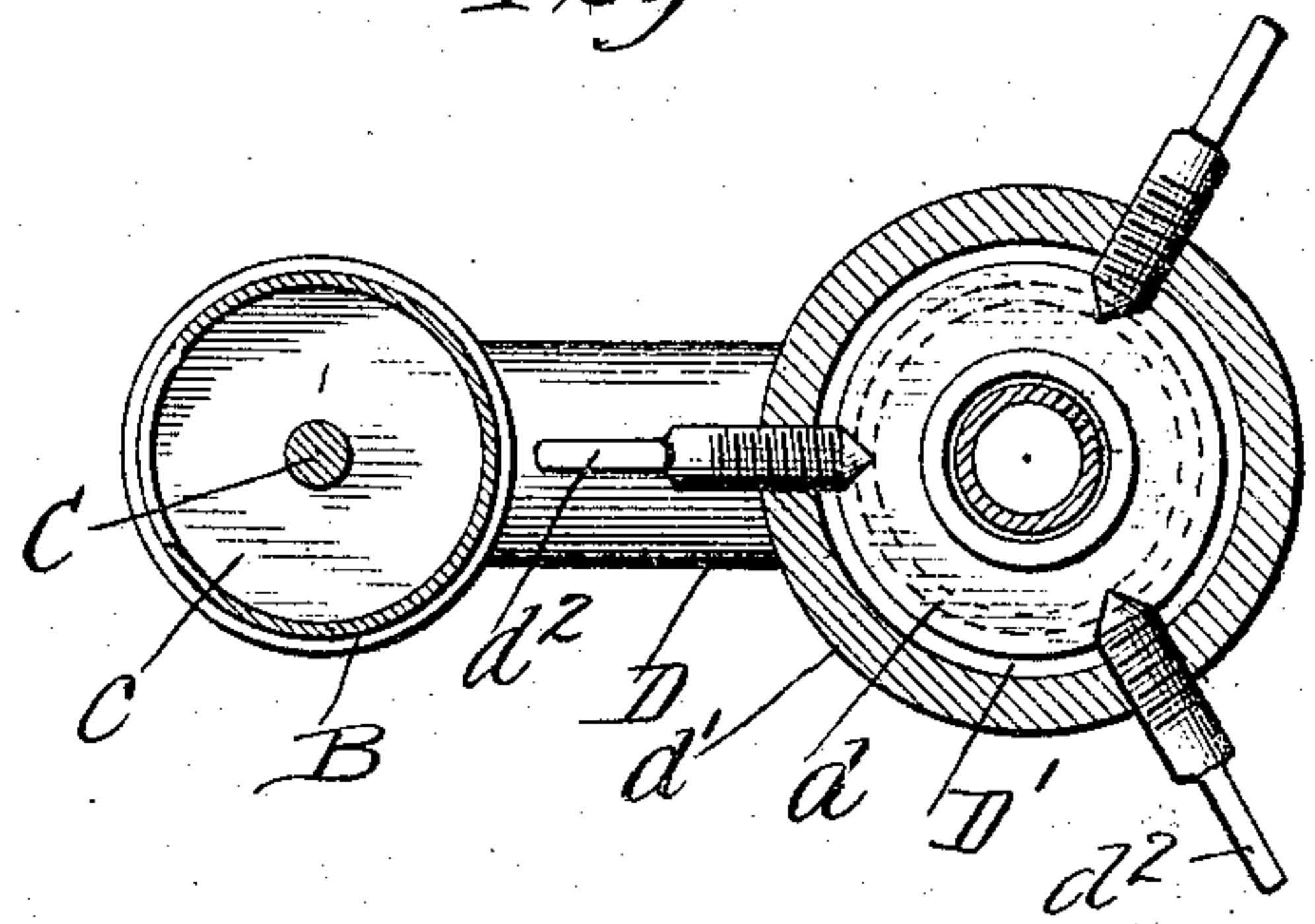


Fig. 3.



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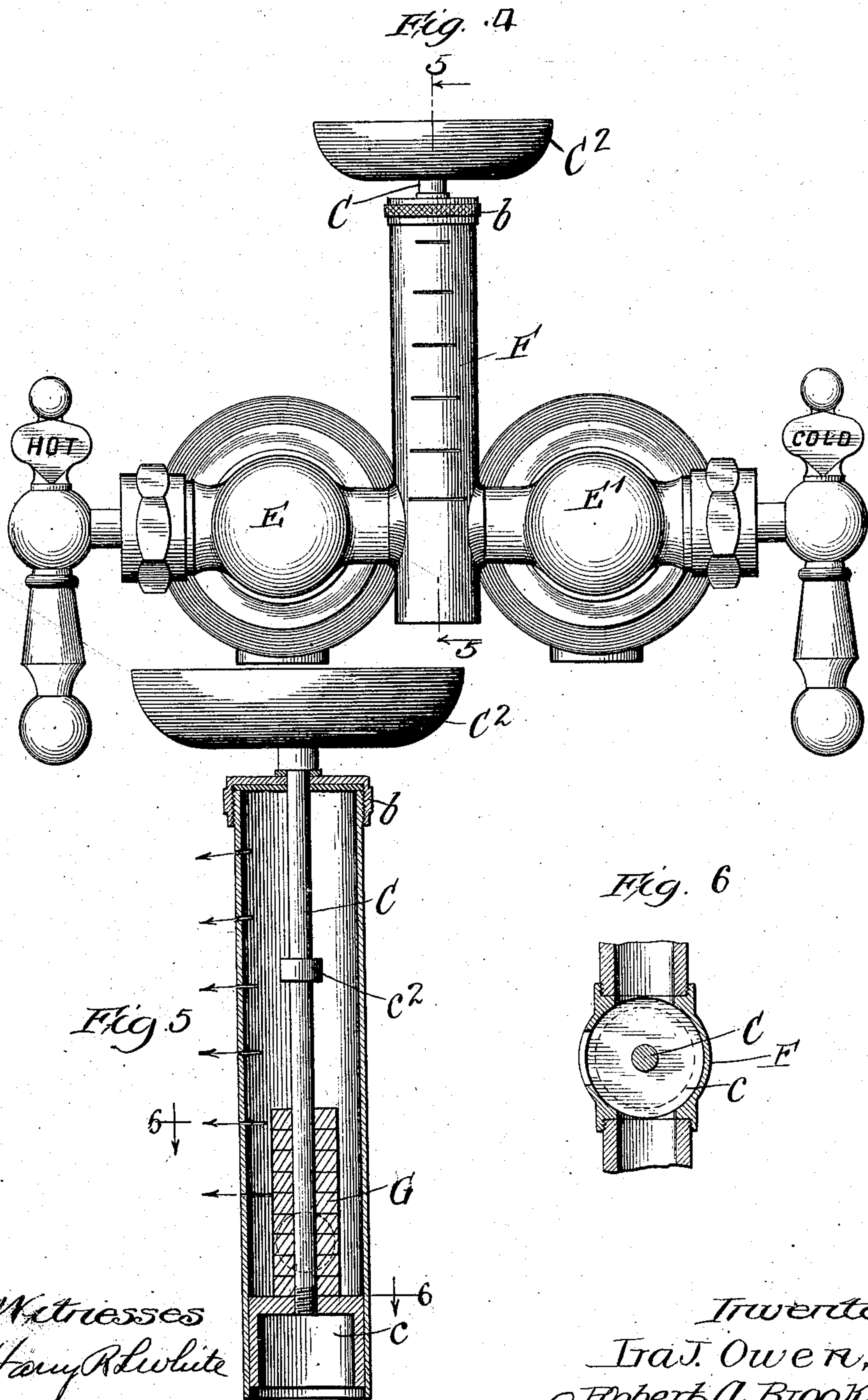
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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TO JOHN G. HODGSON, SR., AND WILLIAM A. CHRISTIANSEN, OF CHICAGO, ILLINOIS.

BATH-SPRAY.

No. 881,332.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed September 14, 1906. Serial No. 334,683.

To all whom it may concern:

Be it known that we, IRA JUNE OWEN and ROBERT A. BROOKS, citizens of the United States, and residents of the city of Oak Park and Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bath-Spray; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in bath sprays and more particularly to a bath spraying device adapted either to be constructed as a part of the bath faucet or cock, or to be removably attached to bath faucets or cocks such as now in use. Of the various types of bath spraying devices heretofore devised, some are arranged to spray from above downwardly upon the bather. Others are arranged to throw a jet or spray of water from a tube or yoke supported on the person. Others are simple sprays connected with the cock by a rubber tube and when used are held in the hand. These are all more or less inconvenient in use and are usually expensive and owing to rubber being used in most, if not all of them, are short lived and need frequent repair and are always insanitary.

The object of this invention is to provide a spraying device adapted to be permanently secured upon the cock within the bath tub and though occupying but very small space, enabling the cock to be used as ordinarily to deliver hot and cold or tempered water into the tub or by slight adjustment enabling a spray to be thrown upon the occupant of the tub, at different angles practically filling the entire area of the tub with the spray.

It is also an object of the invention to so construct a cock for the purpose specified as to enable the same to be used independently and without modification or change either to deliver the supply into the tub as usual in a continuous hot or cold or a tempered stream or to spray the same into the tub and upon the bather.

It is also an important object of the invention to provide a device for the purpose constructed wholly of metal and thus capable of being kept in a sanitary condition and constructed to permit a medicinal spray to be applied or a perfumed spray as preferred and

also to provide such a cheap simple durable and effective device as to enable the same to go into quick and satisfactory use.

The invention consists in matters hereinafter described and more fully pointed out and defined in the appended claims:

In the drawings: Figure 1, is a front elevation of a familiar type of bath cock for both hot and cold water and to which a device embodying our invention is removably attached. Fig. 2 is an enlarged vertical section, the same showing a portion of the cock in elevation. Fig. 3 is a section taken on line 3—3 of Fig. 2. Fig. 4 is a front elevation of a bath cock embodying our invention. Fig. 5 is an enlarged vertical section taken on line 5—5 of Fig. 4. Fig. 6 is a section taken on line 6—6 of Fig. 5.

As shown in the drawings: A indicates as a whole a double bath cock provided with inlets *a* and *a'* for hot and cold water respectively which discharges through a single delivery spout or nozzle *a²*, into the bath tub as usual. The cock may be of any form or preferred construction in which the hot and cold water are capable of mingling before the delivery into the tub. A removable hose nipple is threaded onto the nozzle *a²* of the cock. Usually for purposes of ornamentation a bead *a⁴*, is provided around the nozzle as shown in Figs. 2 and 3.

The spraying device embodying our invention embraces in the form shown in Figs. 1 to 3 inclusive, a tube or pipe B provided with a screw threaded cap *b* fitted on the upper end thereof and apertured to receive the stem C therethrough, on the lower end of said stem is a piston *c* which fits closely in the tube and is slidable therein by means of said stem, the downward limit of movement thereof however is determined by a stop *c'* on the outer end of the stem engaging on the cap and the upward limit thereof by an internal stop or collar *c²* secured on the stem and engaging beneath the cap. Said tube is provided near its lower end with a right angle tubular branch D which at its end is enlarged and is bent upwardly to afford a horizontally directed head *D'* which is externally threaded. Seated on said head concentric with the bore is a packing washer *d*, adapted to fit against and around the end of the nozzle of the cock. An internally threaded sleeve *d'* engages said head and is provided with set screws *d²* which project therethrough and

are adapted to engage in the groove above the bead a^4 on the nozzle, rigidly securing the spray on the nozzle, after the removal of the hose nipple. Said tube or cylinder B, is transversely slotted on its front side or that adjacent the bather. Said slots may be inclined slightly thereby directing the sprays downwardly so that none of the water is directed beyond the sides of the tub. In the construction illustrated in Figs. 4 to 6 inclusive the spray is constructed integral with the bath cocks. For this purpose the hot water and cold water connection E and E' deliver into the cylinder or tube F on opposite sides thereof this is constructed in all respects as the tube or cylinder B, before described. The open lower end of the cylinder is directed downwardly into the tub and is the nozzle of the cocks. The slots are arranged in the front thereof as heretofore described and if desired the upper end of the stem C may be provided with an enlargement C² or cup to afford a soap tray.

The operation is as follows: When the plunger is elevated until the stop c^2 contacts the cap, the discharge from the cock is through the open end of the cylinder directly into the tub. When the plunger or piston is moved downwardly to the position shown in Figs. 2, 4, and 5 the water is combined within the cylinder and rising therein is forced by pressure outwardly through the slots in a fan shaped spray or jet from each slot which of course, will be directed longitudinally and laterally of the tub and the extent of the spray depends of course, upon the pressure and also on the quantity of water delivered therefrom. By slightly inclining the slots downwardly the spray may be directed downwardly though ordinarily gravity tends to deflect the spray sufficiently downward to confine the water wholly in the tub.

In giving a medicinal or a perfumed bath soluble tablets G or crystals or both tablets and crystals of the desired medicament or perfume are placed in the cylinder above the piston. The resulting solution is thus sprayed upon the person, and of course, may vary in strength of solution with temperature and solubility of the tablets or crystals.

Of course many modifications and variation of the construction shown in the drawings may be made and we do not purpose limiting this application otherwise than necessitated by the prior art and the construction shown is designed to be merely typical of many different applications of spraying heads adapted to be either permanently or removably connected upon a faucet or cock and to occupy but small space in the tub or other fixture.

We claim as our invention:

1. In a spraying device the combination with a cock, a cylinder communicating there-

with having slots in one side thereof adapted to deliver fan shaped sprays and an open lower end and a valve in the cylinder adapted to direct the flow from the cocks to the spray and to the open end of the cylinder.

2. In a device of the class described the combination with a hot and cold water cock of a mixing chamber, a pipe rigidly engaged to the mixing chamber, an open ended cylinder having an aperture in its side affording communication with the pipe and having a plurality of spray apertures in its side above and opposite said aperture, a plug valve in the cylinder, and a stem rigidly engaged to the same for manual actuation adapted to move said valve to direct the flow from the cock to the open end of the cylinder and to direct the flow to the spray end of the cylinder.

3. In a device of the class described the combination with a cock, a cylinder communicating therewith, having spraying slots in its side, a valve in the cylinder adapted to direct the fluid into the spray end or out of the lower end of the cylinder, a stem engaged to the valve and a removable top on the cylinder.

4. The combination with a source of water supply of a metallic tubular cylinder connected therewith, said cylinder having spraying apertures in one side above the point of connection and an open lower end, and a valve in the cylinder adapted to be elevated above the connection to direct the flow to the lower end of the cylinder, to be depressed to direct the flow to the spray end of the cylinder or to shut off the flow entirely.

5. The combination with a double bath cock of a mixing and spraying cylinder connected to receive the flow therefrom and comprising an upper apertured pressure chamber and a lower open discharge orifice, a valve interposed to direct the flow from the cock into either and a removable cover to admit of charging said pressure chamber with material to impregnate the water.

6. A bath cock embracing valved hot and cold water inlets a mixing chamber to receive the flow therefrom, an outlet, for the mixing chamber an apertured chamber above the mixing chamber and a valve to direct the flow either to the orifice or into the apertured chamber.

7. A bath cock embracing a tube slitted substantially horizontally at its upper part and open at the lower end, valved hot and cold water inlets opening into said tube near the lower end and a valve adapted to direct the water to said upper and lower ends.

8. A spraying cock embracing valved hot and cold water connections, a mixing and spraying chamber through the side of which both deliver, means movable in the spray chamber diverting the flow from the said chamber into the tub or fixture in a solid

stream or spray and a removable cover adapted to permit insertion into said chamber of soluble materials.

9. A cock of the class described embracing a mixing chamber, a pipe communicating therewith at one end, a spraying cylinder having an aperture in its side adapted to register with the pipe, a valve in the cylinder adapted to be raised above the pipe to direct the flow from the cock to the lower end of the cylinder or to be moved below the pipe to direct the flow to the spray end of the cylinder and a removable cap on the top of the cylinder.

10. A cock of the class described embracing ing valved hot and cold water connections a tube connecting the same near the lower end and apertured for a part of its length and having in its remaining portion a larger discharge aperture and a movable plug slidable in the tube adapted to be elevated above the point of connection to close the apertured portion to the flow and to open the discharge aperture and means for inserting soluble material into said apertured part of the tube.

11. A spray of the class described embracing a straight tube transversely slitted near its upper end and open at its lower, one or more inlet passages opening into said tube below the slits a piston movable to close the apertured portion, or to close the lower end of the tube and means actuating said piston either to afford a spray or free delivery.

12. In a spraying device the combination with a cock, a cylinder having slots in one side thereof, a tubular branch engaged to the cylinder and provided with a head on its outer end, a sleeve fitting said head and means engaging the sleeve rigidly to the cock.

13. As an article of manufacture a cylinder having fan shaped slots or spraying apertures in one side thereof, a cap removably engaged on one end of the cylinder, means engaged to the cylinder adapted to secure the same to a cock and affording communication therebetween and a valve in the cylinder adapted to direct the fluid into the spray end of the cylinder or in a solid stream from the cock.

14. In a device of the class described the combination with a hot and cold water cock, of a spray chamber adapted to communicate

therewith intermediate its ends and having an open lower end, a removable cap on the cylinder to permit insertion of soluble material and a valve in the chamber adapted to be elevated above the point of communication and depressed below the point of communication to direct the stream from said cocks to the spray end of the chamber or to the open end.

15. In a device of the class described the combination with a cylinder, means connecting the same to a cock and affording communication therebetween, a removable cap on one end of the cylinder, said cylinder having spraying apertures in the end adjacent the cap and an open end and means adapted to direct the fluid from the cock to the spray end of the cylinder or to the open end.

16. In a device of the class described the combination with a cock of a spraying cylinder, a pipe engaged to and opening into the cylinder intermediate its ends and having an enlarged threaded head on its outer end, a sleeve adapted to be secured on said head, means securing said sleeve to the cock, a packing fitted within said sleeve around the nozzle of the cock and a valve reciprocating in the cylinder adapted to direct the fluid into the spray end of the cylinder, to direct the fluid in a stream therefrom or to close the pipe to stop the flow.

17. In a device of the class described the combination with a cock of a cylinder engaged thereto provided with spraying slots or openings and an open end, means affording communication between the cylinder and cock, a reciprocating valve in said cylinder, means limiting the movement of said valve in one direction to direct the flow to the open end of the cylinder and means limiting the movement of the valve to direct the fluid to the spraying end of the cylinder.

In testimony whereof we have hereunto subscribed our names in the presence of two subscribing witnesses.

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ROBERT A. BROOKS.

Witnesses:

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K. E. HANNAH.