

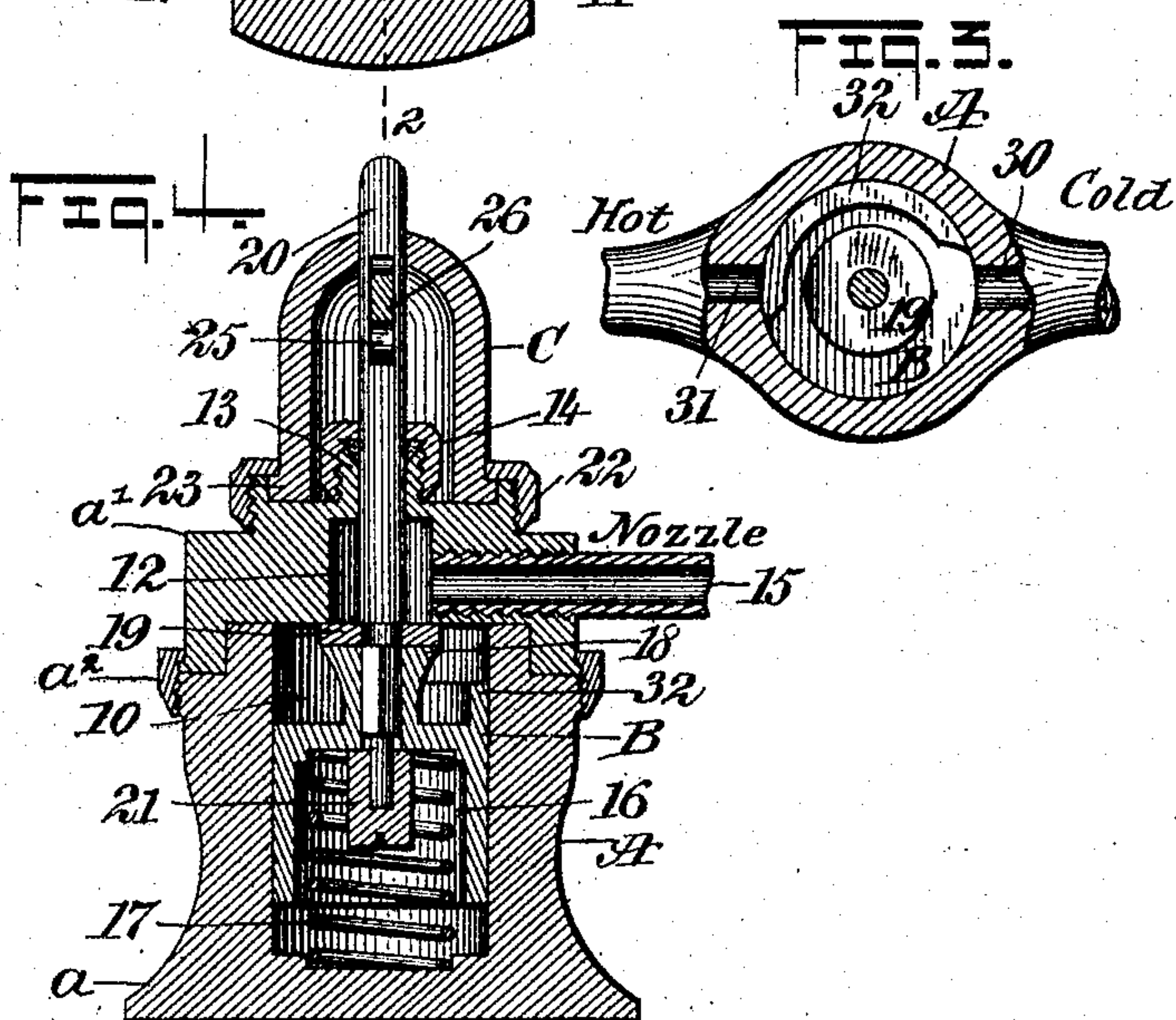
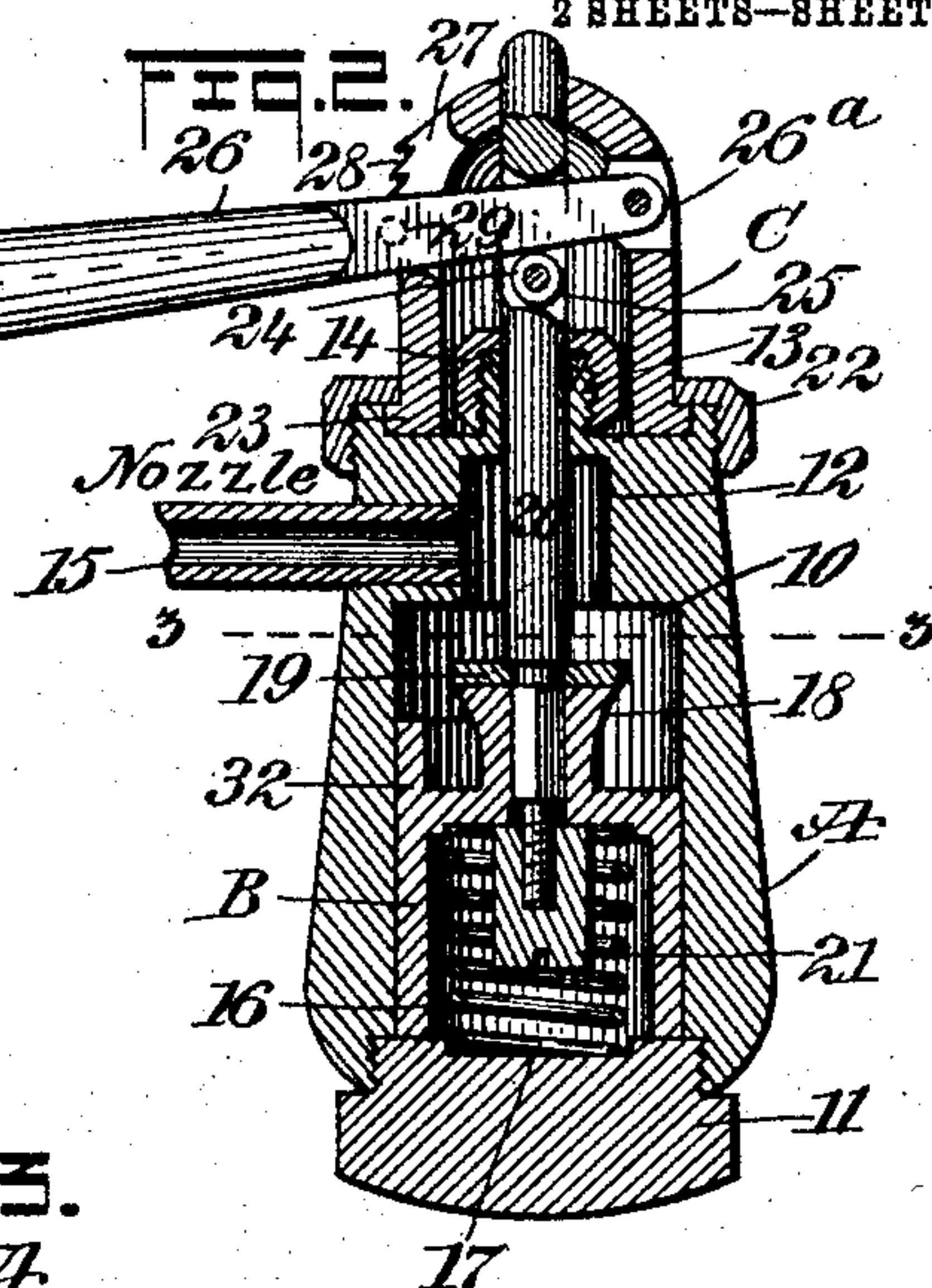
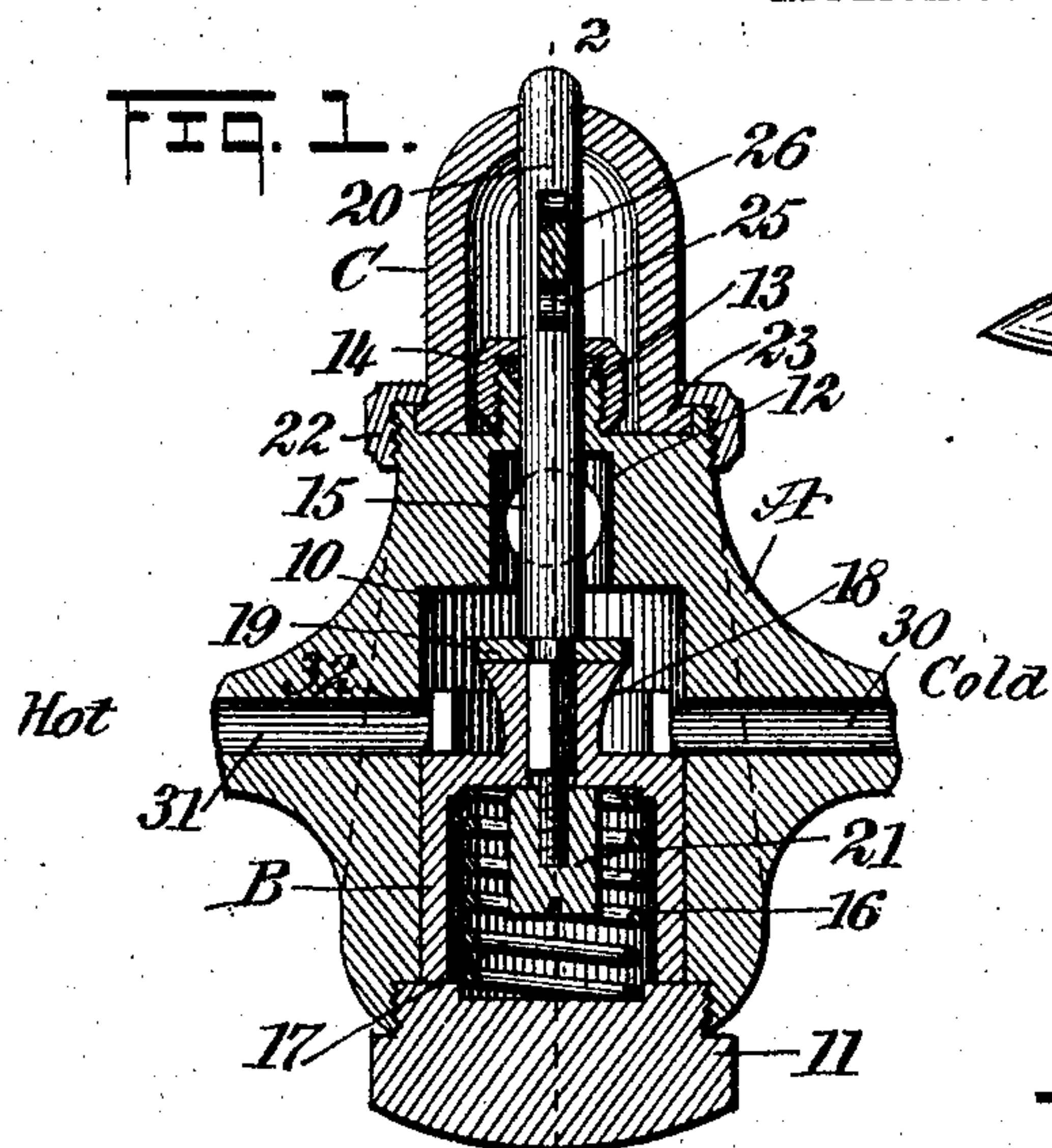
No. 781,525.

PATENTED JAN. 31, 1905.

A. E. ISAACS.
FAUCET.

APPLICATION FILED MAR. 9, 1904.

2 SHEETS--SHEET 1.



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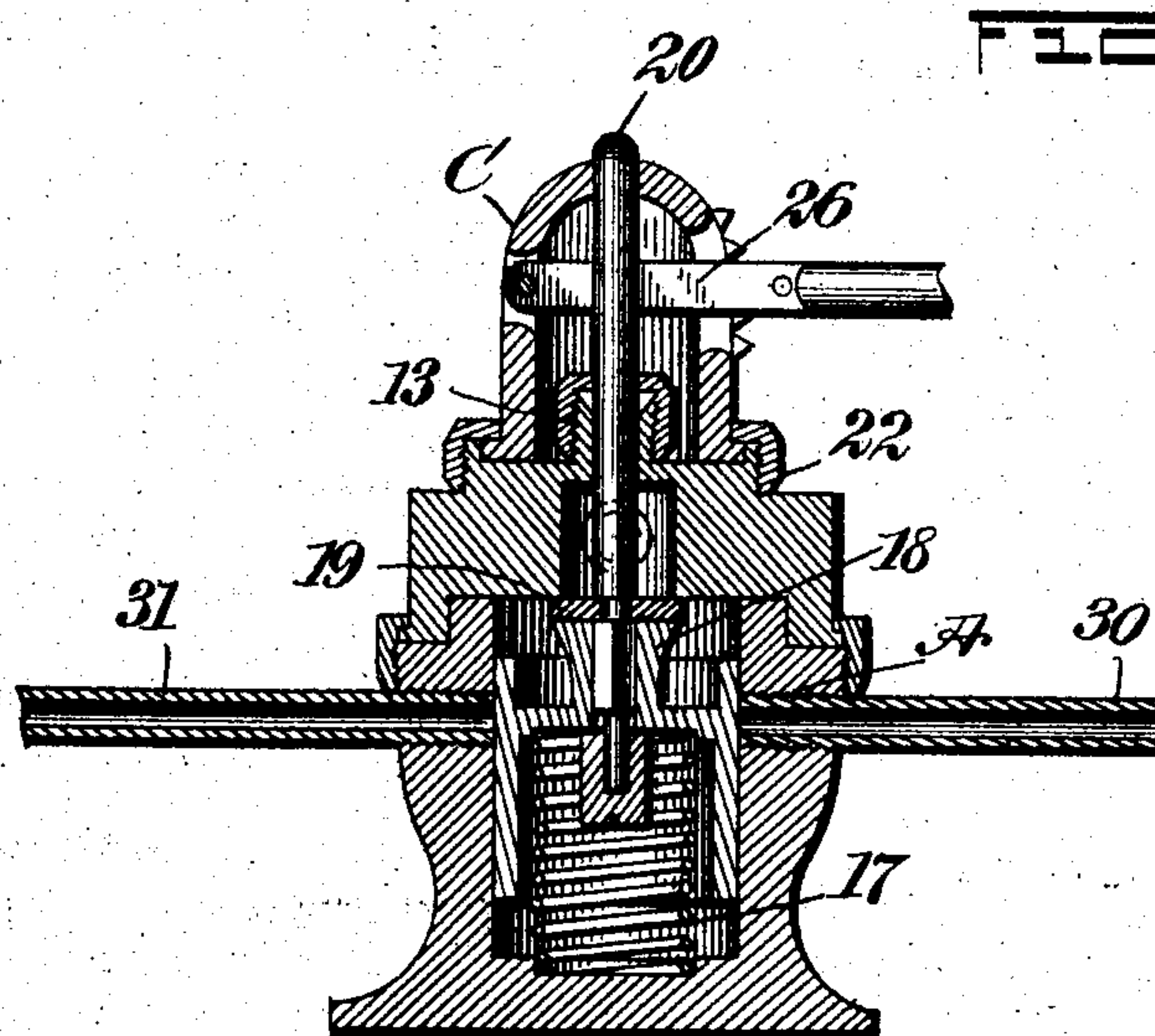


FIG. 5.

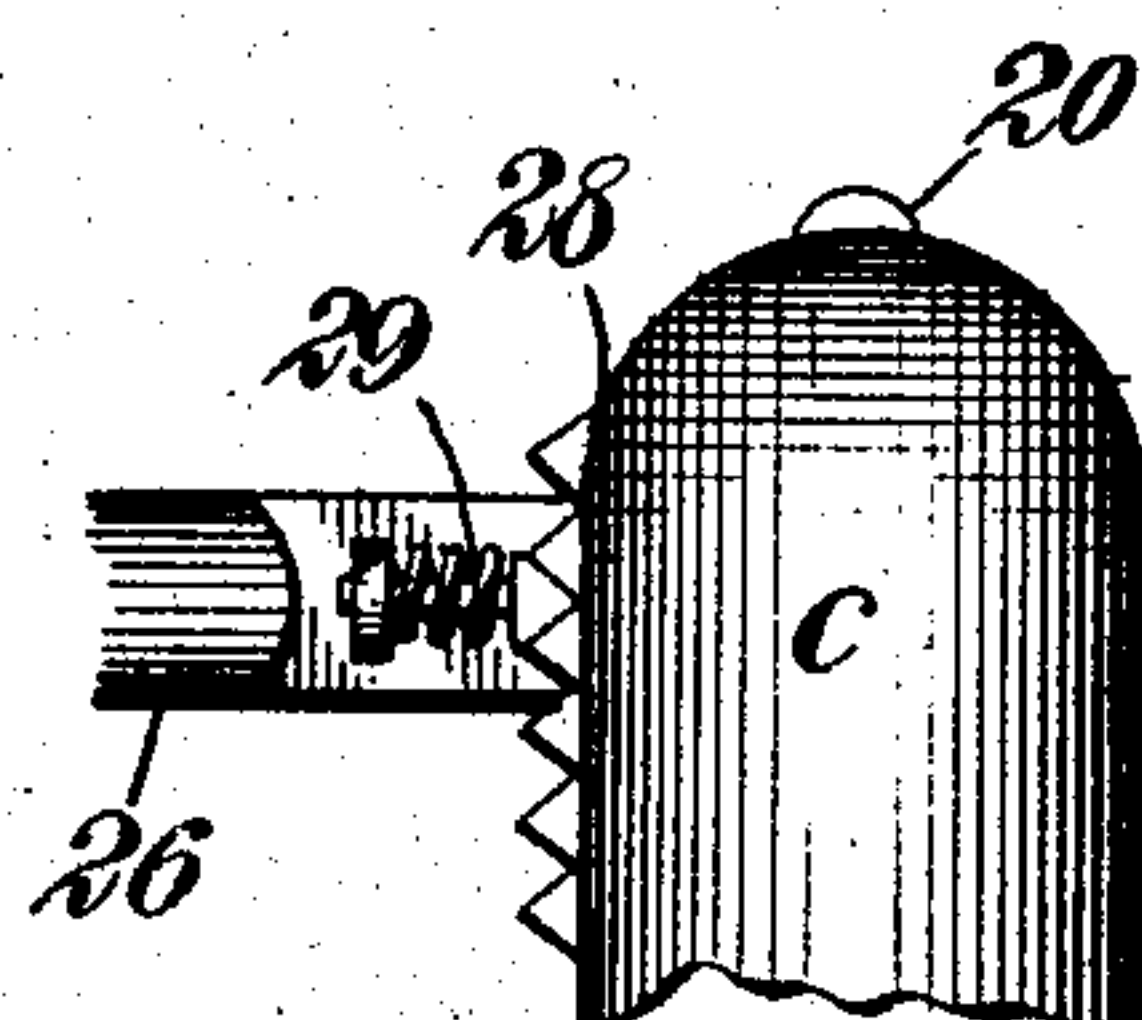


FIG. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

ARCHIBALD E. ISAACS, OF NEW YORK, N. Y.

FAUCET.

SPECIFICATION forming part of Letters Patent No. 781,525, dated January 31, 1905.

Application filed March 9, 1904. Serial No. 197,272.

To all whom it may concern:

Be it known that I, ARCHIBALD E. ISAACS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Faucet, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a simple, economic, and effective form of faucet having inlets for hot and cold water, a chamber in which the two may be mingled, and a single outlet.

The particular construction of the faucet relates to the expeditious and convenient manner in which through the manipulation of a single handle the supply of hot or of cold water or the combined supply of both may be turned on, regulated, and shut off.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through the faucet, showing both the cold and the hot water ports open. Fig. 2 is a vertical section taken practically at right angles to the section shown in Fig. 1 on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken practically on the lines 3 3 of Fig. 2. Fig. 4 is a vertical central section through the improved faucet constructed to rest upon a washstand or other support, the piston being in position to cut off the supply and the handle being in a position at a right angle to that illustrated in Fig. 2 and the section being taken on practically the same line as Fig. 2. Fig. 5 is a section through the form of the device shown in Fig. 4, and Fig. 6 is a detail view illustrating the location of the stop for the handle.

A represents the body or casing of the faucet, in which the form shown in Figs. 1, 2, and 3 is provided with a chamber 10, which extends through the bottom of the said body or casing and is normally closed by a bottom plug 11. This chamber 10 is provided with

a reduced branch 12 at its upper portion, and above the said branch 12 of the chamber an exteriorly-threaded collar 13 is constructed, around which a correspondingly-apertured nut 14 is screwed, a suitable packing intervening between the said collar and the said nut. In the extension or reduced portion 12 of the chamber 10 an aperture is made in which the nozzle 15 of the faucet is introduced, through which nozzle the water introduced into the faucet is adapted to escape, and the manner in which the nozzle is introduced into the casing is thoroughly illustrated in Fig. 2. A piston B is mounted to slide in the said chamber 10, and this piston is provided with a chamber 16 below its head portion, and in this chamber a coiled spring 17 is located having bearing against the head of the piston and against the plug 11, fitting, preferably, in a recess in the latter. The piston-head is provided with a central boss 18, having a washer 19 at its top, of rubber or other suitable yielding material, and a stem 20 is passed through the said boss and into the chamber 16 of the piston B, and where the stem 20 passes through the said boss the stem is polygonal in cross-section, and that portion of the stem which extends into the chamber 16 of the piston B is threaded to receive a suitable nut 21, which acts to hold the stem firmly connected with the said piston and the washer 19 in position.

A collar 22 is screwed upon the upper portion of the body or casing A, and this collar is provided with a central opening which receives the lower end of a cap C, which cap has a flange 23 at its bottom portion, and this flange is fitted in a suitable recess in the top of the body of the casing A and is beneath the upper portion of the collar 22, and the said cap C is adapted to freely turn in the bearings thus provided for it.

Near the upper portion of the stem a longitudinal slot 24 is produced, in the lower portion of which a friction-roller 25 is located, and a handle 26 extends through this slot 24, the upper wall of which slot is convexed, and one end of the handle is pivoted in an opening 26^a in one side of the cap C, and this portion of the handle is flat. The flat part of the

handle extends out through the opposite side of the cap C, a slot 27 being provided for such purpose, and in a wall of this slot 27 teeth 28 are produced adapted to receive a projection 29 from the handle, (shown in dotted lines in Fig. 2,) and the remaining portion of the handle which extends beyond the cap is so formed as to be conveniently grasped. Thus by moving the handle up and down the piston B is moved in a corresponding direction, and by moving the handle laterally the cap C may be turned in its bearings, carrying with it the stem 20 and the piston B.

A channel 30 is produced in the casing A, leading into the chamber 10, which channel is adapted to be connected with a source of cold-water supply, and in the same horizontal plane a second channel 31 is produced in the said casing, likewise leading into the chamber 10, and this latter channel 31 is adapted to be connected in any suitable or approved manner with a source of hot-water supply. On the upper portion or head of the piston B a flange 32 is formed, extending slightly less than half the circumference of the said head, as is shown in Fig. 3, so that when the plunger is pushed down and turned in one direction the cold-water channel 30 is opened and the hot-water channel 31 is closed, as is shown in Fig. 3, and by turning the said piston slightly in another direction the two channels 30 and 31 are both opened and hot and cold water will flow into the chamber 10 and out through the nozzle 15. If hot water alone is required, the plunger is turned farther, so as to cover the port or channel 30 and leave the port or channel 31 open. Both these ports or channels 30 and 31 are closed in the normal position of the piston, the piston being held up by the spring 17, when the walls of the piston will close the said ports or openings 30 and 31 in a perfectly tight manner, and the washer 19 at the upper portion of the piston will fit tightly against the upper wall of the chamber 10, below the extension 12 thereof, and thus effectually prevent any water from entering the nozzle 15. The spring 17 in the chamber 10 is forced downward and placed under additional tension when the handle 26 is carried downward, thus uncovering the aforesaid ports or channels 30 and 31, and either one or the other, or both, of the said ports or channels 30 and 31 are opened or closed more or less, according to the amount of depression of the handle 26 and according to the direction in which the handle 26 is laterally carried.

When the piston B is forced downward, it is held in its lower position by reason of the projection 29 on the handle engaging with one or the other of the teeth 28, and these teeth are in plurality, and by carrying the piston B downward to a greater or lesser extent more or less of the openings or ports will be uncovered in a vertical direction. When

the piston is rotated, one or the other, or both, openings will be more or less opened in a horizontal direction, and the piston may be held in its vertical and rotary adjusted position.

In Fig. 4 I have illustrated the same construction as that which is shown in Figs. 1, 2, and 3, with the exception that the plug 11 is dispensed with and the casing A is provided with a bottom surface adapted to rest upon or be secured to any support. The channels 30 and 31 are to turn down at right angles from their openings into the chamber 10 and run vertically through the substance of the casing A to be connected below to the hot and cold water pipes, respectively, in the usual approved manner. The casing A in this construction is made in two sections a and a' , adjusted closely together by an inside flange on the upper part of the portion a fitting into an outside flange on the lower part of the portion a' and held securely together by a collar a'' , screwed upon the upper part of the section a and with its flange catching and forcing down the section a by engaging the collar on its outer circumference.

The object in separating the casing A into two portions a and a' , as shown in Fig. 4, is to permit of its being taken apart to insert the piston B or to remove it for renewing the washer or for other purposes. In the device as shown in Figs. 1 and 2 such insertion and removal are done by removal of the plug 11. In the said Fig. 4 the piston B is shown in its upper position cutting off all supply of hot and cold water to the interior of the faucet.

One of the main points of the invention is to provide a construction which will absolutely prevent leakage from the faucet. This is accomplished by providing in addition to the closely-fitting ground surface the central boss 18, having a washer 19 at its top, made of rubber or other suitable yielding material, which effectually closes off the outlet simultaneously with its being closed by the upper motion of the piston. The washer 19 being of a more or less elastic material and held in place by a spring-pressure against the outlet effectually prevents any leakage that might possibly take place by escaping at the outlet or through the packing where the piston part enters the chamber should such packing become defective by use, as it generally does. Any desired provision may be made for the easy renewal of this portion if worn out by service.

It will be observed that the chamber in which the washer and the boss carrying it have movement is a mixing-chamber, as both cold and hot water passing through the inlet-ports 30 and 31 enter the said chamber, where the water is thoroughly mixed and passes in its mixed condition to the outlet-nozzle.

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

1. In a faucet, a casing provided with a mixing-chamber and inlet-ports leading into said chamber from opposite sides, a nozzle connected with the upper portion of the mixing-chamber, a piston mounted for rotary and axial movement in the said chamber, normally closing both of said ports, a spring exerting outward tension on the piston, a segmental cut-off flange carried by the piston, capable, as the piston is moved inward and revolved, of opening either one of said ports and closing the other, or of opening both ports, means for imparting rotary and end movement to the piston, and locking devices for the said means.

2. In a faucet, a casing provided with a mixing-chamber having a reduced upper section and opposing inlets leading into the main section of said chamber near the top, a nozzle connected with the reduced section of the mix-

ing-chamber, a piston mounted for vertical and rotary movement in the main section of the mixing-chamber and provided with an upper extension member, a cushion on the said extension member, adapted to normally close communication between the two sections of the mixing-chamber, a spring exerting upward tension on the piston, a segmental cut-off flange at the upper portion of the piston, capable when the piston is depressed of closing one and opening the other of the inlets, and means externally operated for imparting axial and rotary movement to the piston.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARCHIBALD E. ISAACS.

Witnesses:

JOSEPH BORCHARDT,
AARON BERNSTEIN.