

No. 661,966.

Patented Nov. 20, 1900.

J. P. FARLEY.
WATER FAUCET.

(Application filed Mar. 9, 1900.)

(No Model.)

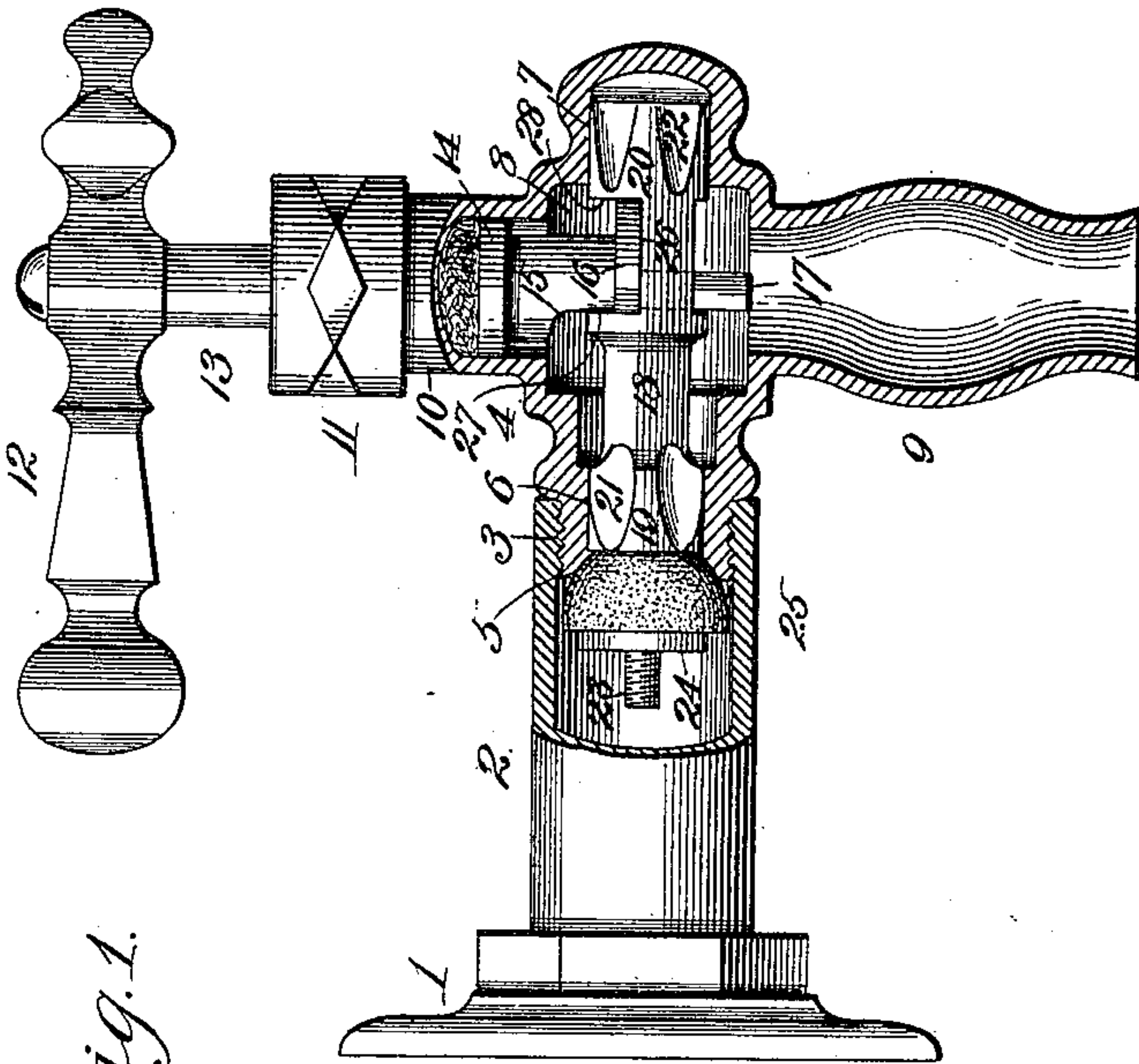


Fig. 1.

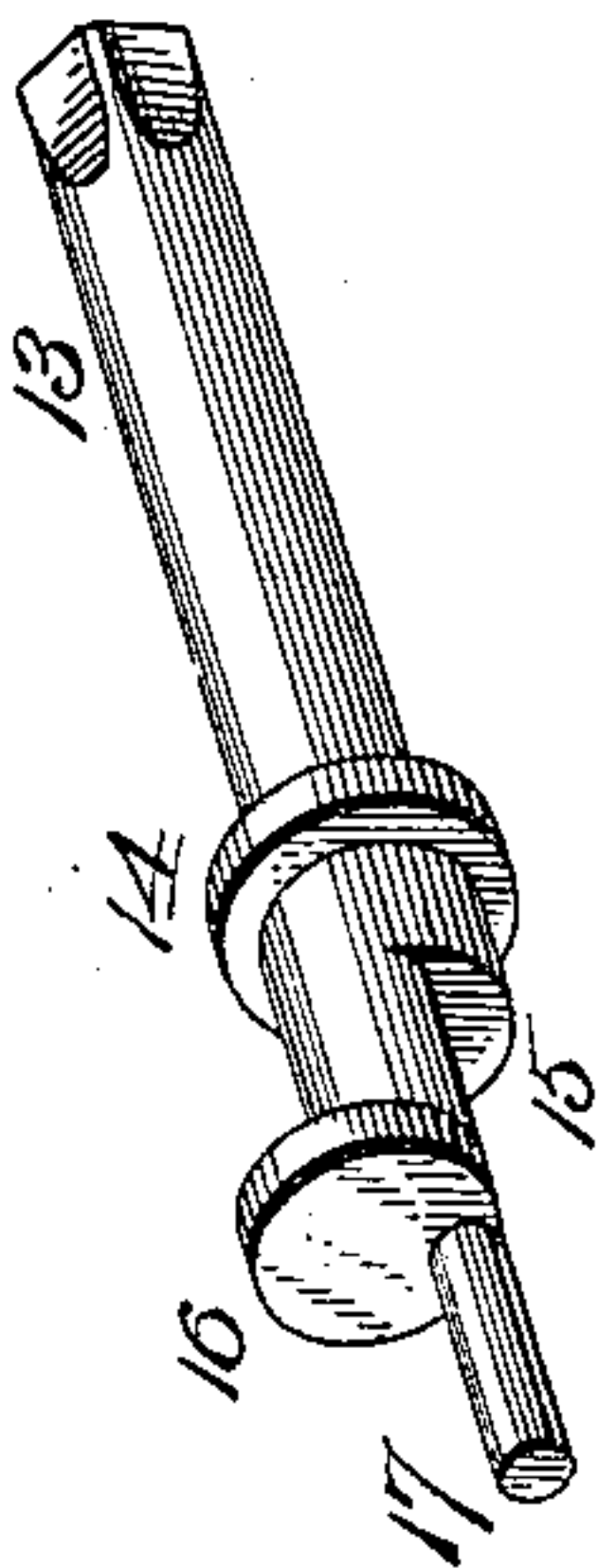


Fig. 2.

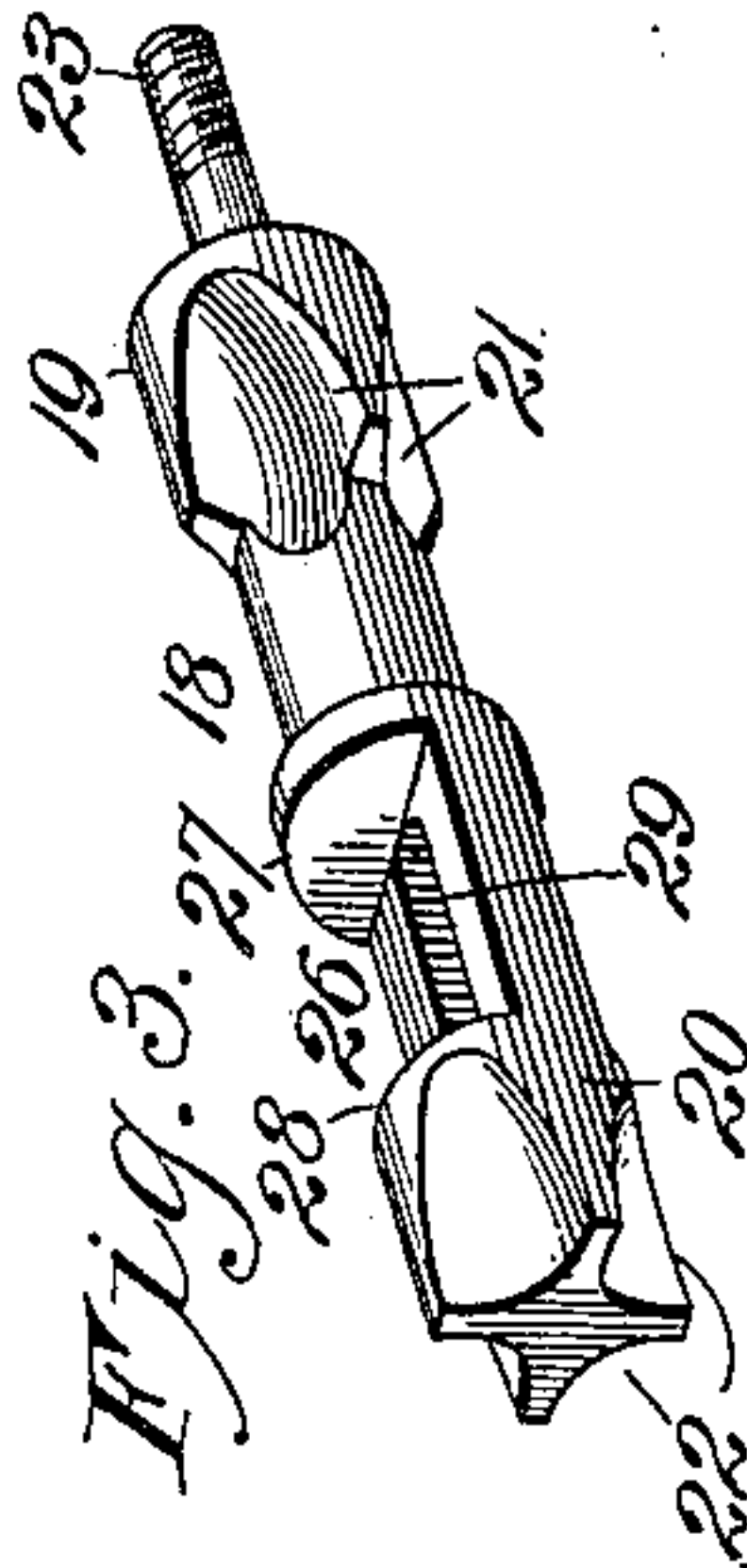


Fig. 3.

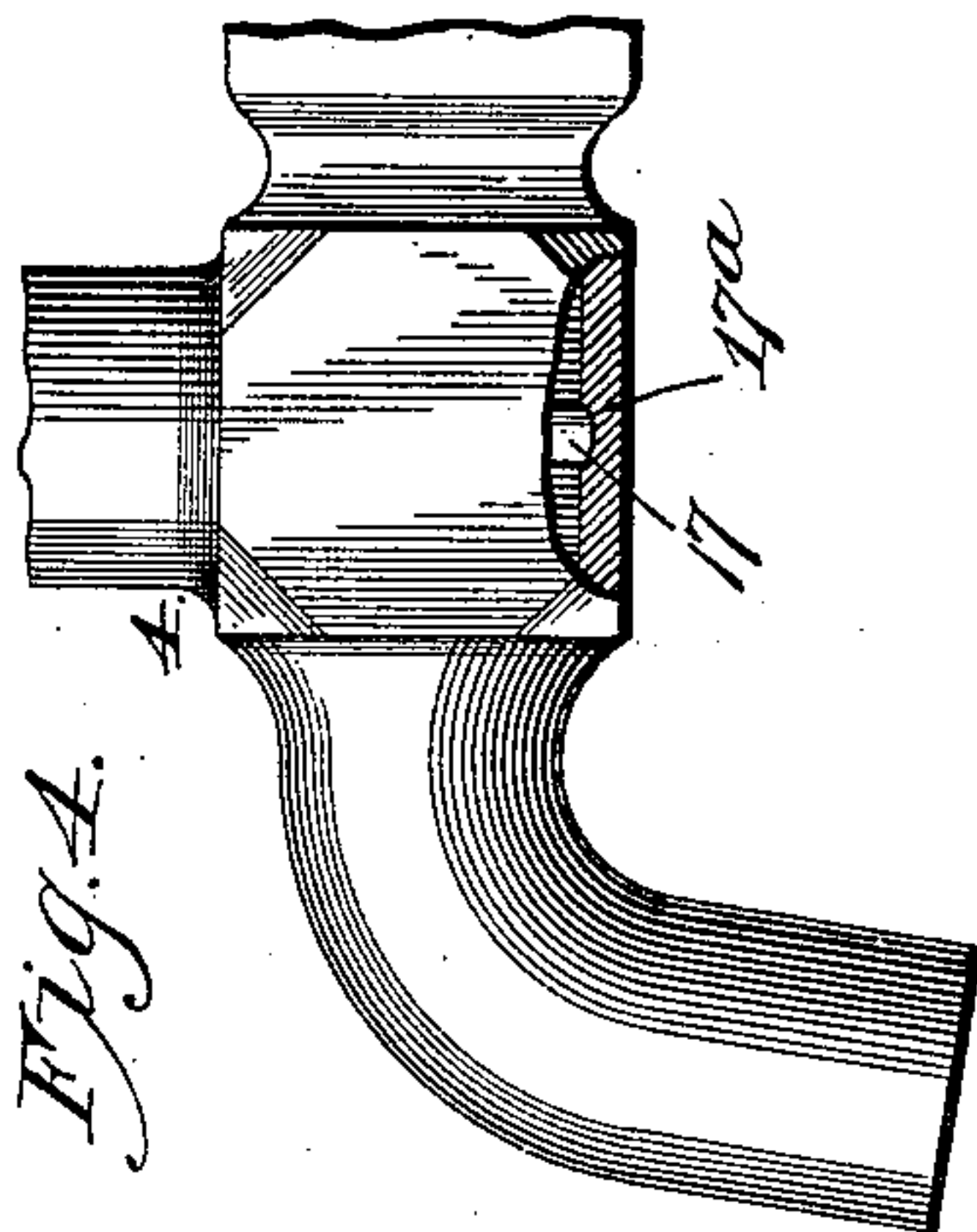


Fig. 4.

Witnesses,

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UNITED STATES PATENT OFFICE.

JOHN P. FARLEY, OF KANSAS CITY, MISSOURI, ASSIGNOR TO THE
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WATER-FAUCET. .

SPECIFICATION forming part of Letters Patent No. 661,966, dated November 20, 1900.

Application filed March 9, 1900. Serial No. 7,957. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. FARLEY, a citizen of the United States, residing at Kansas City, Jackson county, Missouri, have invented a new and useful Water-Faucet, of which the following is a specification.

My invention relates to water-faucets; and it consists in certain novel and peculiar features of construction and organization, as will be hereinafter described and claimed.

The object of the invention is to produce a simple, cheap, durable, and ornamental faucet wherein lateral movement of the valve-stem is eliminated and the closing operation of the stem is effected gradually, thereby preventing water-hammer action from taking place and lengthening the life of the valve.

In order that the invention may be fully understood, reference is to be had to the accompanying drawings, which show the preferred embodiment of the invention, though it is to be understood that I reserve the right to make such changes in the detail construction, form, arrangement, or proportion of the parts as do not involve a departure from the spirit and scope or sacrifice any of the advantages of the appended claim.

Figure 1 represents, mainly in vertical section, a bath-tub faucet embodying my invention. Fig. 2 is a detail perspective view of the cam-stem. Fig. 3 is a detail perspective view of the valve-stem. Fig. 4 is a broken side elevation of the ordinary bib-cock, showing the same with the bearing for the lower end of the handle-stem.

Similar reference-numerals designate corresponding parts in all the figures.

1 designates the tap bearing against the stand of whatever type from which the faucet projects, and 2 the pipe screwed therein and communicating at one end with the supply-pipe (not shown) and internally threaded, as at 3, at its opposite end.

4 designates the casement of the operative parts of the valve, the same being screwed into the threaded end 3 of pipe 2 and provided at said end with a valve-seat 5. Said casement is also provided at its opposite ends with the contracted passages 6 7, the former forming the valve-seat opening. The chamber 8 between and communicating with said

passages communicates directly with the discharge-nozzle 9, and vertically above the chamber the casement is formed with the tubular arm 10, upon which is mounted a packing-box 11 of the usual or any preferred construction. The handle 12 has its cylindrical stem 13 projecting centrally through the packing-box, wherein it has a bearing, and provided with a bearing collar or enlargement 14, fitting snugly in the tubular arm 10. Below said collar or enlargement the stem is notched at one side, as at 15, and is formed with the cam 16 and the guide-pin 17, the latter extending in axial alinement with the body of the stem and centrally of the casement.

18 designates the valve-stem extending axially of the casement and provided at its opposite ends with the enlargements 19 20, fitting snugly and reciprocally in the passages 6 7 of the casement, said enlargements being cupped out, as shown at 21 22, respectively, to permit of the passage of the water, as hereinafter explained. At the end of the enlargement 19 the stem is provided with a threaded terminal 23, upon which is clamped by the nut 24 the ball or valve 25, the same being of segmental form and adapted to be seated on the valve-seat 5, and thus cut off the passage of water through the faucet. The upper side of the stem opposite the tubular arm 10 of the casement is notched, as at 26, to provide the shoulders 27 28, and the portion of the stem thus reduced is formed with a longitudinal slot 29, extending from one of said shoulders to the other. The cam 16 of the handle-stem is seated in the notch 26 and bears against the shoulders 27 28, while the guide-pin 17 of said stem projects through said longitudinal slot and acts as a central bearing and guide to insure direct longitudinal reciprocation of the valve-stem without lateral vibration, the slot of the valve-stem in turn acting as a lower bearing for the handle-stem to prevent vibration or movement of the same transversely of said slot.

Assuming that the parts are arranged as shown in Fig. 1, it will be seen that the valve is seated and that the pin 17 of the handle-stem occupies the rear end of the slot 29 and that if the handle 12 be grasped and turned

until it projects in the opposite direction from that indicated in Fig. 1 the cam 16, turning between shoulders 27 28, will exert pressure on shoulder 27 and unseat the valve and permit
 5 the water from the pipe to pass through the cupped passages 21 into the casement 4 and escape through the discharge-nozzle 9. In this operation of the valve-stem it will be noticed that it is guided by the bearing-passages
 10 6 7 and the guide-pin 17 and that when unseated the front end of the slot engages said pin. By reversing the operation of the handle the cam 16 exerts its force against the shoulder 28 and advances the valve-stem un-
 15 til the ball 25 is seated, this advance taking place so gradually that the flow of the water is completely checked simultaneously with the seating of the valve, and consequently obviates water-hammering of the latter, as
 20 will be readily understood. The valve is closed with the pressure and is cushioned to a certain extent by the water in passage 7, from which passage it is displaced by the advancing valve and escapes through the cupped
 25 passages 21.

In Fig. 4, illustrating an ordinary bib-cock, the arrangement and construction of the operative parts—namely, the handle-stem and valve-stem—are the same, with the exception
 30 that I by preference provide a seat in the

lower part of the casement, as at 17^a, as an auxiliary bearing for the handle-stem, the guide-pin engaging said bearing-cavity 17^a, as shown.

From the above description it will be ap- 35
 parent that I have produced a water-faucet embodying the features of advantage enumerated as desirable in the statement of invention.

Having thus described the invention, what 40
 I claim as new, and desire to secure by Letters Patent, is—

In a faucet, the casement having a valve-seat, a discharge-nozzle, and a pair of bearing-passages, a valve-carrying stem within 45
 the casement, and provided with cupped bearing-surfaces seated in said passages, a pair of shoulders between said surfaces, and a slot between said shoulders, and a handle-stem suitably journaled and provided with an axial 50
 guide-pin extending through said slot, and a cam between and engaging said shoulders, substantially as described.

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

JOHN P. FARLEY.

Witnesses:

H. C. RODGERS,
 G. Y. THORPE.