

No. 630,941.

Patented Aug. 15, 1899.

H. SIEBEN.  
STOP AND WASTE COCK.

(Application filed Apr. 17, 1899.)

(No Model.)

Fig. 1.

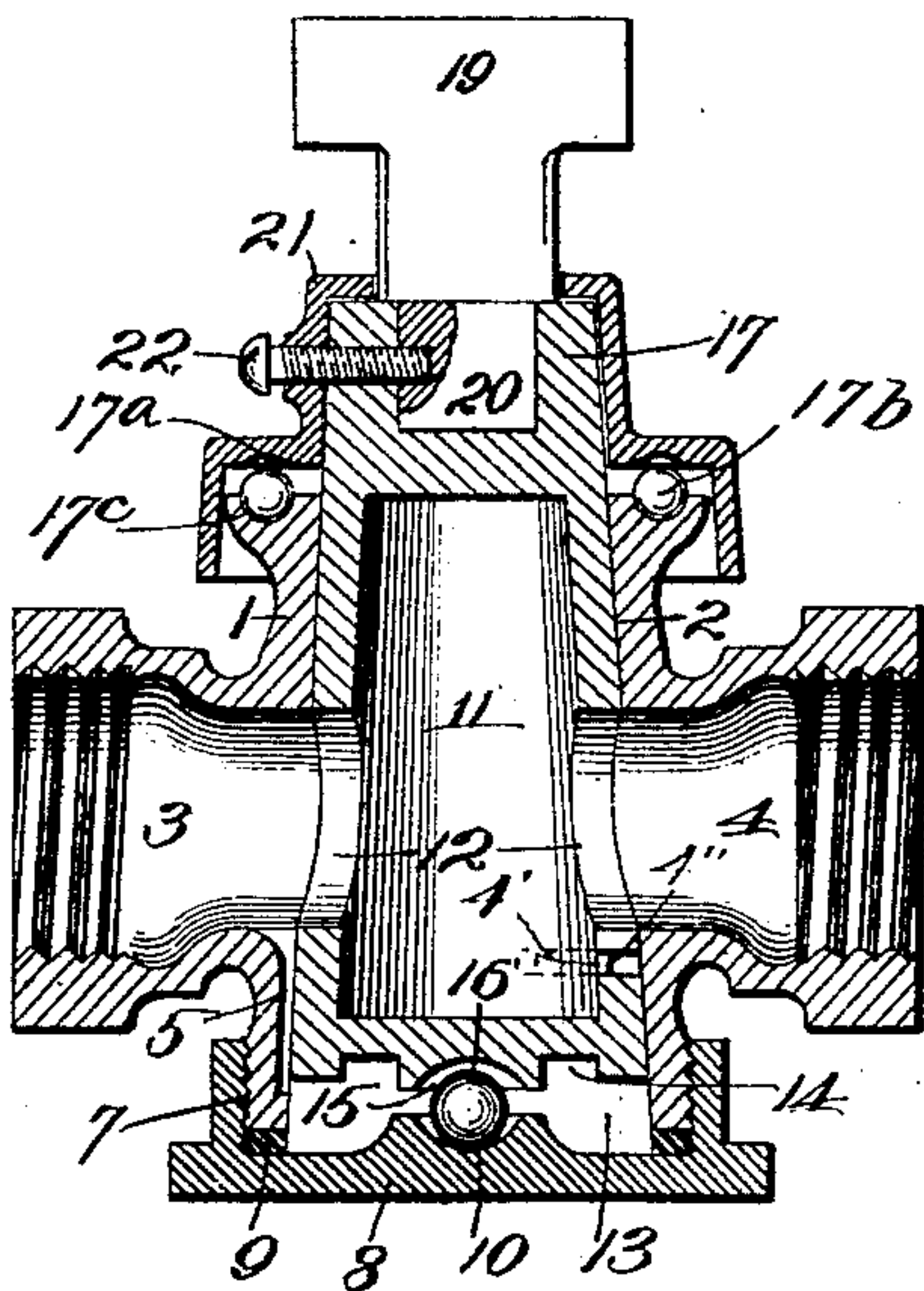


Fig. 2.

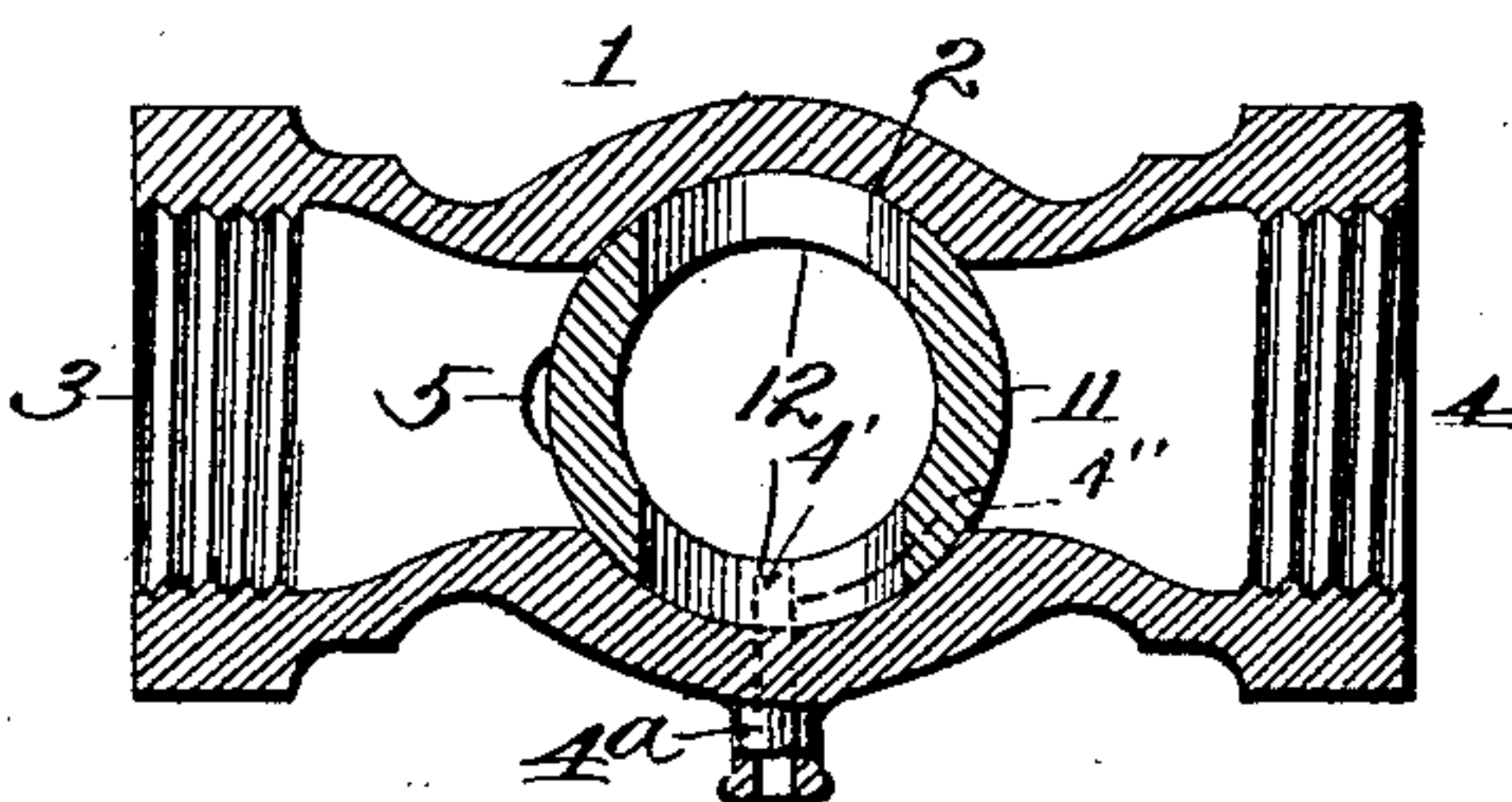
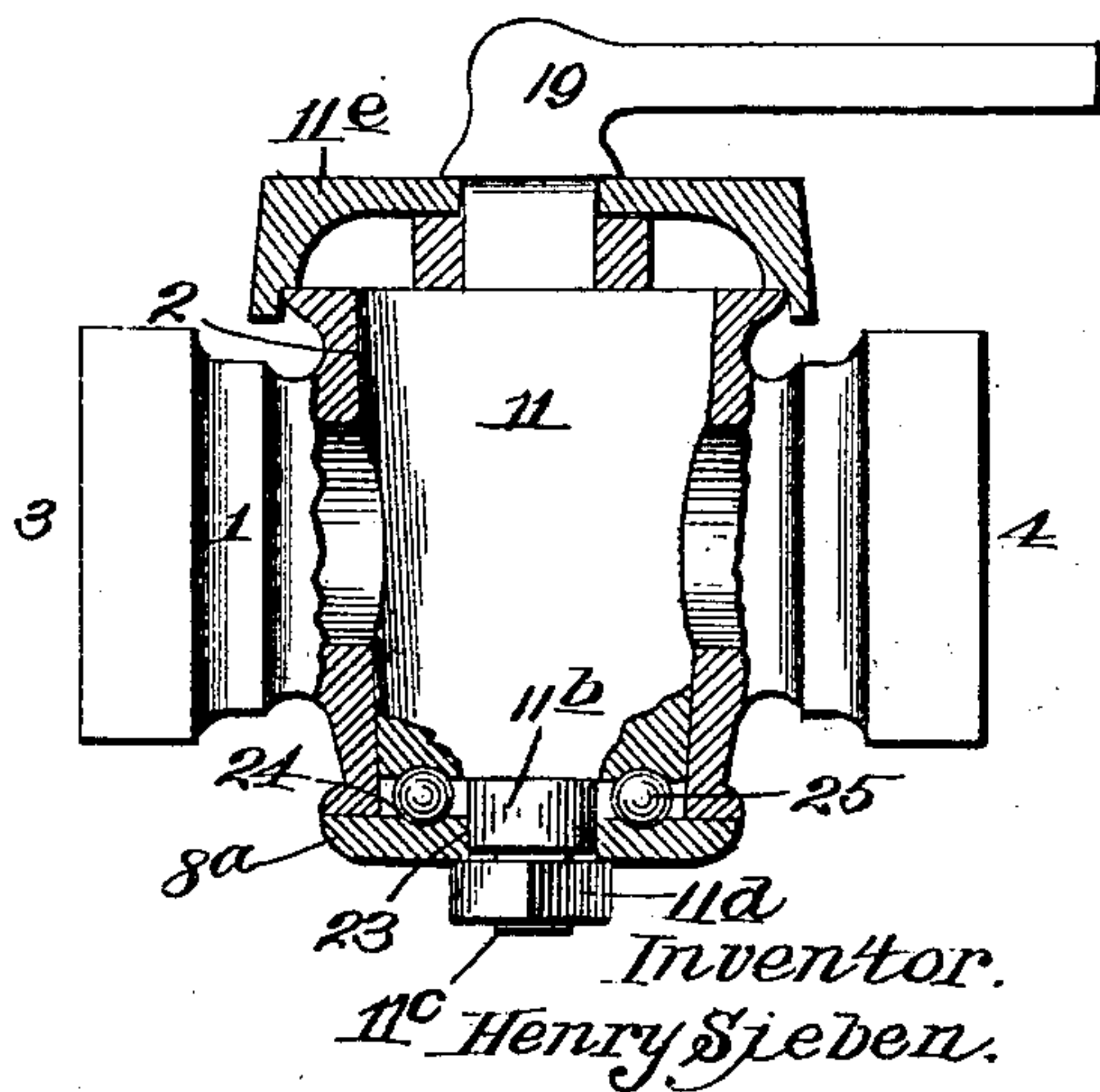


Fig. 3.



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# UNITED STATES PATENT OFFICE.

HENRY SIEBEN, OF KANSAS CITY, MISSOURI, ASSIGNOR TO THE SIEBEN MANUFACTURING COMPANY, OF SAME PLACE.

## STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 630,941, dated August 15, 1899.

Application filed April 17, 1899. Serial No. 713,280. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY SIEBEN, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Stop and Waste Cocks, of which the following is a specification.

My invention relates to stop and waste and curb cocks; and my object is to produce a ball-bearing cock of such construction as to insure its reliable operation at all times; furthermore, a ball-bearing cock of simple, compact, durable, and inexpensive construction.

The stop and waste and curb cocks in general use embody as a necessary element a washer, which frequently swells or expands to such an extent as to make it practically impossible to manipulate the valve. In my invention this washer is dispensed with and a ball-bearing substituted therefor, which absolutely eliminates all chance of the valve clogging or sticking.

The invention consists in certain novel and peculiar features of construction and combination of parts, as will be hereinafter described and claimed, and in order that it may be fully understood I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a view, mainly in vertical section, of a cock or faucet embodying my improvements. Fig. 2 is a horizontal section of the same. Fig. 3 is a view, mainly in section, with the core inverted.

In the said drawings, 1 designates the shell or casing, provided with the valve-chamber 2 and with the oppositely-extending passages 3 4, the former being adapted for connection with the water or gas supply pipe from the main and the latter with the head or water-pipe feeding the building or fixtures. The shell may also be provided with the waste-hole 4<sup>a</sup> to act as a drain-pipe for the house and fixture side, as hereinafter described, so as to prevent water from freezing in the pipes in cold weather. The shell is also formed with the waterway 5 and is externally threaded at its lower end, as at 7.

8 designates a cap screwed upon the threaded lower end of the shell, and 9 a packing-

ring interposed between the lower end of the shell and cap, and the latter is provided in Fig. 1 with a central cavity 10 for a purpose hereinafter explained.

11 designates the hollow core, of conical form and provided with two passages 12 and with a small opening 4' below and communicating with one of the openings 12 and adapted for communication with waste-hole 4<sup>a</sup>, said opening 4' forming one terminal of an external groove 4'' in the core. When the cock is shut, the groove 4'' registers at its opposite ends with the passage 4 and waste-hole 4<sup>a</sup> to drain the house and fixture pipes for the purpose above mentioned. It at the same time connects the waste-hole with the interior of the core in order that water may be also drained out of the latter. When the cock is open, water may enter the groove 4''; but it cannot escape through the waste-hole 4<sup>a</sup> because the groove at such time does not register with said waste-hole. Said core is seated in opening 2 of the shell and has its lower end above the lower end of passage 5, so as to provide a channel 13 between the bottom of the core and cap, and in order that the lifting action of the water may be direct and positive the core is formed with an annular recess or channel 14 in its under side. It is also provided with a centrally-depending boss having a ball-cavity 15, and directly below said boss and seated in the cavity 10 is a ball 16, which acts as a pivot in addition to performing its function as a ball-bearing. The core is formed at its upper end with a vertical tubular extension 17, and 19 designates the handle or handle-stem.

20 is a desirable, but not essential, projection of the handle which fits in the tubular extension 17 of the core, said handle or handle-stem extending through the hood 21, which envelops the said tubular extension 17 and also the upper end of the shell, thereby reliably preventing sand or other foreign matter getting into the shell and grinding out the same or the core. The handle and hood are rigidly connected to the core by means of a set-screw 22, extending through the hood and impinging on the handle projection 20. The hood is provided with a circular groove



17<sup>a</sup> to receive and engage the balls 17<sup>b</sup>, seated in the corresponding groove 17<sup>c</sup> in the upper end of the shell.

In practice as pressure is applied upon the handle the valve drops slightly until it finds a rest upon the top balls 17<sup>b</sup> and bottom ball 16, the ball 16 being now engaged by the bosses having the cavities 10 and 15 to centralize the lower or pivot ball and hold it reliably in position. The slightest twist upon the handle is instantly responded to by the core, because it rests with a minimum of friction on the balls. As the handle is turned back to throw the passage or passages 12 out of register with the passages 3 4 and released the water enters the chamber 15 via waterway 5 and presses the core so strongly upward that it cannot leak or be accidentally turned.

In Fig. 3 the core is shown as inverted from the top instead of from the bottom, as shown in Fig. 1, and consequently requires a variation in the construction of the companion parts over the corresponding parts of the cock or faucet described. In this case, there being no closure effected by the water, the waterway is dispensed with, and the non-threaded cap 8<sup>a</sup> is provided with a central opening 23 and a circular groove or ball-race 24, concentrically surrounding said opening and containing a number of balls 25, upon which rests the core. The latter is provided with a depending stem 11<sup>b</sup>, fitting in the opening of the cap, and said stem is formed with a reduced extension 11<sup>c</sup>, engaged by a clamping-nut 11<sup>a</sup>, which by bearing against the bottom of the cap holds the core reliably in position.

To prevent sand or other foreign substance obtaining access to the interior of the shell, the core is formed with a cap 11<sup>e</sup>, embracing the upper end of the shell. This cock or faucet is manipulated by grasping and turning the handle, which of course can be quickly accomplished, because the core turns on the bearing-balls 25.

From the above description it is obvious

that I have produced a cock or faucet embodying the features of advantage enumerated in the statement of invention, and it is to be understood, of course, that I reserve the right to make such changes as properly fall within the spirit and scope of the invention.

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

1. A stop and waste cock, comprising a shell, a cap or plate secured to the lower end of the shell and formed with a central cavity 10, and a rotatable core within the shell and provided with a central cavity 15, in its under side, a ball 16, occupying said cavities, a packing-ring between the shell and cap, a handle for operating the core, and a hood enveloping the upper end of the core and shell, substantially as and for the purpose described.

2. A stop and waste cock, comprising a shell having a circular groove in its upper edge, a rotatable core fitting in the shell and provided with a socket in its upper end, a handle fitting in said socket, a hood enveloping the upper end of the core and shell and provided with an internal circular groove, balls in the groove of the shell and adapted to enter the groove of the hood, and a screw connecting the hood, shell and handle rigidly together, substantially as described.

3. A stop and waste cock, comprising a shell, a cap or plate clamped against the lower end of the shell, a rotatable core fitting in the shell above the cap or plate, a handle for operating the core, a hood secured to the handle and the core and enveloping the upper end of the shell, and a ball-bearing interposed between the hood and the upper end of the shell, substantially as described.

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

HENRY SIEBEN.

Witnesses:

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